

# **BID PROPOSAL INSTRUCTIONS**

**ABOUT IDOT PROPOSALS:** All proposals are potential bidding proposals. Each proposal contains all certifications and affidavits, a proposal signature sheet and a proposal bid bond.

## **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.

## **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.

## **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 124) 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.

## **WHAT CONSTITUTES WRITTEN AUTHORIZATION TO BID?**

When a prospective prime bidder submits a "Request for Authorization to Bid/or Not For Bid Status"(BDE 124) 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 and the Chief Procurement Officer 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 to Bid or Not For Bid Report within a reasonable time of complete and correct original document submittal should contact the Department as to the status. 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 bidder'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 or revision will be included with the Electronic Plans and Proposals. 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 service emails are an added courtesy the Department provides. It is suggested that bidders check IDOT's website at <http://www.idot.illinois.gov/doing-business/procurements/construction-services/construction-bulletins/transportation-bulletin/index#TransportationBulletin> 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 [DOT.D&Econtracts@illinois.gov](mailto:DOT.D&Econtracts@illinois.gov)

Technical questions about downloading these files may be directed to Tim Garman at (217)524-1642 or [Timothy.Garman@illinois.gov](mailto:Timothy.Garman@illinois.gov).

## **STANDARD GUIDELINES FOR SUBMITTING BIDS**

- All pages should be single sided.
- Use the Cover Page that is provided in the Bid Proposal (posted on the IDOT Web Site) as the first page of your submitted bid. It has the item number in large bold type in the upper left-hand corner and lines provided for your company name and address in the upper right-hand corner.
- Do not use report covers, presentation folders or special bindings and do not staple multiple times on left side like a book. Use only 1 staple in the upper left hand corner. Make sure all elements of your bid are stapled together including the bid bond or guaranty check (if required).
- **Do not include any certificates of eligibility, your authorization to bid, Addendum Letters or affidavit of availability.**
- Do not include the Subcontractor Documentation with your bid (pages i – iii and pages a – g). This documentation is required only if you are awarded the project.
- Use the envelope cover sheet (provided with the proposal) as the cover for the proposal envelope.
- Do not rely on overnight services to deliver your proposal prior to 10 AM on letting day. It will not be read if it is delivered after 10 AM.
- Do not submit your Substance Abuse Prevention Program (SAPP) with your bid. If you are awarded the contract this form is to be submitted to the district engineer at the pre-construction conference.

## **BID SUBMITTAL CHECKLIST**

- Cover page** (the sheet that has the item number on it) – This should be the first page of your bid proposal, **followed by your bid (the Schedule of Prices/Pay Items)**. If you are using special software or CBID to generate your schedule of prices, do not include the blank pages of the schedule of prices that came with the proposal package.
- Page 4 (Item 9)** – Check “YES” if you will use a subcontractor(s) with an annual value over \$50,000. Include the subcontractor(s) name, address, general type of work to be performed and the dollar amount. If you will use subcontractor(s) but are uncertain who or the dollar amount; check “YES” but leave the lines blank.
- After page 4** – Insert the following documents: Cost Adjustments for Steel, Bituminous and Fuel (if applicable) and the Contractor Letter of Assent (if applicable). The general rule should be, if you don’t know where it goes, put it after page 4.
- Page 10 (Paragraph J)** – Check “YES” or “NO” whether your company has any business in Iran.
- Page 10 (Paragraph K)** – (Not applicable to federally funded projects) List the name of the apprenticeship and training program sponsor holding the certificate of registration from the US Department of Labor. If no applicable program exists, please indicate the work/job category. Do not include certificates with your bid. Keep the certificates in your office in case they are requested by IDOT.
- Page 11 (Paragraph L)** – A copy of your State Board of Elections certificate of registration is no longer required with your bid.
- Page 11 (Paragraph M)** – Indicate if your company has hired a lobbyist in connection with the job for which you are submitting the bid proposal.
- Page 12 (Paragraph C)** – This is a work sheet to determine if a completed Form A is required. It is not part of the form and you do not need to make copies for each completed Form A.
- Pages 14-17 (Form A)** – One Form A (4 pages) is required for each applicable person in your company. Copies of the forms can be used and only need to be changed when the information changes. The certification signature and date must be original for each letting. **Do not staple the forms together.** If you answered “NO” to all of the questions in Paragraph C (page 12), complete the first section (page 14) with your company information and then sign and date the Not Applicable statement on page 17.
- Page 18 (Form B)** - If you check “YES” to having other current or pending contracts it is acceptable to use the phrase, “See Affidavit of Availability on file”. **Ownership Certification** (at the bottom of the page) - Check N/A if the Form A(s) you submitted accounts for 100 percent of the company ownership. Check YES if any percentage of ownership falls outside of the parameters that require reporting on the Form A. Checking NO indicates that the Form A(s) you submitted is not correct and you will be required to submit a revised Form A.
- Page 20 (Workforce Projection)** – Be sure to include the Duration of the Project. It is acceptable to use the phrase “Per Contract Specifications”.

**Proposal Bid Bond** – (Insert after the proposal signature page) Submit your proposal Proposal Bid Bond (if applicable) using the current Proposal Bid Bond form provided in the proposal package. The Power of Attorney page should be stapled to the Proposal Bid Bond. If you are using an electronic bond, include your bid bond number on the Proposal Bid Bond and attach the Proof of Insurance printed from the Surety’s Web Site.

**Disadvantaged Business Utilization Plan and/or Good Faith Effort** – The last items in your bid should be the DBE Utilization Plan (SBE 2026), followed by the DBE Participation Statement (SBE 2025) and supporting paperwork. If you have documentation of a Good Faith Effort, it is to follow the SBE Forms.

**The Bid Letting is now available in streaming Audio/Video from the IDOT Web Site.** A link to the stream will be placed on the main page of the current letting on the day of the Letting. The stream will not begin until 10 AM. The actual reading of the bids does not begin until approximately 10:30 AM.

Following the Letting, the As-Read Tabulation of Bids will be posted by the end of the day. You will find the link on the main Web page for the current letting.

**QUESTIONS: pre-letting up to execution of the contract**

Contractor pre-qualification .....	217-782-3413
Small Business, Disadvantaged Business Enterprise (DBE) .....	217-785-4611
Contracts, Bids, Letting process or Internet downloads .....	217-782-7806
Estimates Unit.....	217-785-3483
Aeronautics.....	217-785-8515
IDNR (Land Reclamation, Water Resources, Natural Resources).....	217-782-6302

**QUESTIONS: following contract execution**

Subcontractor documentation, payments .....	217-782-3413
Railroad Insurance .....	217-785-0275

RETURN WITH BID

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Proposal Submitted By
Name
Address
City

Letting November 6, 2015

**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.

**BIDDERS NEED NOT RETURN THE ENTIRE PROPOSAL**

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



**Illinois Department  
of Transportation**

Springfield, Illinois 62764

Contract No. 61B99  
COOK County  
Section 13-00256-00-PV (Oak Park)  
Route SOUTH BOULEVARD  
Project TCSP-IL12(102)  
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
- An Annual Bid Bond is included or is on file with IDOT.

Prepared by

Checked by

F

(Printed by authority of the State of Illinois)

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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. 61B99  
COOK County  
Section 13-00256-00-PV (Oak Park)  
Project TCSP-IL12(102)  
Route SOUTH BOULEVARD  
District 1 Construction Funds**

**Project consists of the reconstruction of South Boulevard from Harlem Avenue to Marion Street in the Village of Oak Park. Streetscape, brick pavers, sidewalks, ornamental lighting, storm sewers, water main, sanitary sewer and traffic signals.**

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 will govern performance and payments.

**RETURN WITH BID**

3. **ASSURANCE OF EXAMINATION AND INSPECTION/WAIVER.** The undersigned bidder further declares that he/she has carefully examined the proposal, plans, specifications, addenda form of contract and contract bond, and special provisions, and that he/she has inspected in detail the site of the proposed work, and that he/she has familiarized themselves with all of the local conditions affecting the contract and the detailed requirements of construction, and understands that in making this bid proposal he/she waives all right to plead any misunderstanding regarding the same.
  
4. **EXECUTION OF CONTRACT AND CONTRACT BOND.** The undersigned bidder further agrees to execute a contract for this work and present the same to the department within fifteen (15) days after the contract has been mailed to him/her. The undersigned further agrees that he/she and his/her surety will execute and present within fifteen (15) days after the contract has been mailed to him/her contract bond satisfactory to and in the form prescribed by the Department of Transportation, in the penal sum of the full amount of the contract, or as specified in the special provisions, guaranteeing the faithful performance of the work in accordance with the terms of the contract.
  
5. **PROPOSAL GUARANTY.** Accompanying this proposal is either a bid bond on the department form, executed by a corporate surety company satisfactory to the department, or a proposal guaranty check consisting of a bank cashier's check or a properly certified check for not less than 5 per cent of the amount bid or for the amount specified in the following schedule:

<u>Amount of Bid</u>		<u>Proposal Guaranty</u>	<u>Amount of Bid</u>		<u>Proposal Guaranty</u>	
Up to	\$5,000 .....	\$150	\$2,000,000	to	\$3,000,000 .....	\$100,000
\$5,000	to \$10,000 .....	\$300	\$3,000,000	to	\$5,000,000 .....	\$150,000
\$10,000	to \$50,000 .....	\$1,000	\$5,000,000	to	\$7,500,000 .....	\$250,000
\$50,000	to \$100,000 .....	\$3,000	\$7,500,000	to	\$10,000,000 .....	\$400,000
\$100,000	to \$150,000 .....	\$5,000	\$10,000,000	to	\$15,000,000 .....	\$500,000
\$150,000	to \$250,000 .....	\$7,500	\$15,000,000	to	\$20,000,000 .....	\$600,000
\$250,000	to \$500,000 .....	\$12,500	\$20,000,000	to	\$25,000,000 .....	\$700,000
\$500,000	to \$1,000,000 .....	\$25,000	\$25,000,000	to	\$30,000,000 .....	\$800,000
\$1,000,000	to \$1,500,000 .....	\$50,000	\$30,000,000	to	\$35,000,000 .....	\$900,000
\$1,500,000	to \$2,000,000 .....	\$75,000	over		\$35,000,000 .....	\$1,000,000

Bank cashier's checks or properly certified checks accompanying bid proposals will be made payable to the Treasurer, State of Illinois.

If a combination bid is submitted, the proposal guaranties which accompany the individual bid proposals making up the combination will be considered as also covering the combination bid.

The amount of the proposal guaranty check is \_\_\_\_\_ \$( \_\_\_\_\_ ). If this proposal is accepted and the undersigned will fail to execute a contract bond as required herein, it is hereby agreed that the amount of the proposal guaranty will become the property of the State of Illinois, and shall be considered as payment of damages due to delay and other causes suffered by the State because of the failure to execute said contract and contract bond; otherwise, the bid bond will become void or the proposal guaranty check will be returned to the undersigned.

**Attach Cashier's Check or Certified Check Here**

In the event that one proposal guaranty check is intended to cover two or more bid proposals, the amount must be equal to the sum of the proposal guaranties which would be required for each individual bid proposal. If the guaranty check is placed in another bid proposal, state below where it may be found.

The proposal guaranty check will be found in the bid proposal for:

Item \_\_\_\_\_

Section No. \_\_\_\_\_

County \_\_\_\_\_

**Mark the proposal cover sheet as to the type of proposal guaranty submitted.**

**RETURN WITH BID**

6. **COMBINATION BIDS.** The undersigned bidder 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 contract 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 will 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 (the 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 transact business or conduct affairs in the State of Illinois prior to submitting the bid.
9. **EXECUTION OF CONTRACT:** The Department of Transportation will, in accordance with the rules governing Department procurements, execute the contract and shall be the sole entity having the authority to accept performance and make payments under the contract. Execution of the contract by the Chief Procurement Officer (CPO) or the State Purchasing Officer (SPO) is for approval of the procurement process and execution of the contract by the Department. Neither the CPO nor the SPO shall be responsible for administration of the contract or determinations respecting performance or payment there under except as otherwise permitted in the Code.
10. **The services of a subcontractor will be used.**

Check box Yes   
 Check box No

For known subcontractors with subcontracts with an annual value of more than \$50,000, the contract shall include their name, address, general type of work to be performed, and the dollar allocation for each subcontractor.  
 (30 ILCS 500/20-120)

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COUNTY NAME	CODE	DIST	SECTION NUMBER	PROJECT NUMBER	ROUTE
COOK	031	01	13-00256-00-PV (OAK PARK)	TCSP-IL12/102/000	SOUTH BOULEVARD

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
A2004824	T-GLED TRI-I SK 3	EACH	6.000 X				
A2005024	T-GYMNOCOLA DIO 3	EACH	2.000 X				
A2007632	T-TAXODIUM DIS 4	EACH	4.000 X				
A2008453	T-ULMUS ACCOL HE 3	EACH	1.000 X				
A2008748	T-ULMUS X FRNTR 3 MH	EACH	6.000 X				
C2C01024	S-BUXUS MICRO WG 2	EACH	9.000 X				
K0012970	PERENNIAL PLNT BULB T	UNIT	1.000 X				
K0012980	P PL ORNAMENT T QRT P	UNIT	1.000 X				
K0012990	P PL ORNAMENT T GAL P	UNIT	1.000 X				
K1001988	IRRIGATION SYSTEM SPL	L SUM	1.000 X				
XX000679	CUT & CAP EX WATER M	EACH	1.000 X				
XX001532	PROJECT SIGN	EACH	1.000 X				
XX002918	TREE FRAME AND GRATES	EACH	14.000 X				
XX002948	TEMPORARY ACCESS WALK	EACH	8.000 X				
XX003536	CONN EX W MN NP	EACH	1.000 X				

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
XX003689	BUS SHELTER	EACH	1.000	X	=		
XX004602	BENCH WITH BACK	EACH	8.000	X	=		
XX004853	TEMP ACCESS- ALLEY	EACH	1.000	X	=		
XX005735	PLANTER CURB	FOOT	74.000	X	=		
XX005908	PAVE-EDGE PAVE RET SY	FOOT	378.000	X	=		
XX005924	TEMPORARY RMP REMOVAL	SQ YD	59.000	X	=		
XX006328	RPZ BACKFLW PREVENT 2	EACH	1.000	X	=		
XX007217	PAVER BLOCKS SPL	SQ FT	5,740.000	X	=		
XX007468	PEDESTRIAN ST LIGHT	EACH	6.000	X	=		
XX007857	TRASH RECEPTACLE F&I	EACH	4.000	X	=		
XX007980	PLANT SOIL, F & P 24"	SQ YD	44.000	X	=		
XX008187	SAN SEW MH INT REHAB	FOOT	72.000	X	=		
XX008195	EXPLOR EXC UTILITY	FOOT	135.000	X	=		
XX008232	BIKE RACKS TO BE MOVE	EACH	5.000	X	=		
XX008262	PCC PAD SPL	SQ FT	721.000	X	=		

SOUTH  
13-00256-00-PV (OAK PARK)  
COOK

ILLINOIS DEPARTMENT OF TRANSPORTATION  
SCHEDULE OF PRICES  
CONTRACT NUMBER - 61B99

ECMS002 DTGECM03 ECMR003 PAGE 3  
RUN DATE - 10/08/15  
RUN TIME - 183127

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
XX008269	WAYFINDING SIGN	EACH	2.000 X	=	=	=	=
XX008277	PCC UNDERLAYMENT 5	SQ YD	587.000 X	=	=	=	=
XX008356	STRUCTURAL SOIL	CU YD	408.000 X	=	=	=	=
XX008686	BIKE SHELTER	EACH	2.000 X	=	=	=	=
XX008839	WATER MAIN ABANDONED	L SUM	1.000 X	=	=	=	=
XX009048	CURB & GUTTER SPL	FOOT	144.000 X	=	=	=	=
XX009050	REMOVE PAY STATION	EACH	1.000 X	=	=	=	=
X0300635	PLANTER	EACH	8.000 X	=	=	=	=
X0320374	PLUG EX SAN SEWERS	EACH	4.000 X	=	=	=	=
X0323389	STORM SEW CONNECTION	EACH	2.000 X	=	=	=	=
X0323524	REM EX SURVEIL CAM EQ	EACH	1.000 X	=	=	=	=
X0324058	OUTLET SPL	EACH	19.000 X	=	=	=	=
X0324085	EM VEH P S LSC 20 3C	FOOT	145.000 X	=	=	=	=
X0324599	ROD AND CLEAN EX COND	FOOT	257.000 X	=	=	=	=
X0324788	GRANITE PAVERS	SQ FT	349.000 X	=	=	=	=

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
X0325014	WATER SERV INST 2	EACH	2.000 X	=	=	=	=
X0325072	MOD EX CONTR CAB TY A	EACH	1.000 X	=	=	=	=
X0325103	WATER METR IN VAULT 2	EACH	1.000 X	=	=	=	=
X0326654	ORNAM LIGHT UNIT COMP	EACH	11.000 X	=	=	=	=
X0326661	CUR-IN-PL PIPE LNR 21	FOOT	508.000 X	=	=	=	=
X0326862	STRUCTURE ADJ	EACH	7.000 X	=	=	=	=
X0327576	TEMPORARY PATCHING	SQ YD	590.000 X	=	=	=	=
X0327577	PROT-MAINT EX UP LUM	L SUM	1.000 X	=	=	=	=
X0327614	COMB SEW REM 12	FOOT	75.000 X	=	=	=	=
X0540000	BRICK PAVERS	SQ FT	17,239.000 X	=	=	=	=
X1400012	REM & REIN FIB OPT CC	FOOT	250.000 X	=	=	=	=
X2010505	CLEARING SPECIAL	L SUM	1.000 X	=	=	=	=
X4022000	TEMP ACCESS- COM ENT	EACH	1.000 X	=	=	=	=
X4400110	TEMP PAVT REMOVAL	SQ YD	590.000 X	=	=	=	=
X5610748	WM LINE STOP 8	EACH	1.000 X	=	=	=	=

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
X5630708	CONN TO EX W MAIN 8	EACH	1.000 X	=	=	=	=
X5640150	FIRE HYDNT ASSY COMP	EACH	2.000 X	=	=	=	=
X6020084	MANHOLE SPECIAL	EACH	1.000 X	=	=	=	=
X6020399	CONNECT EX MANHOLE	EACH	1.000 X	=	=	=	=
X6026622	VV REMOVED	EACH	1.000 X	=	=	=	=
X6026623	VALVE BOX	EACH	3.000 X	=	=	=	=
X7010216	TRAF CONT & PROT SPL	L SUM	1.000 X	=	=	=	=
X8410151	TEMP LT SYSTEM LOC 1	L SUM	1.000 X	=	=	=	=
X8410152	TEMP LT SYSTEM LOC 2	L SUM	1.000 X	=	=	=	=
Z0003850	BENCHES	EACH	12.000 X	=	=	=	=
Z0003855	BICYCLE RACKS	EACH	60.000 X	=	=	=	=
Z0004002	BOLLARDS	EACH	1.000 X	=	=	=	=
Z0007120	WELD WIRE FAB 6X6	SQ YD	967.000 X	=	=	=	=
Z0007420	SIDEWALK REPAIR SPL	SQ FT	96.000 X	=	=	=	=
Z0012455	CONC STEP REMOV	EACH	1.000 X	=	=	=	=

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
Z0013798	CONSTRUCTION LAYOUT	L SUM	1.000 X	=			
Z0016702	DETOUR SIGNING	L SUM	1.000 X	=			
Z0018500	DRAINAGE STR CLEANED	EACH	2.000 X	=			
Z0018900	DRILL-GROUT DOW BARS	EACH	123.000 X	=			
Z0019600	DUST CONTROL WATERING	UNIT	10.000 X	=			
Z0030850	TEMP INFO SIGNING	SQ FT	238.000 X	=			
Z0033028	MAINTAIN LIGHTING SYS	CAL MO	9.000 X	=			
Z0033044	RE-OPTIMIZE SIG SYS 1	EACH	1.000 X	=			
Z0036800	PARK METERS MOVED	EACH	11.000 X	=			
Z0036900	PARK METERS REMOVED	EACH	13.000 X	=			
Z0048665	RR PROT LIABILITY INS	L SUM	1.000 X	=			
Z0056604	STORM SEW WM REQ 8	FOOT	34.000 X	=			
Z0056608	STORM SEW WM REQ 12	FOOT	221.000 X	=			
Z0056611	STORM SEW WM REQ 16	FOOT	30.000 X	=			
Z0059800	SAN SEW T2 12	FOOT	6.000 X	=			

SOUTH  
13-00256-00-PV (OAK PARK)  
COOK

ILLINOIS DEPARTMENT OF TRANSPORTATION  
SCHEDULE OF PRICES  
CONTRACT NUMBER - 61B99

ECMS002 DTGECM03 ECMR003 PAGE 7  
RUN DATE - 10/08/15  
RUN TIME - 183127

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
Z0061100	SAN SEW T3 12	FOOT	19.000 X				
Z0061300	SAN SEW T3 18	FOOT	40.000 X				
Z0073510	TEMP TR SIGNAL TIMING	EACH	1.000 X				
Z0076600	TRAINEES	HOUR	500.000 X		0.80		400.00
Z0076604	TRAINEES TPG	HOUR	500.000 X		15.00		7,500.00
20100110	TREE REMOV 6-15	UNIT	10.000 X				
20100210	TREE REMOV OVER 15	UNIT	203.000 X				
20101700	SUPPLE WATERING	UNIT	10.000 X				
20200100	EARTH EXCAVATION	CU YD	1,175.000 X				
20201200	REM & DISP UNS MATL	CU YD	50.000 X				
20800150	TRENCH BACKFILL	CU YD	999.000 X				
25200110	SODDING SALT TOLERANT	SQ YD	146.000 X				
28000400	PERIMETER EROS BAR	FOOT	359.000 X				
28000510	INLET FILTERS	EACH	13.000 X				
28200200	FILTER FABRIC	SQ YD	1,377.000 X				

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
30300112	AGG SUBGRADE IMPR 12	SQ YD	1,761.000 X	=			
31101300	SUB GRAN MAT B 5	SQ YD	638.000 X	=			
31102500	SUB GRAN MAT C 8	SQ YD	25.000 X	=			
35301000	HES PCC BSE CSE 7	SQ YD	1,761.000 X	=			
40600275	BIT MATLS PR CT	POUND	217.000 X	=			
40600990	TEMPORARY RAMP	SQ YD	59.000 X	=			
40603085	HMA BC IL-19.0 N70	TON	14.400 X	=			
40603340	HMA SC "D" N70	TON	3.600 X	=			
42000300	PCC PVT 8	SQ YD	272.000 X	=			
42000400	PCC PVT 9	SQ YD	92.000 X	=			
42000900	HES PCC PVT 8	SQ YD	29.000 X	=			
42400200	PC CONC SIDEWALK 5	SQ FT	6,470.000 X	=			
42400410	PC CONC SIDEWALK 8	SQ FT	547.000 X	=			
42400800	DETECTABLE WARNINGS	SQ FT	110.000 X	=			
44000100	PAVEMENT REM	SQ YD	2,307.000 X	=			



ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
44000165	HMA SURF REM 4	SQ YD	160.000 X	=			
44000200	DRIVE PAVEMENT REM	SQ YD	54.000 X	=			
44000500	COMB CURB GUTTER REM	FOOT	1,458.000 X	=			
44000600	SIDEWALK REM	SQ FT	9,025.000 X	=			
44200970	CL B PATCH T2 10	SQ YD	11.000 X	=			
44201298	DOWEL BARS 1 1/4	EACH	36.000 X	=			
44201747	CL D PATCH T4 8	SQ YD	8.000 X	=			
44213204	TIE BARS 3/4	EACH	650.000 X	=			
50300300	PROTECTIVE COAT	SQ YD	1,447.000 X	=			
55100300	STORM SEWER REM 8	FOOT	22.000 X	=			
56100600	WATER MAIN 6	FOOT	18.000 X	=			
56100700	WATER MAIN 8	FOOT	30.000 X	=			
56100900	WATER MAIN 12	FOOT	548.000 X	=			
56104800	WATER VALVES 4	EACH	2.000 X	=			
56105000	WATER VALVES 8	EACH	1.000 X	=			

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
56105200	WATER VALVES 12	EACH	1.000 X	=		=	
56200700	WATER SERV LINE 2	FOOT	580.000 X	=		=	
56201120	WATER SERV LINE 4	FOOT	68.000 X	=		=	
56400500	FIRE HYDNTS TO BE REM	EACH	1.000 X	=		=	
56500700	DOM WAT SER BOX REM	EACH	3.000 X	=		=	
60200105	CB TA 4 DIA T1F OL	EACH	5.000 X	=		=	
60206905	CB TC T1F OL	EACH	3.000 X	=		=	
60218400	MAN TA 4 DIA T1F CL	EACH	3.000 X	=		=	
60221100	MAN TA 5 DIA T1F CL	EACH	1.000 X	=		=	
60248700	VV TA 4 DIA T1F CL	EACH	1.000 X	=		=	
60248900	VV TA 5 DIA T1F CL	EACH	1.000 X	=		=	
60500040	REMOV MANHOLES	EACH	1.000 X	=		=	
60500050	REMOV CATCH BAS	EACH	2.000 X	=		=	
60600605	CONC CURB TB	FOOT	28.500 X	=		=	
60603500	COMB CC&G TB6.06	FOOT	200.500 X	=		=	

SOUTH  
 13-00256-00-PV (OAK PARK)  
 COOK

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF PRICES  
 CONTRACT NUMBER - 61B99

ECMS002 DTGECM03 ECMR003 PAGE 11  
 RUN DATE - 10/08/15  
 RUN TIME - 183127

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
60603800	COMB CC&G TB6.12	FOOT	1,034.000 X	=		=	
60604100	COMB CC&G TB6.12 MOD	FOOT	37.000 X	=		=	
66900200	NON SPL WASTE DISPOS	CU YD	96.000 X	=		=	
66900450	SPL WASTE PLNS/REPORT	L SUM	1.000 X	=		=	
66900530	SOIL DISPOSAL ANALY	EACH	1.000 X	=		=	
67000400	ENGR FIELD OFFICE A	CAL MO	9.000 X	=		=	
67100100	MOBILIZATION	L SUM	1.000 X	=		=	
70102625	TR CONT & PROT 701606	L SUM	1.000 X	=		=	
70102640	TR CONT & PROT 701801	L SUM	1.000 X	=		=	
70103815	TR CONT SURVEILLANCE	CAL DA	234.000 X	=		=	
72000100	SIGN PANEL T1	SQ FT	24.000 X	=		=	
72400100	REMOV SIN PAN ASSY TA	EACH	10.000 X	=		=	
72400310	REMOV SIGN PANEL T1	SQ FT	10.000 X	=		=	
72400500	RELOC SIN PAN ASSY TA	EACH	3.000 X	=		=	
72400710	RELOC SIGN PANEL T1	SQ FT	9.000 X	=		=	

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
72800100	TELES STL SIN SUPPORT	FOOT	68.000 X				
73100100	BASE TEL STL SIN SUPP	EACH	5.000 X				
78000650	THPL PVT MK LINE 24	FOOT	102.000 X				
78001100	PT PVT MK LTRS & SYMB	SQ FT	50.000 X				
78001110	PAINT PVT MK LINE 4	FOOT	585.000 X				
78001130	PAINT PVT MK LINE 6	FOOT	134.000 X				
78008200	POLYUREA PM T1 LTR-SY	SQ FT	5.000 X				
78008210	POLYUREA PM T1 LN 4	FOOT	258.000 X				
78008250	POLYUREA PM T1 LN 12	FOOT	55.000 X				
78008270	POLYUREA PM T1 LN 24	FOOT	102.000 X				
80400100	ELECT SERV INSTALL	EACH	1.000 X				
80400200	ELECT UTIL SERV CONN	L SUM	1.000 X	7,000	00	7,000	00
81028210	UNDRGRD C GALVS 2 1/2	FOOT	39.000 X				
81028240	UNDRGRD C GALVS 4	FOOT	36.000 X				
81028260	UNDRGRD C GALVS 6	FOOT	8.000 X				

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
81100905	CON AT ST 3.5 PVC GS	FOOT	30.000 X	=	=	=	=
81400100	HANDHOLE	EACH	3.000 X	=	=	=	=
81400300	DBL HANDHOLE	EACH	1.000 X	=	=	=	=
81603035	UD 2#6 #6G XLPUSE 1	FOOT	329.000 X	=	=	=	=
81603051	UD 3#6#8G XLPUSE 1.25	FOOT	777.000 X	=	=	=	=
81603100	UD 4#6#6G XLPUSE 1 1/4	FOOT	915.000 X	=	=	=	=
82500350	LT CONT BASEM 240V100	EACH	1.000 X	=	=	=	=
83600200	LIGHT POLE FDN 24D	FOOT	102.000 X	=	=	=	=
84200600	REM LT U NO SALV	EACH	10.000 X	=	=	=	=
84200804	REM POLE FDN	EACH	10.000 X	=	=	=	=
85000300	MAIN EX TR SIG INSTAL	L SUM	1.000 X	=	=	=	=
86300200	CONT CAB TYPE II	EACH	1.000 X	=	=	=	=
87301215	ELCBL C SIGNAL 14 2C	FOOT	546.000 X	=	=	=	=
87301225	ELCBL C SIGNAL 14 3C	FOOT	138.000 X	=	=	=	=
87301245	ELCBL C SIGNAL 14 5C	FOOT	420.000 X	=	=	=	=

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
87301305	ELCBL C LEAD 14 1PR	FOOT	45.000 X	=			
87301900	ELCBL C EGRDC 6 1C	FOOT	241.000 X	=			
87500600	TS POST 10	EACH	1.000 X	=			
87700110	S MAA & P 14	EACH	1.000 X	=			
87800100	CONC FDN TY A	FOOT	4.000 X	=			
87800400	CONC FDN TY E 30D	FOOT	10.000 X	=			
87900200	DRILL EX HANDHOLE	EACH	2.000 X	=			
88030020	SH LED 1F 3S MAM	EACH	2.000 X	=			
88030050	SH LED 1F 3S BM	EACH	1.000 X	=			
88200410	TS BACKPLATE L F PLAS	EACH	2.000 X	=			
88600700	PREFORM DETECT LOOP	FOOT	303.000 X	=			
88800100	PED PUSH-BUTTON	EACH	4.000 X	=			
89000100	TEMP TR SIG INSTALL	EACH	1.000 X	=			
89500200	RELOC EX PED SIG HEAD	EACH	1.000 X	=			
89501400	REL EM VEH PR SYS D U	EACH	1.000 X	=			

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
89502300	REM ELCBL FR CON	FOOT	912.000 X	=			
89502350	REM & RE ELCBL FR CON	FOOT	6,137.000 X	=			
89502375	REMOV EX TS EQUIP	EACH	1.000 X	=			
89502382	REMOV EX DBL HANDHOLE	EACH	1.000 X	=			
89502385	REMOV EX CONC FDN	EACH	2.000 X	=			

TOTAL \$

- NOTE:
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 Code establishes the duty of all State CPOs, SPOs, 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 CPO to void the contract, and may result in the suspension or debarment of the bidder or subcontractor. If a false certification is made by a subcontractor the contractor's submitted bid and the executed contract may not be declared void unless the contractor refuses to terminate the subcontract upon the State's request after a finding that the subcontractor's certification was false.

I acknowledge, understand and accept these terms and conditions.

#### **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**

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 State 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 State 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 calendar 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

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. Information concerning the exemption process is available from the Department upon request.

### **B. Negotiations**

Section 50-15. Negotiations.

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.

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**

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 provide a submission to a vendor portal or 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, not making a submission to a vendor portal, or who withholds a bid or submission to a vendor portal in consideration of the promise for the payment of money or other valuable thing is guilty of a Class 4 felony.

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**

Section 50-30. Revolving door prohibition.

CPOs, SPOs, 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.

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**

Section 50-40. Reporting anticompetitive practices.

When, for any reason, any vendor, bidder, contractor, CPO, SPO, 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 CPO.

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 or submission to a vendor portal is submitted.

### **F. Confidentiality**

Section 50-45. Confidentiality.

Any CPO, SPO, 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.

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**

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.

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.

I acknowledge, understand and accept these terms and conditions for the above assurances.

### **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 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 CPO 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**

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 2012.

(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 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 CPO 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.

The contractor or subcontractor certifies that it is not barred from being awarded a contract under Section 50-5.

#### **B. Felons**

Section 50-10. Felons.

(a) 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.

(b) Certification. Every bid submitted to and contract executed by the State and every subcontract subject to Section 20-120 of the Code and every vendor's submission to a vendor portal 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 CPO may declare the related contract void if any of the certifications required by this Section are false.

## RETURN WITH BID

### **C. Debt Delinquency**

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 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 CPO 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**

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

The bidder or contractor or subcontractor, respectively, certifies in accordance with Section 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 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 CPO 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**

Section 50-14 Environmental Protection Act violations.

The bidder or contractor or subcontractor, respectively, certifies in accordance with Section 50-14 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 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 CPO may declare the contract void if this certification is false.

### **F. Educational Loan**

Section 3 of the Educational Loan Default Act, 5 ILCS 385/3.

Pursuant to the Educational Loan Default Act no State agency shall contract with an individual for goods or services if that individual is in default on an educational loan.

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**

Section 33E-11 of the Criminal Code of 2012, 720 ILCS 5/3BE-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.

(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.

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.

## RETURN WITH BID

### **H. International Anti-Boycott**

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

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

### **I. Drug Free Workplace**

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.

The bidder certifies that if awarded a contract in excess of \$5,000 it will provide a drug free workplace in compliance with the provisions of the Act.

### **J. Disclosure of Business Operations in Iran**

Section 50-36 of the Code 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 may cause the bid, offer or proposal to be considered not responsive. The disclosure will be considered when evaluating the bid 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 on the attached document.

## RETURN WITH BID

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

In accordance with the provisions of Section 30-22 (6) of the 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.**

Additionally, Section 30-22 of the Code requires that the bidder certify that an Illinois office be maintained as the primary place of employment for persons employed for this contract.

**NA-FEDERAL**

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The requirements of these certifications and disclosures are a material part of the contract, and the contractor shall require these certification provisions 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 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 or any other procurement opportunity 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 Code, and that it makes the following certification:

**The undersigned bidder 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. If the business entity is required to register, the CPO shall verify that it is in compliance on the date the bid or proposal is due. The CPO shall not accept a bid or proposal if the business entity is not in compliance with the registration requirements.**

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 Code. This provision does not apply to Federal-aid contracts.

**M. Lobbyist Disclosure**

Section 50-38 of the 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 CPO 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 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: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

I acknowledge, understand and accept these terms and conditions for the above certifications.

## 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 CPO may void the bid, or contract, 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 Code. Furthermore, the CPO 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 Code provides that all bids of more than \$50,000 and all submissions to a vendor portal 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 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 100 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any individual 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 individual 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 individual 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. A separate Disclosure Form A must be submitted with the bid for each individual meeting the above requirements. In addition, a second form (Disclosure Form B) provides for the disclosure of current or pending procurement relationships with other (non-IDOT) state agencies and a total ownership certification. **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 100 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any individual 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 an individual 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 individual 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 an individual that is authorized to execute contracts for your organization. The individual signing can be, but does not have to be, the individual 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 an individual 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 Section 50-35 of the 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 \$50,000, 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.

- 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 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 \_\_\_

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(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 \_\_\_

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(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 \_\_\_

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

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(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 \_\_\_

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(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 \_\_\_

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**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 \_\_\_

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(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 \_\_\_

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(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 \_\_\_

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**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:  \_\_\_\_\_  
Signature of Individual or Authorized Representative Date

**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.**

\_\_\_\_\_  
Signature of Authorized Representative Date

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

RETURN WITH BID

ILLINOIS DEPARTMENT OF TRANSPORTATION

Form B Other Contracts & Financial 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 Section 50-35 of the Code (30 ILCS 500). This information shall become part of the publicly available contract file. This Form B must be completed for all bids.

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 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

Signature of Authorized Representative, Date

OWNERSHIP CERTIFICATION

Please certify that the following statement is true if the individuals for all submitted Form A disclosures do not total 100% of ownership.

Any remaining ownership interest is held by individuals receiving less than \$106,447.20 of the bidding entity's or parent entity's distributive income or holding less than a 5% ownership interest.

Yes No N/A (Form A disclosure(s) established 100% ownership)

## **RETURN WITH BID**

### **SPECIAL NOTICE TO CONTRACTORS**

The following requirements of the Illinois Department of Human Rights Act 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 Title 44, Illinois Administrative Code, Section 750.120. 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. 61B99  
COOK County  
Section 13-00256-00-PV (Oak Park)  
Project TCSP-IL12(102)  
Route SOUTH BOULEVARD  
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 **Illinois 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. 61B99  
COOK County  
Section 13-00256-00-PV (Oak Park)  
Project TCSP-IL12(102)  
Route SOUTH BOULEVARD  
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 \_\_\_\_\_

(IF A JOINT VENTURE, USE THIS SECTION FOR THE MANAGING PARTY AND THE SECOND PARTY SHOULD SIGN BELOW)

Attest \_\_\_\_\_  
Signature \_\_\_\_\_  
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.



This Annual Proposal Bid Bond shall become effective at 12:01 AM (CDST) on \_\_\_\_\_ and shall be valid until \_\_\_\_\_ 11:59 PM (CDST).

KNOW ALL PERSONS BY THESE PRESENTS, That We \_\_\_\_\_

as PRINCIPAL, and \_\_\_\_\_

as SURETY, and held jointly, severally and firmly bound unto the STATE OF ILLINOIS in the penal sum of 5 percent of the total bid price, or for the amount specified in the bid proposal under "Proposal Guaranty" in effect on the date of the Invitation for Bids, whichever is the lesser sum, well and truly to be paid unto said STATE OF ILLINOIS, for the payment of which we bind ourselves, our heirs, executors, administrators, successors and assigns.

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH that whereas, the PRINCIPAL may submit bid proposal(s) to the STATE OF ILLINOIS, acting through the Department of Transportation, for various improvements published in the Transportation Bulletin during the effective term indicated above.

NOW, THEREFORE, if the Department shall accept the bid proposal(s) of the PRINCIPAL; and if the PRINCIPAL shall, within the time and as specified in the bidding and contract documents; and if, after award by the Department, the PRINCIPAL shall enter into a contract in accordance with the terms of the bidding and contract documents including evidence of the required insurance coverages and providing such bond as specified with good and sufficient surety for the faithful performance of such contract and for the prompt payment of labor and material furnished in the prosecution thereof; or if, in the event of the failure of the PRINCIPAL to enter into such contract and to give the specified bond, the PRINCIPAL pays to the Department the difference not to exceed the penalty hereof between the amount specified in the bid proposal and such larger amount for which the Department may contract with another party to perform the work covered by said bid proposal, then this obligation shall be null and void, otherwise, it shall remain in full force and effect.

IN THE EVENT the Department determines the PRINCIPAL has failed to comply with any requirement as set forth in the preceding paragraph, then Surety shall pay the penal sum to the Department within fifteen (15) days of written demand therefor. If Surety does not make full payment within such period of time, the Department may bring an action to collect the amount owed. Surety is liable to the Department for all its expenses, including attorney's fees, incurred in any litigation in which it prevails either in whole or in part.

In TESTIMONY WHEREOF, the said PRINCIPAL has caused this instrument to be signed by its officer \_\_\_\_\_ day of \_\_\_\_\_ A.D., \_\_\_\_\_

In TESTIMONY WHEREOF, the said SURETY has caused this instrument to be signed by its officer \_\_\_\_\_ day of \_\_\_\_\_ A.D., \_\_\_\_\_

\_\_\_\_\_  
(Company Name)

\_\_\_\_\_  
(Company Name)

By \_\_\_\_\_  
(Signature and Title)

By \_\_\_\_\_  
(Signature of Attorney-in-Fact)

**Notary for PRINCIPAL**

**Notary for SURETY**

STATE OF \_\_\_\_\_  
COUNTY OF \_\_\_\_\_

STATE OF \_\_\_\_\_  
COUNTY OF \_\_\_\_\_

Signed and attested before me on \_\_\_\_\_ (date)

Signed and attested before me on \_\_\_\_\_ (date)

by \_\_\_\_\_  
(Name of Notary Public)

by \_\_\_\_\_  
(Name of Notary Public)

(Seal) \_\_\_\_\_  
(Signature of Notary Public)

(Seal) \_\_\_\_\_  
(Signature of Notary Public)

\_\_\_\_\_  
(Date Commission Expires)

\_\_\_\_\_  
(Date Commission Expires)

In lieu of completing the above section of the Annual Proposal Bid Bond form, the Principal may file an Electronic Bid Bond. By signing the proposal(s) the Principal is ensuring the identified electronic bid bond has been executed and the Principal and Surety are firmly bound unto the State of Illinois under the conditions of the bid bond as shown above.

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Electronic Bid Bond ID #	Company/Bidder Name	Signature and Title
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This bond may be terminated, at Surety's request, upon giving not less than thirty (30) days prior written notice of the cancellation/termination of the bond. Said written notice shall be issued to the Illinois Department of Transportation, Chief Contracts Official, 2300 South Dirksen Parkway, Springfield, Illinois, 62764, and shall be served in person, by receipted courier delivery or certified or registered mail, return receipt requested. Said notice period shall commence on the first calendar day following the Department's receipt of written cancellation/termination notice. Surety shall remain firmly bound to all obligations herein for proposals submitted prior to the cancellation/termination. Surety shall be released and discharged from any obligation(s) for proposals submitted for any letting or date after the effective date of cancellation/termination.



Return with Bid

Division of Highways
Proposal Bid Bond

Item No. \_\_\_\_\_

Letting Date \_\_\_\_\_

KNOW ALL PERSONS BY THESE PRESENTS, That We \_\_\_\_\_

as PRINCIPAL, and \_\_\_\_\_

as SURETY, and held jointly, severally and firmly bound unto the STATE OF ILLINOIS in the penal sum of 5 percent of the total bid price, or for the amount specified in the bid proposal under "Proposal Guaranty" in effect on the date of the Invitation for Bids, whichever is the lesser sum, well and truly to be paid unto said STATE OF ILLINOIS, for the payment of which we bind ourselves, our heirs, executors, administrators, successors and assigns.

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH that whereas, the PRINCIPAL has submitted a bid proposal to the STATE OF ILLINOIS, acting through the Department of Transportation, for the improvement designated by the Transportation Bulletin Item Number and Letting Date indicated above.

NOW, THEREFORE, if the Department shall accept the bid proposal of the PRINCIPAL; and if the PRINCIPAL shall, within the time and as specified in the bidding and contract documents; and if, after award by the Department, the PRINCIPAL shall enter into a contract in accordance with the terms of the bidding and contract documents including evidence of the required insurance coverages and providing such bond as specified with good and sufficient surety for the faithful performance of such contract and for the prompt payment of labor and material furnished in the prosecution thereof; or if, in the event of the failure of the PRINCIPAL to enter into such contract and to give the specified bond, the PRINCIPAL pays to the Department the difference not to exceed the penalty hereof between the amount specified in the bid proposal and such larger amount for which the Department may contract with another party to perform the work covered by said bid proposal, then this obligation shall be null and void, otherwise, it shall remain in full force and effect.

IN THE EVENT the Department determines the PRINCIPAL has failed to comply with any requirement as set forth in the preceding paragraph, then Surety shall pay the penal sum to the Department within fifteen (15) days of written demand therefor. If Surety does not make full payment within such period of time, the Department may bring an action to collect the amount owed. Surety is liable to the Department for all its expenses, including attorney's fees, incurred in any litigation in which it prevails either in whole or in part.

In TESTIMONY WHEREOF, the said PRINCIPAL has caused this instrument to be signed by its officer \_\_\_\_\_ day of \_\_\_\_\_ A.D., \_\_\_\_\_

In TESTIMONY WHEREOF, the said SURETY has caused this instrument to be signed by its officer \_\_\_\_\_ day of \_\_\_\_\_ A.D., \_\_\_\_\_

(Company Name)

(Company Name)

By \_\_\_\_\_ (Signature and Title)

By \_\_\_\_\_ (Signature of Attorney-in-Fact)

Notary for PRINCIPAL

Notary for SURETY

STATE OF \_\_\_\_\_
COUNTY OF \_\_\_\_\_

STATE OF \_\_\_\_\_
COUNTY OF \_\_\_\_\_

Signed and attested before me on \_\_\_\_\_ (date)
by \_\_\_\_\_

Signed and attested before me on \_\_\_\_\_ (date)
by \_\_\_\_\_

(Name of Notary Public)

(Name of Notary Public)

(Seal) \_\_\_\_\_ (Signature of Notary Public)

(Seal) \_\_\_\_\_ (Signature of Notary Public)

(Date Commission Expires)

(Date Commission Expires)

In lieu of completing the above section of the Proposal Bid Bond form, the Principal may file an Electronic Bid Bond. By signing the proposal the Principal is ensuring the identified electronic bid bond has been executed and the Principal and Surety are firmly bound unto the State of Illinois under the conditions of the bid bond as shown above.

Electronic Bid Bond ID # \_\_\_\_\_ Company/Bidder Name \_\_\_\_\_ Signature and Title \_\_\_\_\_

**(1) Policy**

It is public policy that disadvantageded businesses as defined in 49 CFR Part 26 and the Special Provision shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with Federal or State funds. Consequently the requirements of 49 CFR Part 26 apply to this contract.

**(2) Obligation**

The contractor agrees to ensure that disadvantageded businesses as defined in 49 CFR Part 26 and the Special Provision have the maximum opportunity to participate in the performance of contracts or subcontracts financed in whole or in part with Federal or State funds. The contractor shall take all necessary and reasonable steps in accordance with 49 CFR Part 26 and the Special Provision to ensure that said businesses have the maximum opportunity to compete for and perform under this contract. The contractor shall not discriminate on the basis of race, color, national origin or sex in the award and performance of contracts.

**(3) Project and Bid Identification**

Complete the following information concerning the project and bid:

Route _____	Total Bid _____
Section _____	Contract DBE Goal _____ (Percent) _____ (Dollar Amount)
Project _____	
County _____	
Letting Date _____	
Contract No. _____	
Letting Item No. _____	

**(4) Assurance**

I, acting in my capacity as an officer of the undersigned bidder (or bidders if a joint venture), hereby assure the Department that on this project my company : (check one)

- Meets or exceeds contract award goals and has provided documented participation as follows:  
Disadvantaged Business Participation \_\_\_\_\_ percent

Attached are the signed participation statements, forms SBE 2025, required by the Special Provision evidencing availability and use of each business participating in this plan and assuring that each business will perform a commercially useful function in the work of the contract.

- Failed to meet contract award goals and has included good faith effort documentation to meet the goals and that my company has provided participation as follows:

Disadvantaged Business Participation \_\_\_\_\_ percent

The contract goals should be accordingly modified or waived. Attached is all information required by the Special Provision in support of this request including good faith effort. Also attached are the signed participation statements, forms SBE 2025, required by the Special Provision evidencing availability and use of each business participating in this plan and assuring that each business will perform a commercially useful function in the work of the contract.

\_\_\_\_\_  
Company

By \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_

The "as read" Low Bidder is required to comply with the Special Provision.

Submit only one utilization plan for each project. The utilization plan shall be submitted in accordance with the special provision.

Bureau of Small Business Enterprises  
2300 South Dirksen Parkway  
Springfield, Illinois 62764

**Local Let Projects**  
Submit forms to the  
Local Agency



# 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. 61B99  
COOK County  
Section 13-00256-00-PV (Oak Park)  
Project TCSP-IL12(102)  
Route SOUTH BOULEVARD  
District 1 Construction Funds**



**Illinois Department of Transportation**

## **SUBCONTRACTOR DOCUMENTATION**

Public Acts 96-0795, 96-0920, and 97-0895 enacted substantial changes to the provisions of the 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 that entered into a contractual agreement with a total value of \$50,000 or more with a person or entity who has a contract subject to the Code and 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 Illinois Department of Transportation's CPO upon request within 15 calendar days after execution of the subcontract.

Financial disclosures required pursuant to Sec. 50-35 of the Code must be submitted for all applicable subcontractors. The subcontract shall contain the certifications required to be made by subcontractors pursuant to Article 50 of the 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.

## RETURN WITH SUBCONTRACT

### STATE ETHICAL STANDARDS GOVERNING SUBCONTRACTORS

Article 50 of the Code establishes the duty of all State CPOs, SPOs, 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 CPO may terminate or void the contract approval if it is later determined that the bidder or subcontractor rendered a false or erroneous certification. If a false certification is made by a subcontractor the contractor's submitted bid and the executed contract may not be declared void unless the contractor refuses to terminate the subcontract upon the State's request after a finding that the subcontractor's certification was false.

Section 50-2 of the 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 CPO 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**

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 2012.

(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 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 CPO 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.

The contractor or subcontractor certifies that it is not barred from being awarded a contract under Section 50-5.

#### **B. Felons**

Section 50-10. Felons.

(a) 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.

(b) Certification. Every bid submitted to and contract executed by the State and every subcontract subject to Section 20-120 of the 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 CPO may declare the related contract void if any of the certifications required by this Section are false.

**RETURN WITH SUBCONTRACT**

**C. Debt Delinquency**

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 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 CPO 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**

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 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 CPO 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 500/50-14 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 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 CPO 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.**

_____ Name of Subcontracting Company		
_____ 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 CPO 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 Code. Furthermore, the CPO may void the contract.

**B. Financial Interests and Conflicts of Interest**

1. Section 50-35 of the Code provides that all subcontracts with a total value of \$50,000 or more, from subcontractors identified in Section 20-120 of the 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 100 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any individual 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 individual 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 individual 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. A separate Disclosure Form A must be submitted with the bid for each individual meeting the above requirements. In addition, a second form (Disclosure Form B) provides for the disclosure of current or pending procurement relationships with other (non-IDOT) state agencies and a total ownership certification. **The forms must be included with each bid.**

**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 100 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any individual 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 an individual 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 individual 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 an individual that is authorized to execute contracts for your organization. The individual signing can be, but does not have to be, the individual 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 an individual 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 Section 50-35 of the 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 \$50,000 or more, from subcontractors identified in Section 20-120 of the 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)**

<b>FOR INDIVIDUAL (type or print information)</b>	
<b>NAME:</b>	_____
<b>ADDRESS</b>	_____
<b>Type of ownership/distributable income share:</b>	
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): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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**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

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ILLINOIS DEPARTMENT OF TRANSPORTATION

Form B Subcontractor: Other Contracts & Financial Related Information Disclosure

Form with fields: 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 Section 50-35 of the Code (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 \$50,000 or more, from subcontractors identified in Section 20-120 of the 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 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

Signature box with fields: Signature of Authorized Officer, Date

OWNERSHIP CERTIFICATION

Please certify that the following statement is true if the individuals for all submitted Form A disclosures do not total 100% of ownership

Any remaining ownership interest is held by individuals receiving less than \$106,447.20 of the bidding entity's or parent entity's distributive income or holding less than a 5% ownership interest.

Yes No N/A (Form A disclosure(s) established 100% ownership)



- 1. TIME AND PLACE OF OPENING BIDS.** Sealed proposals for the improvement described herein will be received by the Department of Transportation. Electronic bids are to be submitted to the electronic bidding system (iCX-Integrated Contractors Exchange). Paper-based bids are to be submitted to the Chief Procurement Officer for the Department of Transportation in care of the Chief Contracts Official at the Harry R. Hanley Building, 2300 South Dirksen Parkway, in Springfield, Illinois until 10:00 a.m. November 6, 2015. 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 10:00 a.m.
- 2. DESCRIPTION OF WORK.** The proposed improvement is identified and advertised for bids in the Invitation for Bids as:

**Contract No. 61B99  
COOK County  
Section 13-00256-00-PV (Oak Park)  
Project TCSP-IL12(102)  
Route SOUTH BOULEVARD  
District 1 Construction Funds**

**Project consists of the reconstruction of South Boulevard from Harlem Avenue to Marion Street in the Village of Oak Park. Streetscape, brick pavers, sidewalks, ornamental lighting, storm sewers, water main, sanitary sewer and traffic signals.**

- 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

Randall S. Blankenhorn,  
Secretary

**INDEX  
FOR  
SUPPLEMENTAL SPECIFICATIONS  
AND RECURRING SPECIAL PROVISIONS**

Adopted January 1, 2015

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

ERRATA Standard Specifications for Road and Bridge Construction (Adopted 1-1-12) (Revised 1-1-15)

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LR SD12		<input type="checkbox"/> Slab Movement Detection Device	Nov. 11, 1984	Jan. 1, 2007
LR SD13		<input type="checkbox"/> Required Cold Milled Surface Texture	Nov. 1, 1987	Jan. 1, 2007
LR 107-2		<input type="checkbox"/> Railroad Protective Liability Insurance for Local Lettings	Mar. 1, 2005	Jan. 1, 2006
LR 107-4	226	<input checked="" type="checkbox"/> Insurance	Feb. 1, 2007	Aug. 1, 2007
LR 108		<input type="checkbox"/> Combination Bids	Jan. 1, 1994	Mar. 1, 2005
LR 109		<input type="checkbox"/> Equipment Rental Rates	Jan. 1, 2012	
LR 212		<input type="checkbox"/> Shaping Roadway	Aug. 1, 1969	Jan. 1, 2002
LR 355-1		<input type="checkbox"/> Bituminous Stabilized Base Course, Road Mix or Traveling Plant Mix	Oct. 1, 1973	Jan. 1, 2007
LR 355-2		<input type="checkbox"/> Bituminous Stabilized Base Course, Plant Mix	Feb. 20, 1963	Jan. 1, 2007
LR 400-1		<input type="checkbox"/> Bituminous Treated Earth Surface	Jan. 1, 2007	Apr. 1, 2012
LR 400-2		<input type="checkbox"/> Bituminous Surface Plant Mix (Class B)	Jan. 1, 2008	
LR 400-3		<input type="checkbox"/> Hot In-Place Recycling (HIR) – Surface Recycling	Jan. 1, 2012	
LR 400-4		<input type="checkbox"/> Full-Depth Reclamation (FDR) with Emulsified Asphalt	Apr. 1, 2012	Jun. 1, 2012
LR 400-5		<input type="checkbox"/> Cold In-Place Recycling (CIR) With Emulsified Asphalt	Apr. 1, 2012	Jun. 1, 2012
LR 400-6		<input type="checkbox"/> Cold In Place Recycling (CIR) with Foamed Asphalt	June 1, 2012	
LR 400-7		<input type="checkbox"/> Full-Depth Reclamation (FDR) with Foamed Asphalt	June 1, 2012	
LR 402		<input type="checkbox"/> Salt Stabilized Surface Course	Feb. 20, 1963	Jan. 1, 2007
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LR 406		<input type="checkbox"/> Filling HMA Core Holes with Non-shrink Grout	Jan. 1, 2008	
LR 420		<input type="checkbox"/> PCC Pavement (Special)	May 12, 1964	Jan. 2, 2007
LR 442		<input type="checkbox"/> Bituminous Patching Mixtures for Maintenance Use	Jan. 1, 2004	Jun. 1, 2007
LR 451		<input type="checkbox"/> Crack Filling Bituminous Pavement with Fiber-Asphalt	Oct. 1, 1991	Jan. 1, 2007
LR 503-1		<input type="checkbox"/> Furnishing Class SI Concrete	Oct. 1, 1973	Jan. 1, 2002
LR 503-2		<input type="checkbox"/> Furnishing Class SI Concrete (Short Load)	Jan. 1, 1989	Jan. 1, 2002
LR 542		<input type="checkbox"/> Pipe Culverts, Type _____ (Furnished)	Sep. 1, 1964	Jan. 1, 2007
LR 663		<input type="checkbox"/> Calcium Chloride Applied	Jun. 1, 1958	Jan. 1, 2007
LR 702		<input type="checkbox"/> Construction and Maintenance Signs	Jan. 1, 2004	Jun. 1, 2007
LR 1000-1		<input type="checkbox"/> Cold In-Place Recycling (CIR) and Full Depth Reclamation (FDR) with Emulsified Asphalt Mix Design Procedures	Apr. 1, 2012	Jun. 1, 2012
LR 1000-2		<input type="checkbox"/> Cold In-Place Recycling (CIR) and Full Depth Reclamation (FDR) with Foamed Asphalt Mix Design Procedures	June 1, 2012	
LR 1004		<input type="checkbox"/> Coarse Aggregate for Bituminous Surface Treatment	Jan. 1, 2002	Jan. 1, 2007
LR 1030		<input type="checkbox"/> Growth Curve	Mar. 1, 2008	Jan. 1, 2010
LR 1032-1		<input type="checkbox"/> Emulsified Asphalts	Jan. 1, 2007	Feb. 7, 2008
LR 1102		<input type="checkbox"/> Road Mix or Traveling Plan Mix Equipment	Jan. 1, 2007	

## BDE SPECIAL PROVISIONS

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

<u>File Name</u>	<u>Pg.</u>	<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80240		Above Grade Inlet Protection	July 1, 2009	Jan. 1, 2012
80099		Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2014
80274		Aggregate Subgrade Improvement	April 1, 2012	Jan. 1, 2013
80192		Automated Flagger Assistance Device	Jan. 1, 2008	
80173		Bituminous Materials Cost Adjustments	Nov. 2, 2006	July 1, 2015
80241		Bridge Demolition Debris	July 1, 2009	
50261		Building Removal-Case I (Non-Friable and Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50481		Building Removal-Case II (Non-Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50491		Building Removal-Case III (Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50531		Building Removal-Case IV (No Asbestos)	Sept. 1, 1990	April 1, 2010
80360	227	X Coarse Aggregate Quality	July 1, 2015	
80310	229	X Coated Galvanized Steel Conduit	Jan. 1, 2013	Jan. 1, 2015
80341	230	X Coilable Nonmetallic Conduit	Aug. 1, 2014	Jan. 1, 2015
80198		Completion Date (via calendar days)	April 1, 2008	
80199		Completion Date (via calendar days) Plus Working Days	April 1, 2008	
80293		Concrete Box Culverts with Skews > 30 Degrees and Design Fills ≤ 5 Feet	April 1, 2012	April 1, 2015
80294		Concrete Box Culverts with Skews ≤ 30 Degrees Regardless of Design Fill and Skews > 30 Degrees with Design Fills > 5 Feet	April 1, 2012	April 1, 2014
80311		Concrete End Sections for Pipe Culverts	Jan. 1, 2013	
80334	231	X Concrete Gutter, Curb, Median, and Paved Ditch	April 1, 2014	Aug. 1, 2014
80277		Concrete Mix Design – Department Provided	Jan. 1, 2012	Jan. 1, 2014
80261	232	X Construction Air Quality – Diesel Retrofit	June 1, 2010	Nov. 1, 2014
80335	234	X Contract Claims	April 1, 2014	
* 80029	235	X Disadvantaged Business Enterprise Participation	Sept. 1, 2000	Nov. 2, 2015
80358	244	X Equal Employment Opportunity	April 1, 2015	
80265		Friction Aggregate	Jan. 1, 2011	Nov. 1, 2014
80229		Fuel Cost Adjustment	April 1, 2009	July 1, 2015
80329		Glare Screen	Jan. 1, 2014	
80304		Grooving for Recessed Pavement Markings	Nov. 1, 2012	Aug. 1, 2014
80246		Hot-Mix Asphalt – Density Testing of Longitudinal Joints	Jan. 1, 2010	April 1, 2012
80322		Hot-Mix Asphalt – Mixture Design Composition and Volumetric Requirements	Nov. 1, 2013	Nov. 1, 2014
80323		Hot-Mix Asphalt – Mixture Design Verification and Production	Nov. 1, 2013	Nov. 1, 2014
80347		Hot-Mix Asphalt – Pay for Performance Using Percent Within Limits – Jobsite Sampling	Nov. 1, 2014	July 1, 2015
80348	247	X Hot-Mix Asphalt – Prime Coat	Nov. 1, 2014	
80315		Insertion Lining of Culverts	Jan. 1, 2013	Nov. 1, 2013
80351		Light Tower	Jan. 1, 2015	
80336		Longitudinal Joint and Crack Patching	April 1, 2014	
80324		LRFD Pipe Culvert Burial Tables	Nov. 1, 2013	April 1, 2015
80325		LRFD Storm Sewer Burial Tables	Nov. 1, 2013	April 1, 2015
80045		Material Transfer Device	June 15, 1999	Aug. 1, 2014
80342	251	X Mechanical Side Tie Bar Inserter	Aug. 1, 2014	Jan. 1, 2015
80165		Moisture Cured Urethane Paint System	Nov. 1, 2006	Jan. 1, 2010
* 80361		Overhead Sign Structures Certification of Metal Fabricator	Nov. 1, 2015	
80337		Paved Shoulder Removal	April 1, 2014	
80349		Pavement Marking Blackout Tape	Nov. 1, 2014	
80298		Pavement Marking Tape Type IV	April 1, 2012	
80254	253	X Pavement Patching	Jan. 1, 2010	

<u>File Name</u>	<u>Pg.</u>		<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80352	254	X	Pavement Striping - Symbols	Jan. 1, 2015	
80359			Portland Cement Concrete Bridge Deck Curing	April 1, 2015	
80353			Portland Cement Concrete Inlay or Overlay	Jan. 1, 2015	April 1, 2015
80338			Portland Cement Concrete Partial Depth Hot-Mix Asphalt Patching	April 1, 2014	
80343	255	X	Precast Concrete Handhole	Aug. 1, 2014	
80300			Preformed Plastic Pavement Marking Type D - Inlaid	April 1, 2012	
80328	256	X	Progress Payments	Nov. 2, 2013	
3426I	257	X	Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2006
80157	259	X	Railroad Protective Liability Insurance (5 and 10)	Jan. 1, 2006	
80306			Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)	Nov. 1, 2012	Jan. 2, 2015
80350	261	X	Retroreflective Sheeting for Highway Signs	Nov. 1, 2014	
80327	263	X	Reinforcement Bars	Nov. 1, 2013	
80344	265	X	Rigid Metal Conduit	Aug. 1, 2014	
80354	266	X	Sidewalk, Corner, or Crosswalk Closure	Jan. 1, 2015	April 1, 2015
80340			Speed Display Trailer	April 2, 2014	
80127	267	X	Steel Cost Adjustment	April 2, 2004	July 1, 2015
80317			Surface Testing of Hot-Mix Asphalt Overlays	Jan. 1, 2013	
80355			Temporary Concrete Barrier	Jan. 1, 2015	July 1, 2015
80301	271	X	Tracking the Use of Pesticides	Aug. 1, 2012	
80356			Traffic Barrier Terminals Type 6 or 6B	Jan. 1, 2015	
20338	272	X	Training Special Provisions	Oct. 15, 1975	
80318			Traversable Pipe Grate	Jan. 1, 2013	April 1, 2014
80345			Underpass Luminaire	Aug. 1, 2014	April 1, 2015
80357			Urban Half Road Closure with Mountable Median	Jan. 1, 2015	July 1, 2015
80346			Waterway Obstruction Warning Luminaire	Aug. 1, 2014	April 1, 2015
80288	275	X	Warm Mix Asphalt	Jan. 1, 2012	Nov. 1, 2014
80302	277	X	Weekly DBE Trucking Reports	June 2, 2012	April 2, 2015
80289			Wet Reflective Thermoplastic Pavement Marking	Jan. 1, 2012	
80071	278	X	Working Days	Jan. 1, 2002	

The following special provisions are in the 2015 Supplemental Specifications and Recurring Special Provisions:

<u>File Name</u>	<u>Special Provision Title</u>	<u>New Location</u>	<u>Effective</u>	<u>Revised</u>
80292	Coarse Aggregate in Bridge Approach Slabs/Footings	Articles 1004.01(b) and 1004.02(f)	April 1, 2012	April 1, 2013
80303	Granular Materials	Articles 1003.04, 1003.04(c), and 1004.05(c)	Nov. 1, 2012	
80330	Pavement Marking for Bike Symbol	Article 780.14	Jan. 1, 2014	
80331	Payrolls and Payroll Records	Recurring CS #1 and #5	Jan. 1, 2014	
80332	Portland Cement Concrete – Curing of Abutments and Piers	Article 1020.13	Jan. 1, 2014	
80326	Portland Cement Concrete Equipment	Article 1103.03(a)(5)	Nov. 1, 2013	
80281	Quality Control/Quality Assurance of Concrete Mixtures	Recurring CS #31	Jan. 1, 2012	Jan. 1, 2014
80283	Removal and Disposal of Regulated Substances	Articles 669.01, 669.08, 669.09, 669.14, and 669.16	Jan. 1, 2012	Nov. 2, 2012
80319	Removal and Disposal of Surplus Materials	Article 202.03	Nov. 2, 2012	
80307	Seeding	Article 250.07	Nov. 1, 2012	
80339	Stabilized Subbase	Article 312.06	April 1, 2014	
80333	Traffic Control Setup and Removal Freeway/Expressway	Articles 701.18(l) and 701.19(a)	Jan. 1, 2014	



The following special provisions require additional information from the designer. The additional information needs to be included in a separate document attached to this check sheet. The Project Development and Implementation section will then include the information in the applicable special provision. The Special Provisions are:

- Bridge Demolition Debris
- Building Removal-Case I
- Building Removal-Case II
- Building Removal-Case III
- Building Removal-Case IV
- Completion Date
- Completion Date Plus Working Days
- DBE Participation
- Material Transfer Device
- Railroad Protective Liability Insurance
- Training Special Provisions
- Working Days

**SPECIAL PROVISIONS**

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction," adopted January 1, 2012, the latest edition of the "Manual of Uniform Traffic control Devices for Street and Highways," and the "Manual of Test Procedures for Materials" in effect on the date of invitation for bids, and the Supplemental Specifications and Recurring Special Provisions indicated on the Check Sheet included herein which apply to and govern the construction of South Boulevard from Illinois Route 43 (Harlem Avenue) to Marion Street; Project TCSP 12IL031; Section 13-00256-00-PV; Village of Oak Park; Cook County; Contract 61B99; and in case of conflict with any part or parts of said Specifications, the said Special Provisions shall take precedence and shall govern.

**SOUTH BOULEVARD  
 From ILLINOIS ROUTE 43 (HARLEM AVENUE) TO MARION STREET**

Project: TCSP 12IL031  
 Section: 13-00256-00-PV  
 County: Cook  
 Contract No. 61B99

**LOCATION OF PROJECT**

This project is located approximately 0.8 miles north of I-290 in the Village of Oak Park, Cook County. The project parallels the elevated METRA Union Pacific Railroad West Line and CTA Green Line.

**DESCRIPTION OF PROJECT**

The project entails the reconstruction of the South Boulevard corridor between Harlem Avenue and Marion Street with a streetscape improvement that includes a clay brick pavement on concrete base course, both granite and PCC curb and gutter, sidewalk pavement blocks, ornamental street lighting and other streetscape amenities. The project will also include water main construction along with storm and sanitary sewer construction and rehabilitation. Traffic signal improvements will be installed at the Harlem Avenue-South Boulevard intersection which will include temporary traffic signalization.

**STATUS OF UTILITIES TO BE ADJUSTED**

Effective: January 30, 1987  
 Revised: January 24, 2013

Utilities companies involved in this project have provided the following estimated durations:

<b>NAME OF UTILITY</b>	<b>TYPE</b>	<b>LOCATION</b>	<b>Estimated Duration of Time for the Completion of Relocation or Adjustments</b>
AT&T Legal Mandate Attn: Mr. Steve Larson AT&T Civic Project Engineer	<u>Underground cable and fiber-optic</u>		

<p>1000 Commerce Drive  2<sup>nd</sup> Floor  Oak Brook, IL 60523  (630) 573-5450</p>	<p>Avoidable possible conflict with pedestrian signal post  Adjust Tele Manhole  Adjust Tele Manhole  Avoidable possible conflict with proposed electric conduit  Possible excavation conflict with new sewer manhole  Adjust Tele manhole  Avoidable possible conflict with new water main crossing  Possible excavation conflict with two new sewers  Possible excavation conflict with new catch basin  Avoidable possible conflict with new sewer</p>	<p>45+25 (RT)   45+36 (LT)  48+48 (RT)  48+48 (LT)   49+37 (RT)  49+39 (RT)  49+40 (RT)  49+41 (RT)   49+42 (RT)   49+44 (RT)   49+60 (LT)</p>	<p>30 days   30 days   30 days</p>
<p>AT&amp;T/T  Attn: Carl Donahue  866 Rock Creek Road  Plano, IL 60545  (o) (630) 552-9785  (m) 847-420-9115  cdonahue@att.com</p>	<p><u>Underground Fiber-optic transmission</u>  West and center of three fiber-optic handholes to be lowered.  Avoidable possible conflict with new storm sewer;  Avoidable possible conflict with new storm sewer;  Avoidable possible conflict with new storm sewer;  Avoidable possible conflict with new electric conduit  Avoidable possible conflict with water service;  Avoidable possible conflict with new sewer</p>	<p>45+55 (LT)  45+61 (LT)   46+46 (LT)   47+16 (LT)   47+81 (LT)   48+79 (LT)   49+48 (LT)   49+60 (LT)</p>	<p>12 working days  12 working days</p>

	Avoidable possible conflict with new water service	50+46 (LT)	
Zayo Group Attn: Timothy Payment 810 Jorie Blvd, Suite 110 Oak Brook, IL 60523 Timothypayment@zayo.com 630-203-8003	<u>Underground Fiber-optic transmission</u> East of three fiber-optic handholes to be lowered. Avoidable possible conflict with new storm sewer; Avoidable possible conflict with new storm sewer; Avoidable possible conflict with new storm sewer; Avoidable possible conflict with new electric conduit Avoidable possible conflicts with water service—2 FO crossings Possible conflict with new catch basin Avoidable possible conflict with new sewer Avoidable possible conflicts with new water service—2FO crossings	45+69 (LT)  46+46 (LT)  47+16 (LT)  47+81 (LT)  48+79 (LT)  49+48 (LT)  49+53 (LT) 49+60 (LT)  50+46 (LT)	12 working days
NICOR Gas Attn: Mr. Bruce Koppang DOT Liaison, Engineering Design 1844 Ferry Road Naperville, IL 60563 630-388-3046 bkoppan@agresources.com	<u>Gas</u> Avoidable possible conflict with new 8" water main; Adjust gas valve Avoidable possible conflict with new electric conduit; Possible trench bracing conflict with new deep sewer; Avoidable possible conflict with new catch basin Avoidable possible conflict with new water service;	49+33 (RT)  49+35 (RT) 49+37 (RT)  49+52 (RT)  49+75 (RT)  49+92 (RT)	30 days

	Avoidable possible conflict with new water service; Adjust gas service valve	50+43 (RT) 50+47 (RT)	30 days
Commonwealth Edison Attn: Keith Kratzer COMED Public Relocation Dept. 2 Lincoln Center Oak Brook Terrace, IL 60181 708-518-6209 Peter.kratzer@ComEd.com	<u>Electric-Underground &amp; Aerial</u> Possible conflict with new storm sewer; Adjust buried Electric manhole Possible conflict with water main; Possible conflict with new CTA water service; Possible conflict with new CTA water service	49+40 (RT) 49+43 (LT) 49+43 (RT) 49+50 (LT) 50+46 (LT)	30 days
Comcast Cable Attn: Robert L. Schuler, Jr Right-of-way Manager 688 Industrial Drive Elmhurst, IL 60126 (630) 600-6352	Communication  No known conflicts		
Village of Oak Park Attn: Bill McKenna, Village Engineer 201 South Blvd. Oak Park, IL 708-358-5722 mckenna@oak-park.us	Sewer and Water  Street Light Wiring	Defined in plans  STREETLIGHT: 46+88 (RT) 47+50 (LT) 47+62 (RT) 47+81 (RT)	N/A
Village of Oak Park Attn: Alvin Nepomeceno 708-358-5452 anepomuceno@oak-park.us	Security Camera  Remove Security Camera from light pole	46+88 (RT) See lighting plans	Contractor to remove
Village of Forest Park Attn: John Doss Dir. of Public Works 7343 W. 15 <sup>th</sup> Street Forest Park, IL 60130 708-615-6212 jdoss@forestpark.net	No known conflicts		

Village of River Forest Attn: John Anderson 400 Park avenue River Forest, IL 60305 708-714-3550	No known conflicts		
IDOT Operations (Traffic Signals) Attn: Slawomir Lupa 847-705-4510 Slawomir.Lupa@illinois.gov	Traffic Signals Avoidable possible power source conduit conflict with new 12" water main and foundation for new pedestrian push button	45+24 (RT) See Traffic Signal Plans	

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.

In accordance with 605 ILCS 5/9-113 of the Illinois Compiled Statutes, utility companies have 90 days to complete the relocation of their facilities after receipt of written notice from the Department. The 90-day written notice will be sent to the utility companies after the following occurs:

- 1) Proposed right of way is clear for contract award.
- 2) Final plans have been sent to and received by the utility company.
- 3) Utility permit is received by the Department and the Department is ready to issue said permit.
- 4) If a permit has not been submitted, a 15 day letter is sent to the utility company notifying them they have 15 days to provide their permit application. After allowing 15 days for submission of the permit the 90 day notice is sent to the utility company.
- 5) Any time within the 90 day relocation period the utility company may request a waiver for additional time to complete their relocation. The Department has 10 days to review and respond to a waiver request.

**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:** 701001, 701006, 701101, 701501, 701606, 701701, 701801, 701901

**DETAILS:**

TC10 Traffic Control and Protection for Side Roads, Intersections, and Driveways  
TC13 District One Typical Pavement Markings  
TC16 Pavement Marking Letters and Symbols for Traffic Staging  
TC-21 Detour Signing for Closing State Highway

**SPECIAL PROVISIONS:**

Public Convenience and Safety (D-1)  
Maintenance of Roadways  
Keeping Arterial Roadways Open to Traffic (Lane Closures Only)  
Detour Signing  
Traffic Control and Protection, (Special)  
Traffic Control and Protection, Standard 701606  
Traffic Control and Protection, Standard 701801  
Temporary Information Signing  
Retro-reflective Sheeting for Highway signs (BDE)  
Sidewalk Corner or Crosswalk Closure BDE)

**COOPERATION WITH ADJACENT CONSTRUCTION PROJECT CONTRACTORS**

This provision is to inform the Contractor that the Village is aware of adjacent private land development construction activities that are currently scheduled during the same time period as this contract. The planned private development involves both parking lots along the south side of South Boulevard, including the Maple Avenue right-of-way and the Public Alley which intersects with the Project.

The Contractor is required to cooperate with this construction contract for this planned private development project in accordance with Section 105.08 of the Standard Specifications and may be required to modify his staging operations in order to meet these requirements.

The planned private development is being designed to interface with the proposed utility and streetscape improvements as designed within the project documents for the Proposed Highway Plans for South Boulevard.

The Contractor shall initially construct the sewer and water main improvements when construction activities commence in the spring of 2016. The Contractor's subsequent schedule will be dependent upon the status of the private development in April 2016.

- If the private development chooses to move forward with construction, the Contractor shall suspend work on the South Boulevard roadway and streetscape improvements until April 1, 2017 and complete all remaining construction during the 2017 construction season by November 15, 2017.
- If the private development chooses to not move forward with construction, then the Contractor shall complete work on the South Boulevard roadway and streetscape improvements during the 2016 construction season according to the number of working days stipulated in the contract.

## **WORKING RESTRICTIONS**

The Village of Oak Park Municipal Code restricts construction to the hours of 7:00 A.M and 6:00 P.M. seven (7) days a week. No equipment may be started on any part of the project prior to 7:00 A.M. Violations of this code are subject to Police enforcement and subsequent fines as outlined in the code.

During the construction of underground utilities, the Contractor shall be permitted to close South Boulevard to all traffic during the construction of sanitary sewer and storm sewer as well as the rehabilitation of the sanitary sewer.

The road may be closed to all traffic during the construction of the concrete base course and brick pavement for the new road as well as the concrete pavement work at the Harlem Avenue intersection.

The Contractor shall maintain at least one lane of west-bound traffic on South Boulevard at all other times.

The Contractor shall maintain the parking spaces for public use on the opposite side of the road from the staged construction work whenever South Boulevard is limited to one lane of traffic.

The Contractor shall maintain pedestrian access to both CTA Green Line transit stations at all times. The Contractor shall also maintain pedestrian access to the existing commercial businesses on the south side of South Boulevard at all times.

The Contractor shall reopen South Boulevard to at least two lanes of traffic in each direction upon completion of the roadway brick paver construction.

The Contractor shall stage the work on Harlem Avenue to limit closures to non-peak hours in only one direction at a time.

## **COOPERATION BY CONTRACTOR AND WEEKLY PROGRESS MEETINGS**

Attention is hereby focused on Article 105.06 of the Standard Specifications with regards to the Contractor having on site at all times "A competent English Speaking Superintendent". This superintendent shall be able to be reached at all times including the days subcontractors are only working on the site. All communications and directives between the Engineer and Contractor in the daily course of work shall be conducted through the Superintendent and Resident Engineer.

Weekly progress meetings will be conducted in the Engineer's office. These meetings will focus on the work slated for the upcoming week and highlight of work completed the prior week. If work is found to be progressing smoothly, these meetings may be scheduled on a bi-weekly basis.

## **STORAGE OF MATERIALS AND EQUIPMENT**

At no time shall the Contractor store material and equipment in areas other than specified by the Engineer. Any damage to sidewalks, curbs and parkways due to the negligence of the contractor shall be restored by the contractor at his/her own expense. No additional compensation shall be allowed the Contractor for compliance with this requirement.

The non-paved area on the north side of South Boulevard shall be made available to the Contractor for purposes of material and equipment storage. It shall be solely the Contractor's



responsibility to safeguard such materials and equipment.

The Contractor shall maintain barricades and warning lights at all material storage areas and around parked construction equipment during the entire construction period.

#### **USE OF FIRE HYDRANTS**

If the Contractor desires to use water from fire hydrants, meters and keys shall be obtained from the Water and Sewer Department with a deposit. Upon return of his/her equipment, the Contractor shall be billed for the water used at the current rate. This applies to all pay items which require using water, including but not limited to parkway restoration, watering plants, dust control, maintenance of roadways, trench jetting, asphalt cold milling operations, asphalt rolling operations, etc.

Fire hydrants shall be accessible at all times to the Fire Department. No materials or other obstructions shall be placed closer to a fire hydrant than 15 (fifteen) feet. Any arrangements of less than 15 feet must be approved by the Fire Department.

#### **USE OF PESTICIDES IN LANDSCAPING WORK**

The contractor is hereby notified that in the event pesticides are to be used in any of the landscape operations of this project, they and/or their subcontractors shall comply with the requirements of Village Code, Chapter 20, Section 10. This code requires the applicator to be licensed in the Village, that the area treated shall be posted at time of application, and the time and location be logged by the applicator.

The work necessary to fulfill these requirements as well as any license fees shall be included within the Landscaping Pay Items.

#### **CONCRETE BREAKERS**

When removing pavement, curb and gutter, shoulder, and/or any other structures, the use of any type of concrete breakers which might damage underground public or private utilities will not be permitted. Under no circumstances will the use of a frost ball be permitted.

#### **PROVISIONS FOR CURING TEST SAMPLES**

The contractor will be required to provide storage space, meeting the approval of the Engineer for the initial curing of quality control test specimens made on the project. The storage space shall be such that it will give full protection against direct sunlight, the elements, pilfering and damage. When requested by the Engineer, heat shall be provided by the contractor, with a minimum temperature of 60 degrees Fahrenheit maintained for as long as required.

#### **ENGINEER'S FIELD OFFICE TYPE A**

Description: This work shall consist of furnishing and maintaining in good condition for the exclusive use of the ENGINEER a weatherproof building or buildings hereinafter described at locations approved by the ENGINEER. Unless otherwise provided, the building shall be independent of any building used by the CONTRACTOR and all keys to the buildings shall be

turned over to the ENGINEER. The ENGINEER will designate the location of the building and it shall remain on the work site until released by the ENGINEER.

Each field office or laboratory furnished shall be equipped with fire extinguishers having a minimum Underwriters Laboratory rating of 4A60BC.

Engineer's Field Office Type A field offices shall have a minimum ceiling height of 7 feet (2 m) and a minimum floor space of 450 square feet (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, equipment and services shall be furnished:

1. Four desks with minimum working surface 42 x 30 inches (1.1 m x 750 mm) each and five non-folding chairs with upholstered seats and backs.
2. One desk with minimum working surface 48 x 72 in. (1.2 x 1.8 m) with height adjustment of 23 to 30 inches (585 to 750 mm).
3. One four-post drafting table with minimum top size of 37 1/2 x 48 inches (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.
4. Two free standing four drawer legal size file cabinet with lock and an underwriters' laboratories insulated file device 350 degrees one hour rating.
5. One 6 foot (1.8 m) folding table with six folding chairs.
6. One equipment cabinet of minimum inside dimension of 44 inches (1100 mm) high x 24 inches (600 mm) wide x 30 inches (750 mm) deep with lock. The walls shall be of steel with a 3/32 inch (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.

7. One refrigerator with a minimum size of 16 cubic foot (0.45 cu m) with a freezer unit.
8. One electric desk type tape printing calculator.
9. A minimum of two communication paths. The configuration shall include:
  - a. 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 OWNER staff.
  - b. Telephone Lines. Three separate telephone lines.
10. One plain paper copy machine capable of reproducing prints up to 11 x 17 inch (280 x 432 mm) with an automatic feed tray capable of storing 30 sheets of paper. Letter size and 11 x 17 inch (280 x 432 mm) paper shall be provided.
11. One plain paper fax machine with paper.
12. Two telephones, with touch tone, where available, and a digital telephone answering machine, for exclusive use by the ENGINEER.
13. One electric water cooler dispenser.
14. One first-aid cabinet fully equipped.
15. One microwave oven, 1 cubic foot (0.03 cu m) minimum capacity.
16. One fire-proof safe, 0.5 cubic foot (0.01 cu m) minimum capacity.
17. One electric paper shredder.
18. One post mounted rain gauge, located on the project site for each 5 miles (8 km) of project length.
19. Contractor shall provide professional cleaning services as requested by the ENGINEER, cleaning services will include but are not limited to trash removal, cleaning of flooring and restocking of toilet facility consumables. The Contractor will submit to the Engineer the name of the company to perform cleaning services and a list of the cleaning services to be provided for approval.

With the approval of the ENGINEER, a mobile unit or units of approximately the same dimensions and having similar facilities may be substituted for the above described building or buildings.

All mobile field offices and laboratories shall be tied down near the four corners at each end of the mobile unit. The tie-down equipment shall be of the type commonly sold by mobile home equipment suppliers to protect mobile homes in areas affected by hurricanes. The tie-down shall be made to the satisfaction of the ENGINEER.

The mobile unit shall be securely supported by adequate blocking. The blocking shall provide a foundation to prevent settlement.

A landing of minimum 3 x 3 foot (1 x 1 m) dimension shall be provided at each doorway with integral steps and railings.

Method of Measurement: This work shall be measured on a per CALENDAR MONTH basis.

Basis of Payment: The building or buildings fully equipped as specified will be paid for until the building or buildings are released by the ENGINEER. The CONTRACTOR will be paid the contract bid price each month provided the building or buildings are maintained, equipped, and utilities furnished. Payment will not be made when the contract is suspended according to Article 108.07 of the Standard Specifications for failure of the CONTRACTOR to comply with the provisions of the contract. The building or buildings fully equipped, will be paid for at the contract unit price per calendar month or fraction thereof for ENGINEER'S FIELD OFFICE TYPE A.

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 OWNER will pay that portion of the monthly long distance and monthly local telephone bills that, when combined, exceed \$150.

Any extraordinary damage attributed to OWNER operations during the course of the job will be repaired by the CONTRACTOR and may be paid for according to Article 109.04 of the Standard Specifications. No extra payment will be made for systems maintenance, repairs or replacement, or for damages incurred as a result of vandalism, theft, or other criminal activities.

## **CONSTRUCTION LAYOUT**

Description: This work shall consist of furnishing all materials and labor, performing all surveys, measurements, and computations required to perform construction layout, as per Article 105 and Check sheet #10 of the Recurring Special Provisions.

Equipment and material: Equipment for construction surveys shall be of a quality and condition to provide the required accuracy. The equipment shall be maintained in good working order and in proper adjustment at all times. Records of repairs, calibration tests, accuracy checks, and adjustments shall be maintained and be available for inspection by the engineer. Equipment shall be checked, tested, and adjusted as necessary in conformance with manufacturer's recommendations.

Material is field notebooks, stakes, templates, platforms, equipment, spikes, steel pins, tools, and all other items necessary to perform the work specified.

Execution: All work shall follow recognized professional practice and the standards of the industry unless otherwise specified in this specification. The work shall be performed to the accuracy and detail appropriate for the type of job. Notes, sketches, and other data shall be complete, recorded neatly, legible, reproducible and organized to facilitate ease in review and allow reproduction of copies for job documentation. Survey equipment that requires little or no manual recording of field data shall have survey information documented as outlined in this specification.

All computations shall be mathematically correct and shall include information to identify the bid item, date, and who performed, checked, and approved the computations. Computations shall be legible, complete, and clearly document the source of all information used including assumptions and measurements collected.

If a computer program is used to perform the computations, the contractor shall provide the engineer with the software identification, vendor's name, version number, and other pertinent data before beginning survey activities. Computer generated computations shall show all input data including values assigned and assumptions made.

The elevations of permanent and temporary bench marks shall be determined and recorded to the nearest 0.01 foot. Differential leveling and transit traverses shall be of such precision that the error of vertical closure in feet shall not exceed plus or minus 0.1 times the square root of the traverse distance in miles. Linear measurements shall be accurate to within 1 foot in 5,000 feet, unless otherwise specified in this specification. The angular error of closure for transit traverses shall not exceed 1 minute times the square root of the number of angles turned.

The minimum requirements for placing slope stakes shall be at 50-foot stations for tangents, as little as 25 feet for sharp curves, breaks in the original ground surface and at any other intermediate stations necessary to ensure accurate location for construction layout and measurement. Slope stakes and cross sections shall be perpendicular to the centerline. Significant breaks in grade shall be determined for cross sections. Distances shall be measured horizontally and recorded to the nearest 0.1 foot. Side shots for interim construction stakes may be taken with a hand level.

Unless otherwise specified in this specification, measurements for stationing and establishing the location of structures shall be made to the nearest 0.1 foot.

Elevations for concrete work, pipes, and mechanical equipment shall be determined and recorded to the nearest 0.01 foot. Elevations for earth work shall be determined and recorded to the nearest 0.1 foot.

Primary control. The baselines and bench marks for primary control, necessary to establish lines and grades needed for construction are shown on the drawings and have been located on the job site.

These baselines and bench marks shall be used as the origin of all surveys, layouts, and measurements to establish construction lines and grades. The contractor shall take all necessary precautions to prevent the loss or damage of primary control points. Any stakes or control points lost or damaged by construction activity will be reestablished by the contractor or at contractor expense.

Construction surveys. Before work starts that requires contractor performed surveys, the contractor shall submit in writing for the engineer's review: the name, qualifications, and experience of the individuals to be assigned to the survey tasks.

Contractor performed surveys shall include:

- checking and any supplemental or interim staking
- performing quantity surveys, measurements, and computations for progress payment
- other surveys as described in section 9 of this specification

Staking. The construction staking required for the item shall be completed before work on any item starts. Construction staking shall be completed as follows or as otherwise specified in this specification:

Clearing and grubbing - The boundary of the area(s) to be cleared and grubbed shall be staked or flagged at a maximum interval of 200 feet, closer if needed, to clearly mark the limits of work. When contractor staking is the basis for determining the area for final payment, all boundary stakes will be reviewed by the engineer before start of this work item.

Excavation and fill - Slope stakes shall be placed at the intersection of the specified slopes and ground line. Slope stakes and the reference stakes for slopes shall be marked with the stationing, required cut or fill, slope ratio, and horizontal distance from the centerline or other control line. The minimum requirements for placing slope stakes is outlined in section 3, Quality of work.

Structures - Centerline and offset reference line stakes for location, alignment, and elevation shall be placed for all structures.

Records. All survey data shall be recorded in fully identified standard hard-bound engineering survey field notebooks with consecutively numbered pages. All field notes and printed data shall include the purpose or description of the work, the date the work was performed, weather data, sketches, and the personnel who performed and checked the work. Electronically generated survey data and computations shall be bound, page numbered, and cross referenced in a bound field notebook containing the index for all survey activities. All work shall follow recognized professional practice.

The construction survey records shall be available at all times during the progress of the work for examination and use by the engineer and when requested, copies shall be made available. The original field notebooks and other records shall be provided to and become the property of the OWNER before final payment and acceptance of all work.

Complete documentation of computations and supporting data for progress payments shall be submitted to the engineer with each invoice for payment as specified in this specification.

Items of work and construction details. Items of work to be performed in conformance with this specification and the construction details therefore are:

#### Construction Surveys

- (1) Before beginning work the contractor will review with the Engineer all details involved in the proposed surveys such as: personnel performing the work; special requirements for the surveys; layout surveys; and proposed line and grade of the work.
- (2) Copies of the survey notes shall be provided each week to the Engineer as layout surveys progress.
- (3) The contractor shall be responsible for re-staking any original government layout, contractor layout, or references that are removed or destroyed.
- (4) Documentation of surveys and computations shall be submitted to the Engineer.

Method of Measurement: CONSTRUCTION LAYOUT will be measured on a LUMP SUM basis.

Basis of Payment: The work under this item will be paid for at the applicable contract lump sum price for CONSTRUCTION LAYOUT, which price shall be payment in full for all labor, materials, equipment, transportation, handling and incidental work necessary to complete construction layout, as indicated on the plans and approved by the Engineer.

### **DUST CONTROL WATERING**

Description: This work shall consist of applying a dust retardant to the project roadways at the request of the Engineer and is not intended for use in the compaction of earth embankments or aggregate materials.

This work shall be performed in accordance with Article 107.36 of the Standard Specifications except as modified herein.

Dust shall be controlled by the uniform application of sprinkled water and shall be applied only when directed by the engineer, in a manner meeting his approval. All equipment used for this work shall meet with the Engineer's approval and shall be equipped with the adequate measuring devices for metering the exact amount of water discharged. All water used shall be properly documented by ticket or other approved means.

Method of Measurement: This work will be measured in units of gallons of water applied. One unit will be equivalent to 1,000 gallons of water applied.

Basis of Payment: This work will be paid for at the contract unit price per unit for DUST CONTROL WATERING, which price shall be payment in controlling dust as herein specified.

### **DETOUR SIGNING**

Description: This work shall include all labor, materials, transportation, handling, and incidental work to furnish, install, maintain and remove all signs necessary to detour traffic during the full closure of South Boulevard between Harlem Avenue and Marion Street as well as to detour the traffic for the closure of South Boulevard to eastbound traffic between Harlem Avenue and Marion Street as detailed in the plans and as approved by the Engineer.

This work shall be performed according to Section 701 of the Standard Specifications.

Whenever South Boulevard is open to one-way or two-way traffic, all signs that are not required to sign the traffic staging condition shall be either tightly covered with an opaque covering or removed. If work is suspended for reasons as provided in the special provision "Cooperation with Adjacent Construction Project Contractors", then the Detour Signing shall be removed and reinstalled at no additional cost.

Basis of Payment: this work will be paid for at a contract lump sum price for DETOUR SIGNING.

### **TRAFFIC CONTROL AND PROTECTION, (SPECIAL)**

Description: specific traffic control plan details and Special Provisions have been prepared for this contract pertaining to construction staging and traffic control and protection for work within

the South Boulevard right-of way. This work shall include all labor materials, transportation, handling, and incidental work necessary to furnish, install, maintain and remove all traffic control devices and temporary striping required as indicated in the plans and as approved by the Engineer.

This work shall be performed according to Section 701 of the Standard Specifications except as indicated herein.

Method of Measurement: This work will be measured for 5 equal partial payments to the Contractor following the completion of successive individual stages of work: full closure for utility construction, one-way closure for north side construction, one-way closure for south curb and gutter construction, full closure for roadway pavement reconstruction, and all traffic control and protection for remaining work.

Basis of Payment: This work will be paid for at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION, (SPECIAL).

#### **TRAFFIC CONTROL AND PROTECTION, STANDARD 701606**

Description: This work shall include all labor, materials, transportation, handling, and incidental work necessary to furnish, install, maintain, and remove all traffic control devices required for outside lane closures along Harlem Avenue in one direction at a time as required by IDOT Standard Detail 701606 for all sub-stages of work activities that the Contractor uses to complete work within the Harlem Avenue right-of-way.

This work shall also include the application of IDOT Standard Detail 701701 for those situations that the Contractor, with the approval of the Engineer, uses IDOT Standard Detail 701701 in lieu of Standard Detail 701606 for the traffic control and protection of work performed within the Harlem Avenue right-of-way.

The duration of the lane closures shall be subject to the restrictions stipulated in the Special Provision "KEEPING ARTERIAL ROADWAYS OPEN TO TRAFFIC (LANE CLOSURES ONLY)."

Method of Measurement: Traffic control and protection within the Harlem Avenue right-of-way as required under Standards 701606 and 701701 will be measured for payment on a single Lump Sum basis.

Basis of Payment: This work will be paid for at the contract lump sum price for TRAFFIC PROTECTION AND CONTROL, STANDARD 701606.

#### **TRAFFIC CONTROL AND PROTECTION, STANDARD 701801**

Description: 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 within IDOT Standard Detail 701801 and as approved by the Engineer.

It shall be applied for all sidewalk closures required along Harlem Avenue and along South Boulevard that are necessary per the construction staging plans or as necessary per the Contractor's means and methods to complete work that is required by the plans and Special Provisions.



Method of Measurement: All traffic control and protection necessary for sidewalk closures shall be measured on a lump sum basis.

Basis of Payment: All traffic and protection necessary for sidewalk closures shall be paid for at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION, STANDARD 701801.

### **TEMPORARY ACCESS WALK**

Description: This work shall consist of the equipment, material and labor to install and maintain TEMPORARY ACCESS WALK/RAMP that provides access to and from adjacent properties and to crosswalk across all streets until the walkway is fully restored. This work shall also include the removal of the TEMPORARY ACCESS WALK.

TEMPORARY ACCESS WALK/RAMP shall be wood frame and plywood constructed with ADA and MUTCD requirements.

Contractor shall submit shop drawings for plywood walkways and ramps to Engineer for review and approval prior to construction. Contractor will be responsible for the observation and protection of temporary access locations at all times throughout the duration of the project: The Contractor shall also be responsible for the installation and maintenance of signage and other items to provide safe pedestrian access.

Basis of Payment: This work will be measured and paid for at the contract unit price per each TEMPORARY ACCESS WALK which shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals to perform the work.

### **TEMPORARY ACCESS (ALLEY)**

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 Public Alley 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) Public Alley. The minimum width shall be 16 ft (3.6 m). The minimum compacted thickness shall be 8 in. (150 mm). The maximum grade shall be six (6) percent, except as required to match the existing grade.

Maintaining the temporary access shall include relocating and/or re-grading 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 Public Alley for the purpose of temporary access. If the Public Alley 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 (ALLEY).

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.”

#### **TEMPORARY RAMP REMOVAL**

Description. This work shall be done in accordance with Sections 406 and 440 of the Standard Specifications and the special provisions provided herein. This work shall consist of the removing temporary ramps installed to transition from milled pavement surfaces to existing pavement surfaces.

Construction Requirements. Remove and correctly dispose of temporary ramps installed to transition from milled pavement surfaces to existing pavement surfaces or to provide grade transitions between completed and non-completed work areas.

Method of Measurement. This work will be measured for payment in place in square yards.

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

#### **BACKFILLING SEWER AND WATER MAIN UTILITY TRENCHES UNDER ROADWAY**

Effective: September 30, 1985

Revised: July 2, 1994

For sewers and water main constructed under existing and proposed roadway, alley and sidewalk pavements as well as their associated structures, backfilling methods two and three authorized under the provisions of Article 550.07 will not be allowed.

#### **REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES**

This work shall be according to Article 669 of the Standard Specifications and the following:

Qualifications. The term environmental firm shall mean an environmental firm with at least five (5) documented leaking underground storage tank (LUST) cleanups or that is pre-qualified in

hazardous waste by the Department. Documentation includes but not limited to verifying remediation and special waste operations for sites contaminated with gasoline, diesel, or waste oil in accordance with all Federal, State, or local regulatory requirements and shall be provided to the Engineer for approval. The environmental firm selected shall not be a former or current consultant or have any ties with any of the properties contained within and/or adjacent to this construction project.

General. This Special Provision will likely require the Contractor to subcontract for the execution of certain activities.

All contaminated materials shall be managed as either "uncontaminated soil" or non-special waste. This work shall include monitoring and potential sampling, analytical testing, and management of a material contaminated by regulated substances. The Environmental Firm shall continuously monitor all soil excavation for worker protection and soil contamination. **Phase I Preliminary Engineering information is available through the District's Environmental Studies Unit.** Soil samples or analysis without the approval of the Engineer will be at no additional cost to the Department. The lateral distance is measured from centerline and the farthest distance is the offset distance or construction limit whichever is less.

The Contractor shall manage any excavated soils and sediment within the following areas:

Harlem Avenue

- Station 15+33 to Station 16+25 (CL Harlem Avenue), 23 to 34 feet RT, (PESA Site No. 2937-2 and PESA Site No. 2937-3, 1110-1116 South Boulevard, Oak Park) . This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Potential contaminants of concern sampling parameters: VOCs, SVOCs, and Metals.
- Station 15+75 to Station 15+95 (CL Harlem Avenue), 23 to 34 feet LT, (PESA Site No. 2937-1 CTA Maintenance Yard, northwest corner of Harlem Avenue and Circle Avenue, 1 S. Harlem, Forest Park). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Potential contaminants of concern sampling parameters: VOCs, SVOCs, and Metals.

**COMBINED SEWER REMOVAL**

Description: This item shall consist of removing existing combined sewer, as required by the Plans and Specifications or as directed by the ENGINEER.

Execution: The CONTRACTOR shall dispose of the removed sewer offsite. The CONTRACTOR MAY NOT REMOVE any sewer without the specific permission of the ENGINEER.

It is the responsibility of the Contractor to maintain positive drainage throughout the project site at all times.

Method of Measurement: This item shall be measured on a LINEAR FOOT basis along the center line without deduction for manholes or structures.

Basis of Payment: Unit price shall include all labor, materials, equipment and cost necessary for excavation, backfill and compaction, materials, hauling and transportation necessary for removing the existing sewer. This work will be paid for at the contract unit price per foot for COMBINED SEWER REMOVAL for the size specified.

## **PLUG EXISTING SANITARY SEWERS**

Description: This work shall consist of plugging existing sanitary sewers, combined sewers, and storm sewers as shown on the plans and as directed by the Engineer for purposes of their abandonment.. This work shall be completed in accordance with applicable portions of Sections 593 and 605 of the Standard Specifications, except as modified herein. A solid plug extending at least 2 feet in length shall be placed at all existing abandoned pipe openings in existing or proposed structures, as well as at any location where an existing pipe is exposed, cut, or damaged by construction activities.

Material for plugging abandoned sanitary sewers shall be non-shrink concrete or mortar.

Measurement and Payment. This work will be measured and paid for at the contract unit price per each for PLUG EXISTING SANITARY SEWERS, which price shall include all labor, equipment and materials necessary to complete the work as shown on the plans.

## **SANITARY SEWERS**

Description. Sanitary sewer pipe shall be of the size and type as specified on the plans and shall meet the material and installation requirements of the latest edition of the "Standard Specifications for Water and Sewer Main Construction in Illinois." Construction shall also meet requirements of the Metropolitan Water Reclamation District of Greater Chicago (MWRD) Watershed Management Ordinance and Technical Guidance Manual.

Ductile Iron Pipe (DIP) material shall conform to AWWA C151/ANSI A-21.51 with a cement-mortar lining in accordance to AWWA C104/ANSI A-21.4. Standard fittings shall be in accordance to AWWA C110/ANSI A-21.20. Joints shall meet AWWA C111/ANSI A 21.11.

Ductile iron pipe sizes shall be the nominal pipe sizes as established by ANSI.

The type of pipe corresponds with its depth of fill placed over the top of the pipe. For ductile iron pipe sizes installed in this contract, the following fill heights shall be applied to the identified types.

- a) Type 1: Fill height 3 feet and less with 1 foot minimum cover.
- b) Type 2: Fill height greater than 3 feet and not exceeding 10 feet.
- c) Type 3: Fill height greater than 10 feet and not exceeding 15 feet.

Construction shall be according to Section 20-4 of the standard Specifications for Water and Sewer Main Construction in Illinois. Trench excavation, bedding, and backfill shall be according to the details presented in the plans. Since all excavation occurs in pavement areas, no excavated material shall be used as backfill within the sewer trench. Trench backfill shall adhere to the special provision for BACKFILLING SEWER AND WATERMAIN UTILITY TRENCHES UNDER ROADWAY.

Measurement. Sanitary sewers will be measured for payment in place in feet. When the sanitary sewer enters a manhole, the measurement will end at the inside wall of the manhole.

Trench backfill will be measured for payment according to Section 208.03 of the Standard Specifications for Road and Bridge Construction using the table widths presented within the trench details pursuant to the organization requirements referenced above.

Basis of Payment. This work shall be paid for at the contract unit price per foot for SANITARY SEWERS of the type and diameter specified.

Trench backfill shall be paid for at the contract unit price per cubic yard for TRENCH BACKFILL.

Removal and replacement of unsuitable material below the plan bedding grade will be paid for according to Article 109.04 of the Standard Specifications for Road and Bridge Construction.

### **MANHOLE, SPECIAL**

Description: This item shall consist of furnishing and installing a new 5 foot diameter precast "Doghouse" manhole over an existing 21" diameter VCT sewer with a Type I Frame and Closed lid and include the three drop manhole assemblies and connections from new incoming less deep sewers as required by the Plans and Specifications. The installation shall include all excavation, bracing, and dewatering necessary to safely perform the work. Backfill materials within the excavated opening outside the new structure shall consist of either CA-6 compacted at one foot intervals or Controlled Low-Strength Material (CLSM) pursuant to Article 1019 of the Standard Specifications using Mix 2 or a comparable equivalent.

Materials: Materials shall meet the applicable requirements of the Metropolitan Water Reclamation District of Greater Chicago.

Execution: Execution shall conform to the applicable requirements of the Metropolitan Water Reclamation District of Greater Chicago.

Connections from all sewers leading to the new manhole structure are considered included in the unit cost of this item.

Basis of Payment. This work shall be paid for at the contract unit price for each MANHOLE, SPECIAL.

### **CATCH BASINS, TYPE A, 4'-DIAMETER WITH RUBBER BOOT, TYPE 1 FRAME, OPEN LID**

Description: This work shall consist of furnishing equipment, labor, tools, and materials necessary for the installation of catch basins, type A.

All openings in catch basins through which sewer pipes enter the structure shall be provided with rubber boots in accordance to ASTM C-923.

Proposed invert elevations have been provided on the drawings. Contractor shall be responsible for determining size of precast flat top or cone section necessary to adjust the structure to final grade prior to beginning excavations. All excavations shall be backfilled, whether by temporary or permanent means, by the end of each work day.

All sewer laterals encountered within the limits of construction shall be removed at the points of conflict with the new construction and shall be replaced as required by the engineer at locations

and at invert elevations as shown on the plans and that eliminate conflict with new construction.

Basis of Payment. This work will be paid for at the contract unit price for each CATCH BASINS, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, OPEN LID.

#### **CONNECTION TO EXISTING MANHOLE**

Description: This work shall consist of a connection to an existing sanitary sewer, combined sewer, or storm sewer manhole complete in place, including sawcutting, removal and disposal of existing pavements; excavation; bracing, sheeting and shoring; coring the existing manhole; installing a watertight boot connecting the cored hole to the new pipe; cutting and removal of precast manhole base and concrete bench as required to make the connection to the existing sanitary sewer manhole; reshaping of concrete bench; trench dewatering, including erosion and sedimentation control methods and devices to protect the environment from all pumping operations; trench backfilling with and compaction of trench backfill material; testing; finish grading; removal and disposal of waste excavated material; location, protection, and repair or replacement of existing structures, pipelines and utilities; removing existing sewer pipe from the existing structure and patching the hole with brick and mortar to the satisfaction of the engineer when applicable; and all other work incidental to and necessary for a complete connection to existing sewer manhole installation. The work shall be completed in accordance with the latest edition of the "Standard Specifications for Water and Sewer Main Construction in Illinois." Construction shall also meet requirements of the Metropolitan Water Reclamation District of Greater Chicago (MWRD) Watershed Management Ordinance and Technical Guidance Manual.

Basis of Payment: The work will be paid for at the Contract Unit Price for each CONNECTION TO EXISTING MANHOLE.

#### **STORM SEWER CONNECTION**

Description: This work item shall be performed in accordance with the applicable sections of Section 550 of the Standard Specifications, and as directed by the Engineer. This work shall consist of connecting proposed storm sewer pipes to existing inlets and catch basins at the locations indicated in the plans and as directed by the Engineer. This work shall also consist of the direct connection of new storm sewers to either existing or new storm sewers as detailed in the plans.

Basis of Payment: Payment for this work will include all material, labor, and equipment to connect the existing storm sewer to the proposed manhole and will be paid for at the unit price per Each for STORM SEWER CONNECTION.

#### **STRUCTURES TO BE ADJUSTED**

Description. This work shall consist of adjusting catch basins, manholes, inlets, and utility structures with their existing frame and grate in accordance with Section 602 of the Standard Specifications and as specified herein.

Basis of Payment. This work will be measured and paid for at the contract unit price per each for STRUCTURES TO BE ADJUSTED. The word STRUCTURE shall be understood to mean valve vault, utility vault, catch basin, manhole, or inlet. The price shall be payment in full for all labor and material necessary to complete the work described above.

## **SANITARY SEWER MANHOLE INTERIOR REHABILITATION**

Description This work shall consist of repairing leaks, inverts, and benches, and spray applying or centrifugally spin casting a cementitious liner on the inside of existing manholes in accordance with applicable paragraphs of Section 602 and 1000 of the Standard Specifications, and applicable sections of American Concrete Institute Standard ACI 506.2-95 and ACI 506R-90 and as revised or amended in this special provision.

The Contractor shall prevent construction debris from entering sewer pipes during manhole reconstruction work.

The Contractor shall seal active leaks in the structure. The area to be repaired shall be cleaned and prepared and loose material shall be chipped out. Quick setting cementitious material shall be used to patch the leak until the leak is stopped. The Contractor shall notify the Engineer if there is severe infiltration which cannot be sealed prior to applying the shotcrete.

The Contractor shall repair the invert of the manhole using rapid setting, high-early strength, non-shrink patching material to fill all large voids and repair inverts prior to spray lining the manhole. Manholes that are specified for invert shotcreting shall have the sewage flow stopped, bypassed, or diverted for application of the coating to the invert.

The Contractor shall thoroughly clean the structure with the use of high-pressure water before applying the shotcrete. All unsound bricks and material shall be removed prior to applying the shotcrete. All surfaces which are to receive shotcrete are to be damp but free from visible water. The shotcrete shall be applied at a minimum thickness of 1 ½ inches unless otherwise directed by the Engineer. Shotcrete shall be applied from the manhole frame to 1" below normal flow levels at the bench. The final surface finish shall be troweled. All reconstruction work shall be completed under live flow of the sewer unless otherwise directed by the Engineer.

Measurement. SANITARY SEWER MANHOLE INTERIOR REHABILITATION shall be measured along the depth of the manhole measured to the nearest 0.1 foot between the bottom of the frame to the invert of the downstream outlet pipe.

Basis of Payment This work shall be paid for at the contract unit price per foot for SANITARY SEWER MANHOLE INTERIOR REHABILITATION, which price shall be payment in full for all labor, material and equipment necessary to complete the work as specified.

## **CURED-IN-PLACE PIPE LINER (CIPP)**

This work shall consist of the reconstruction of pipelines by the installation of a resin-impregnated flexible tube, which is formed to the original conduit by use of a hydrostatic head. The resin is cured using hot water under hydrostatic pressure within the tube. The Cured-In-Place Pipe (CIPP) will be continuous and tight fitting.

## **REFERENCED DOCUMENTS**

This specification references ASTM F1216 (Rehabilitation of pipelines by the inversion and curing of a resin-impregnated tube), ASTM F1743 (Rehabilitation of pipelines by pulled-in-place installation of a cured-in-place thermosetting resin pipe), and ASTM D790 (Test methods for flexural properties of non-reinforced plastics) which are made a part hereof by such reference and

shall be the latest edition and revision thereof. In case of conflicting requirements between this specification and these referenced documents, this specification will govern.

The video record of existing pipe conditions at the time of recording is available upon request of the Engineer.

#### PRODUCT, MANUFACTURER, CONTRACTOR QUALIFICATION REQUIREMENTS

All trench-less rehabilitation products and installers must be pre-approved by the Village of Oak Park prior to receiving bid documents. The contractor must submit documentation and specifications showing that the product meets this specification's requirements. The contractor must submit references and footage of the product successfully installed. Sewer rehabilitation products submitted for approval must provide third party test results supporting the long term performance and structural strength of the product and such data shall be satisfactory to the Owner. Test samples shall be prepared so as to simulate installation methods and trauma of the product. No product will be approved without independent third party testing verification.

#### MATERIALS

The sewn Tube shall consist of one or more layers of absorbent non-woven felt fabric and meet the requirements of ASTM F1216 or ASTM F1743, Section 5. The tube shall be constructed to withstand installation pressures, have sufficient strength to bridge missing pipe, and stretch to fit irregular pipe sections.

The wet out Tube shall have a uniform thickness that when compressed at installation pressures will meet or exceed the Design thickness.

The Tube shall be sewn to a size that when installed will tightly fit the internal circumference and length of the original pipe. Allowance should be made for circumferential stretching during inversion. Overlapped layers of felt in longitudinal seams that cause lumps in the final product shall not be utilized.

The outside layer of the Tube (before wet out) shall be coated with an impermeable, flexible membrane that will contain the resin and facilitate monitoring of resin saturation during the resin impregnation (wet out) procedure.

The Tube shall be homogeneous across the entire wall thickness containing no intermediate or encapsulated elastomeric layers. No material shall be included in the Tube that may cause delamination in the cured CIPP. No dry or unsaturated layers shall be evident.

The wall color of the interior pipe surface of CIPP after installation shall be a light reflective color so that a clear detailed examination with closed circuit television inspection equipment may be made.

Seams in the Tube shall be stronger than the non-seamed felt.

The outside of the Tube shall be marked for distance at regular intervals along its entire length, not to exceed 5 ft. Such markings shall include the Manufacturers name or identifying symbol. The tubes must be manufactured in the USA.

The resin system shall be a corrosion resistant polyester, vinyl ester, or epoxy and catalyst system that when properly cured within the tube composite meets the requirements of ASTM F1216 and ASTM F1743, the physical properties herein, and those which are to be utilized in the Design of



the CIPP for this project. The resin shall produce CIPP which will comply with the structural and chemical resistance requirements of this specification.

STRUCTURAL REQUIREMENTS

The CIPP shall be designed as per ASTM F1216, Appendix X.1. The CIPP design shall assume no bonding to the original pipe wall.

The Contractor must have performed long-term testing for flexural creep of the CIPP pipe material installed by his Company. Such testing results are to be used to determine the Long-term, time dependent flexural modulus to be utilized in the product design. This is a performance test of the materials (Tube and Resin) and general workmanship of the installation and curing. A percentage of the instantaneous flexural modulus value (as measured by ASTM D-790 testing) will be used in design calculations for external buckling. The percentage, or the long-term creep retention value utilized, will be verified by this testing. Values in excess of 50% will not be applied unless substantiated by qualified third party test data. The materials utilized for the contracted project shall be of a quality equal to or better than the materials used in the long-term test with respect to the initial flexural modulus used in Design.

The Enhancement Factor 'K' to be used in 'Partially Deteriorated' Design conditions shall be assigned a value of 7. Application of Enhancement (K) Factors in excess of 7 shall be substantiated through independent test data.

The layers of the cured CIPP shall be uniformly bonded. It shall not be possible to separate any two layers with a probe or point of a knife blade so that the layers separate cleanly or the probe or knife blade moves freely between the layers. If separation of the layers occurs during testing of field samples, new samples will be cut from the work. Any reoccurrence may cause rejection of the work.

The cured pipe material (CIPP) shall conform to the structural properties, as listed below.

MINIMUM PHYSICAL PROPERTIES

<u>Property</u>	<u>Test Method</u>	<u>min. per ASTM F1216 (400,000 psi Resin)</u>	
Modulus of			
Elasticity	ASTM D-790 (short term)	250,000 psi	400,000 psi
Flexural Stress	ASTM D-790	4,500 psi	4,500 psi

The required structural CIPP wall thickness shall be based as a minimum, on the physical properties in Section 5.5 and in accordance with the Design Equations in the appendix of ASTM F 1216, and the following design parameters:

Design Safety Factor	= <u>2.0</u>
Retention Factor for Long-Term Flexural Modulus to be used in Design	= <u>1%- 60%</u>
<i>(as determined by Long-Term tests described in paragraph 5.2)</i>	
Ovality*	= <u>2%</u>
Enhancement Factor, k	= <u>See Section 5.3</u>

Groundwater Depth (above invert)*	= <u>0</u>
Soil Depth (above crown)*	= <u>5.6 ft</u>
Soil Modulus**	= <u>    Psi    </u>
Soil Density**	= <u>120 pcf</u>
Live Load**	= <u>H20 Highway</u>
Design Condition (partially or fully deteriorated)***	= <u>PARTIALLY</u>

\* Denotes information which can be provided here or in inspection video tapes or project construction plans. Multiple line segments may require a table of values.

\*\* Denotes information required only for fully deteriorated design conditions.

\*\*\* Based on review of video logs, conditions of pipeline can be fully or partially deteriorated.

(See ASTM F1216 Appendix) The Owner will be sole judge as to pipe conditions and parameters utilized in Design.

Refer to the attached Dimensional Ratio table for specific pipe section requirements, based on the pipe condition, depth, ovality, etc. as computed for the conditions shown, using ASTM F 1216 Design Equations.

Any layers of the tube that are not saturated with resin prior to insertion into the existing pipe shall not be included in the structural CIPP wall thickness computation.

#### TESTING REQUIREMENTS

**Chemical Resistance** - The CIPP shall meet the chemical resistance requirements of ASTM F1216, Appendix X2. CIPP samples for testing shall be of tube and resin system similar to that proposed for actual construction. It is required that CIPP samples with and without plastic coating meet these chemical testing requirements.

**Hydraulic Capacity** - Overall, the hydraulic profile shall be maintained as large as possible. The CIPP shall have a minimum of the full flow capacity of the original pipe before rehabilitation. Calculated capacities may be derived using a commonly accepted roughness coefficient for the existing pipe material taking into consideration its age and condition.

**CIPP Field Samples** - When requested by the Owner, the Contractor shall submit test results from field installations in the USA of the same resin system and tube materials as proposed for the actual installation. These test results must verify that the CIPP physical properties specified in Section 5.5 have been achieved in previous field applications. Samples for this project shall be made and tested as described in Section 10.1.

#### INSTALLATION RESPONSIBILITIES FOR INCIDENTAL ITEMS

**Cleaning of Sewer Lines** - The Contractor, when required, shall remove all internal debris out of the sewer line that will interfere with the installation of CIPP.

**Bypassing Sewage** - The Contractor, when required, shall provide for the flow of sewage around the section or sections of pipe designated for repair. The bypass shall be made by plugging the line at an existing upstream manhole and pumping the flow into a downstream manhole or

adjacent system. The pump and bypass lines shall be of adequate capacity and size to handle the flow. The Village of Oak Park will require a detail of the bypass plan to be submitted.

Inspection of Pipelines – The Village of Oak Park will provide video inspection tapes of the pipelines scheduled for lining. Additional inspection of pipelines prior to the installation of the liner shall be performed by experienced personnel trained in locating breaks, obstacles and service connections by close circuit television. The interior of the pipeline shall be carefully inspected to determine the location of any conditions which may prevent proper installation of CIPP into the pipelines, and it shall be noted so that these conditions can be corrected. A video tape and suitable log shall be kept for later reference by the Village of Oak Park.

Line Obstructions - It shall be the responsibility of the Contractor to clear the line of obstructions such as solids and roots that will prevent the insertion of CIPP. If pre-installation inspection reveals an obstruction such as a protruding service connection, dropped joint, or a collapse that will prevent the inversion process, that was not evident on the pre-bid video and it cannot be removed by conventional sewer cleaning equipment, then the Contractor shall make a point repair excavation to uncover and remove or repair the obstruction. Such excavation shall be approved in writing by the ENGINEER prior to the

Public Notification - The Contractor shall make every effort to maintain service usage throughout the duration of the project. In the event that a service will be out of service, the maximum amount of time of no service shall be 8 hours for any property served by the sewer. A public notification program shall be implemented, and shall as a minimum, require the Contractor to be responsible for contacting each home or business connected to the sewer and informing them of the work to be conducted, and when the sewer will be off-line. The Contractor shall also provide the following:

- A. Written notice to be delivered to each home or business the day prior to the beginning of work being conducted on the section, and a local telephone number of the Contractor they can call to discuss the project or any problem which could arise.
- B. Personal contact with any home or business, which cannot be reconnected within the time stated in the written notice.

The Contractor shall be responsible for confirming the locations of all branch service connections prior to installing and curing the CIPP.

#### INSTALLATION

CIPP installation shall be in accordance with ASTM F1216, Section 7, or ASTM F1743, Section 6, with the following modifications:

Resin Impregnation - The quantity of resin used for tube impregnation shall be sufficient to fill the volume of air voids in the tube with additional allowances for polymerization shrinkage and the loss of resin through cracks and irregularities in the original pipe wall. A vacuum impregnation process shall be used. To insure thorough resin saturation throughout the length of the felt tube, the point of vacuum shall be no further than 25 feet from the point of initial resin introduction.

After vacuum in the tube is established, a vacuum point shall be no further than 75 feet from the leading edge of the resin. The leading edge of the resin slug shall be as near to perpendicular as possible. A roller system shall be used to uniformly distribute the resin throughout the tube. If the

Installer uses an alternate method of resin impregnation, the method must produce the same results. Any alternate resin impregnation method must be proven.

Tube Insertion – The wet out tube shall be positioned in the pipeline using either inversion or a pull-in method. If pulled into place, a power winch should be utilized and care should be exercised not to damage the tube as a result of pull-in friction. The tube should be pulled-in or inverted through an existing manhole or approved access point and fully extend to the next designated manhole or termination point.

Temperature gauges shall be placed inside the tube at the invert level of each end to monitor the temperatures during the cure cycle.

Curing shall be accomplished by utilizing hot water under hydrostatic pressure in accordance with the manufacturer's recommended cure schedule.

#### REINSTATEMENT OF BRANCH CONNECTIONS

It is the intent of these specifications that branch connections to buildings be reopened without excavation, utilizing a remote controlled cutting device, monitored by a video TV camera. The Contractor shall certify he has a minimum of 2 complete working cutters plus spare key components on the site before each inversion. Unless otherwise directed by the owner or his authorized representative, all laterals will be reinstated. No additional payment will be made for excavations for the purpose of reopening connections and the Contractor will be responsible for all costs and liability associated with such excavation and restoration work.

#### INSPECTION

For each work order released, one CIPP sample for each diameter shall be prepared and physical properties tested in accordance with ASTM F1216 or ASTM F1743, Section 8, using either method proposed. The flexural properties must meet or exceed the values listed in Table 1 of the applicable ASTM.

Wall thickness of samples shall be determined as described in paragraph 8.1.6 of ASTM F1743. The minimum wall thickness at any point shall not be less than 87½% of the design thickness as calculated in paragraph 5.6 of this document.

Visual inspection of the CIPP shall be accomplished by closed-circuit televising in accordance with ASTM F1743, Section 8.6. The Contractor shall provide all equipment and personnel to perform such testing in the presence of the Engineer and shall provide two copies of the recorded and transcribed test results as documentation of the work performed.

Pressure Pipe testing shall be pre-formed in accordance with ASTM F1743, Section 8.3.

#### CLEAN-UP

Upon acceptance of the installation work and testing, the Contractor shall restore the project area affected by the operations to a condition at least equal to that existing prior to the work.

#### PAYMENT

This work shall be included in the contract unit price per linear foot for "CURED-IN-PLACE PIPE LINER" of the diameter specified. This price shall include the cost of all materials, labor, &

equipment for a complete installation including reinstatement of lateral connections, pressure testing, and video inspection.

**CIPP WALL THICKNESS**

**PARTIALLY DETERIORATED DESIGN ( PD )**

		Required DR ( D / t )			
		Ei = 250,000 psi		Ei = 400,000 psi	
		Ground Water Depth			
Ovality	Range of Depth to invert (feet)	50% Depth	Full Depth	50% Depth	Full Depth
2 % *	4 - 8	78	62	92	73
	8 - 12	69	55	80	64
	12 - 16	62	50	73	58
	16 - 20	58	46	68	54
	20 - 24	55	44	64	51
5 %	4 - 8	72	57	84	67
	8 - 12	63	50	73	58
	12 - 16	57	46	67	53
	16 - 20	53	42	62	49
	20 - 24	50	40	58	47
8 %	4 - 8	66	52	77	61
	8 - 12	58	46	67	54
	12 - 16	52	42	61	49
	16 - 20	49	39	57	45
	20 - 24	46	37	54	43

PD wall thickness varies with the height of the groundwater above the invert of the host pipe. The table assumes the height of the groundwater equal to half or full depth to the pipe invert. The table represents CIPP pipe wall thickness for a host pipe range of 8 to 48 inches. This is a guideline only. Specific calculations should refer to ASTM F-1216, Appendix X.1.

Design Parameters:

Poisson's Ratio = 0.3

Factor of Safety = 2.0

Enhancement Factor = 7

DR = Dimension Ratio = Diameter / thickness  $\Rightarrow t = D / DR$

Effective reduction of Ei modulus to approximate effects of creep = 50 %

Ovality % = 100 x ( Mean Dia. - Minimum Dia. ) / Mean Dia.

- 2% ovality is typically assumed when the host pipe measurements have not been field verified.

**WATER MAIN TO BE ABANDONED**

Description: The work shall consist of the abandonment of existing water main, including excavation, removal and disposal of waste excavated materials; backfilling of all excavations with granular backfill materials, and surface restoration where appurtenances to be abandoned are not in general area of water main construction.

Installation of concrete plugs or water main caps in abandoned water mains or crimping of water services at the edge of the trench area is considered incidental to the installation of the new water main.

Removal and disposal of existing water main or previously abandoned water main that must be removed in order to install the new water main or services is considered incidental to construction. The abandonment or removal of valve vaults, fire hydrants, or water services shall be paid for separately.

Basis of Payment: The work will be paid for at the contract lump sum price for WATER MAIN TO BE ABANDONED.

**VALVE VAULTS TO BE REMOVED**

Description. This work shall consist of the partial removal and filling of existing valve vaults in accordance with Section 605 of the standard specifications.

The top cone portion of the existing structure shall be removed. The elevation of the remaining portion of the structure shall be at least 6 inches below the subgrade elevation of the proposed improvement. The remaining structure shall be filled with FA-6.

All material resulting from the removal of the top of the structure shall be disposed of by the Contractor according to Article 202.03.

Basis of Payment. This work will be paid for at the contract unit price per each for VALVE VAULTS TO BE REMOVED.

### **FIRE HYDRANTS TO BE REMOVED**

Description: This work shall consist of removing existing fire hydrants, auxiliary valves, and auxiliary valve boxes in a reusable condition at locations shown on the plans. The Contractor shall take care not to damage the existing fire hydrant assemblies when removing and shall notify the Engineer when they are ready for transport by Public Utilities personnel. The fire hydrants shall not be removed until replacement fire hydrants have been installed and are operational. All spoil material resulting from fire hydrant assembly removal, shall be disposed of by the Contractor. All fire hydrants removed in non-paved areas shall have the void backfilled with compacted sand (FA-2). Backfill for hydrants removed in existing or proposed paved areas shall be with trench backfill materials and shall be compacted

Basis of Payment: This work shall be paid at the contract unit price per each for FIRE HYDRANTS TO BE REMOVED. Payment shall be full compensation for all material, equipment, and labor required to complete this work.

Compacted sand (FA-2) and/or Trench Backfill shall not be paid for separately but is included with FIRE HYDRANTS TO BE REMOVED.

### **DOMESTIC WATER SERVICE BOXES TO BE REMOVED**

#### **565.03 General.**

Article 565.03 is supplemented with the following:

Domestic water service boxes to be removed shall be removed along the entire height of the box from the ground line to the coupling. Valves inside domestic water service boxes to be removed shall be set to the closed position. The hole formed by the removal of the structure shall then be backfilled with sand and the sand compacted. All material resulting from removing domestic water service boxes shall be disposed of by the Contractor according to Article 202.03.

#### **565.04 Basis of Payment.**

Article 565.04 is supplemented with the following:

Domestic water service boxes to be removed will be paid at the contract unit price per each for DOMESTIC WATER SERVICE BOXES TO BE REMOVED.

### **DUCTILE IRON WATER MAIN ENCASED IN POLYETHYLENE PLASTIC**

This item consists of furnishing and installing Ductile Iron pipe in open trench, fittings, joint materials, testing, sterilizing and flushing the new main, taking and transporting water samples for bacteriological analysis, and all other work as may be necessary for a complete installation.

This work shall be in accordance with applicable paragraphs of Sections 208, 561, and 1000 of the Standard Specifications, applicable sections of Standard Specifications for Water and Sewer Main Construction in Illinois, applicable sections of AWWA Standards, plan details and as revised or amended in this special provision as follows:

GENERAL DESCRIPTION OF WORK AND PROCEDURES

A. Trench Excavation:

During any one working day, the contractor shall excavate such trenches that will have the water main installed and backfilled during the day. No such trenches shall be left open at the end of the working day. It shall be temporarily backfilled until construction resumes. Immediately following the backfilling of trenches, all excavation material shall be hauled off the job site and disposed of by the contractor at his own expense.

B. Polyethylene Encasement

To protect ductile iron pipe from the corrosive soil, polyethylene encasement shall be used. A completely air and water-tight enclosure is not necessary. Eight (8) mil. thick polyethylene tube is furnished in the flat tube width of 20" for 4" and 6" water main and flat tube width of 30" for 8" water main. Both material and installation procedures are specified in ANSI/AWWA-C111/A21.5.

1. Pick up the pipe with a sling or pipe tongs. Slip a polyethylene tube which is approximately two feet longer than the pipe over the plain end and leave it bunched up accordion style.
2. Lower the pipe into the trench and make up the joint with the preceding pipe. Shallow bell holes are required to allow overlap of the tube at the joints.
3. Remove the sling or tong from the center of the pipe, raise the bell a few inches and slip the polyethylene tube along the pipe barrel, leaving approximately one foot of the tube bunched up at each end of the pipe for wrapping the joints.
4. Overlap each joint by first pulling one bunched-up tube over the bell, folding it around the adjacent plain end and securing it in place with two or three wraps of the polyethylene adhesive tape. Complete the overlap by repeating the same procedure with the bunched-up tube on the adjacent pipe.
5. Take up the slack tube along the pipe barrel by folding it over the top of the pipe holding the fold in place with polyethylene adhesive tape.
6. Repair any rips, punctures or other damage to the polyethylene with tape or by cutting open a short length of tube, wrapping it around the pipe and securing with polyethylene tape.
7. Installation of Polyethylene over fittings, valves, and piping specialties:

Fit bends, reducers and offsets with polyethylene tube in the same manner described above for pipe.

Wrap valves, tees, crosses and specialty items with a flat sheet obtained by splitting open a length of polyethylene tube. Pass the sheet under the valve or fitting and bring it up around the body. Join the seams by bringing the edges together, folding over twice and securing in place with polyethylene tape.

C. Installation of Ductile Iron Pipe and Fittings

All ductile iron watermain pipe shall conform to the dimension, weight, character of materials, allowable variations in diameters and thickness, method of manufacturing, marking and coating to ANSI/AWWA-C151/A21.51. The thickness of the pipes shall have a Class 52 standard wall thickness in accordance with ANSI/AWWA-C151/A21.51.

All joints shall be Super Bell-Tite Push-On Joints and meet the requirements of ANSI/AWWA-C111/A21.11. All fittings shall be full body ductile iron mechanical joint fittings and meet AWWA-C110 and shall have a 250-psi pressure rating. Compact fittings and fittings not included in AWWA C110 shall not be used unless approved by the Engineer. All ductile iron watermain pipe shall have a cement mortar lining with a bituminous seal coat in accordance



with ANSI/AWWA-C111/A21.1. Standard cement lining shall be no less than 1/16-inch on all pipe up to 12-inch diameter, and 3/16-inch thick on all pipe 14-inch through 24-inch diameter. Exterior of pipe and fittings used in submerged or buried applications shall be shop coated with a bituminous coating not less than 1.0 mil thick.

Bolts and nuts shall be 5/8-inch in size and shall be Grade 304L stainless steel, annealed. Nuts must be teflon coated to prevent galling during storage.

The watermain shall be laid on a well compacted flat bottom trench, true and even, so that the barrel of the pipe will have a bearing for its full length. Unless otherwise directed, watermain pipe shall be laid with the bell ends facing the direction of laying. When the grade exceeds 2-feet of rise per 100-feet of trench, the bells shall face up-grade. Bell holes shall be excavated for all joints and be 4-inches in depth and extend 6-inches in front of the face of the bell. Any part of the trench excavated below grade shall be corrected with granular material and thoroughly compacted. The minimum cover of the pipe shall be five (5) feet.

At all times when pipe laying is not in progress, the open ends of the pipe shall be closed by a water-tight plug or by other means approved by the Engineer. If there is water in the trench, the seal shall remain in place until the trench is pumped completely dry. No pipe shall be laid in water or when, in the opinion of the Engineer, trench conditions are not suitable.

Whenever it becomes necessary to lay a main over, under, or around a known obstruction, the Contractor will furnish and install the required fittings. The laying of such fittings shall be included in the unit price bid for each size of water main. No additional compensation will be paid to the Contractor for any expenses incurred because of such obstruction. When an unknown underground structure interferes with the work and it becomes necessary to lay a main over, under, or around the obstruction, the Contractor will furnish and install the required fittings. These fittings will be paid for at the Contract unit price per pound for "MISCELLANEOUS FITTINGS." When an unknown underground structure interferes with the work to such an extent that an alteration of the drawing is required, which alteration results in a change in the cost to the Contractor, the Engineer will issue a written order for such work, specifying the basis of payment or credit for such work.

Removal and disposal of any known abandoned underground utilities as shown on plans will be considered incidental to the installation of the water main. No additional compensation will be paid to the Contractor for any expenses incurred because of such work.

All bends, caps, tees, plugs, valves, fittings and hydrants at a point in the pipeline where there is a change in direction or at a dead end shall be thrust blocked or restrained by the use of Mega Lugs. Thrust blocking shall be poured Portland Cement Concrete a minimum of 12-inches thick and shall be poured against firm material ground. They shall be formed so that the pipe joints are kept free from concrete.

The Contractor shall give a minimum of forty-eight (48) hours notice to the Village's Water and Sewer Superintendent for a request for a water shut-off so that the customers can be notified by the Village Water Department of any service interruption. The Village's Water and Sewer Superintendent shall determine the time and duration of the shut-off. The Contractor shall continue the work to complete and restore service to the interrupted main. No additional compensation will be given for overtime due to the hours of shut-off.

#### D. Backfilling

While special backfilling procedures and materials are not necessary, care should be taken not to damage the polyethylene.

Backfill material should be free of rocks and debris which could puncture the polyethylene. If suitable backfill material is not available, felt roofing or similar material can be laid over the top of the pipe to protect the polyethylene.

In general, backfilling should be done in accordance with AWWA Standard C-800.

#### E. Hydrostatic Testing

The Contractor shall give the Village's Water and Sewer Superintendent twenty-four (24) hours notice prior to any testing. Before making tests, the Contractor shall make sure that all turns, intersections, ends and reductions have been restrained by the use of Mega Lugs or proper thrust blocking. All new pipe, including hydrants and water service piping to the curb stop shall be tested. All air shall be expelled from the mains and they shall be filled with water.

The Hydrostatic testing of the completed water main shall conform to the conditions and requirements of AWWA C600. Each valved section of the main shall be individually tested. The test pressure of the water main shall be 150 psi for a test period of two (2) hours. The Contractor shall not be allowed to raise the pressure in the water main above 160 psi at any time during the testing procedure. Suitable means shall be provided by the Contractor for determining the quantity of water lost by leakage under the specified test pressure. The allowable leakage shall not exceed that amount determined by the following formula:

$$L = \frac{SDP^{0.5}}{133,200}$$

Where D = Nominal pipe diameter in inches;

L = Allowable leakage in gallons/hour;

P = Average test pressure (PSI); and

S = Length of pipe to be tested.

A summary of allowable leakages is given in the table located at the end of this specification.

All joints showing visible leaks shall be repaired until tight. Any cracked or defective pipes, fittings, valves or hydrants discovered in consequence of this pressure test shall be removed and replaced by the Contractor with sound material. No stainless steel repair clamps or bell joint leak repair clamps will be permitted. All repaired areas shall be retested.

#### F. Flushing and Disinfection

Any of the methods stated in AWWA Standard C651-92 are accepted as a means of disinfection of water mains.

Sections of pipe to be disinfected shall first be flush to remove any solid or contamination material that may have become lodged in the pipe. If no hydrant is installed at the end of the main, then a tap should be provided large enough to develop a velocity of at least 2.5-feet per second in the main. One (1) 2-1/2-inch hydrant opening will, under normal pressures, provide this velocity in pipe sizes up to and including 12-inches.

Water mains shall be sterilized by or under the direction of an experienced professional chlorination technician retained by the Contractor in a manner acceptable to the Engineer and the State Department of Health. Before being placed into service, all new mains and repaired portions of shall be chlorinated so that the initial chlorine residual is not less than fifty (50) mg/L

and that a chlorine residual of not less than twenty-five (25) mg/L remains in the water after standing twenty-four (24) hours in the pipe.

After the sterilization process, water samples shall be collected at strategic locations throughout the system equal to one (1) in every 1000-feet of new pipe with no less than two (2) samples total and submitted to an independent laboratory approved by the Engineer for bacteriological examination on two separate days.

Following chlorination, all treated water shall be thoroughly flushed from the newly laid pipe at its extremity until the replacement water throughout its lengths shows upon test, chlorine residual not in excess of that carried in the system (0.8 to 1.0 mg/L).

#### BASIS OF PAYMENT

This work shall be included in the contract unit price per lineal foot for "WATER MAIN 6", 8", or 12" of the size indicated on due contract drawings measured for payment in accordance with the pay limits shown on the plans. This price shall include the cost of all materials, labor and equipment for a complete installation including the pressure testing and sterilization. Tees, crosses, reducers, bend, plugs, sleeves, wedges and polyethylene tube are part of this item and will not be paid for separately.

ALLOWABLE LEAKAGE AT 150 PSI TEST PRESSURE

PIPE DIAMETER IN INCHES

Pipe Length		6-Inches	8-Inches	10-Inches	12-Inches	16-Inches
50	-feet	0.03	0.04	0.05	0.06	0.07
100	-feet	0.06	0.07	0.09	0.11	0.15
150	-feet	0.08	0.11	0.14	0.17	0.22
200	-feet	0.11	0.15	0.18	0.22	0.29
250	-feet	0.14	0.18	0.23	0.28	0.37
300	-feet	0.17	0.22	0.28	0.33	0.44
350	-feet	0.19	0.26	0.32	0.39	0.51
400	-feet	0.22	0.29	0.37	0.44	0.59
450	-feet	0.25	0.33	0.41	0.50	0.66
500	-feet	0.28	0.37	0.46	0.55	0.74
550	-feet	0.30	0.40	0.51	0.61	0.81
600	-feet	0.33	0.44	0.55	0.66	0.88
650	-feet	0.36	0.48	0.60	0.72	0.96
700	-feet	0.39	0.51	0.64	0.77	1.03
750	-feet	0.41	0.55	0.69	0.83	1.10
800	-feet	0.44	0.59	0.74	0.88	1.18
850	-feet	0.47	0.63	0.78	0.94	1.25
900	-feet	0.50	0.66	0.83	0.99	1.32
950	-feet	0.52	0.70	0.87	1.05	1.40
1000	-feet	0.55	0.74	0.92	1.10	1.47

Leakage shown in gallons per hour

## **FIRE HYDRANT ASSEMBLY COMPLETE**

This work shall include the furnishing and installation of hydrant to grade, auxiliary valve, valve box, fittings, mega lugs between tee and valve, all excavation, bedding, drain boxes, backfill, concrete supports and anchors, and all appurtenant work as required for a complete installation.

### **MATERIALS**

1. The hydrant shall be American Flow Control's Waterous Pacer Hydrant Traffic Model WB-67-250. The hydrants shall come painted in standard red M4104. The hydrant shall have a 6-inch internal connection, and a 6-inch flanged base connection. The Village of Oak Park requires two 2 ½ " hose nozzles with one 4" pumper nozzle with no cap chains. The nozzles shall open counter clockwise. The bury depth shall be 6'-0" unless otherwise shown on plans. The hydrant is called "OAK PARK SPECIAL" by the Waterous Company.
2. The auxiliary valve shall be the American Flow Control's 6-Inch diameter Resilient Wedge Gate Valve rated for 250 p.s.i.g. cold water working pressure, have a ductile iron body with a modified wedge disc, have flanged and mechanical joint ends, and be a non-rising stem type valve. The valve shall be manufactured in accordance with AWWA Standard C515. Both mechanical joint ends shall comply with AWWA Standard C111 and ANSI Standard A21.11 specifications. Epoxy coatings shall comply with AWWA C550.
3. The Valve Box shall be American Flow Control's Trench Adapter model #6 for a six-inch valve size with the optional Gray Iron Top.

### **CONSTRUCTION REQUIREMENTS**

The Contractor shall install the fire hydrant so that the traffic flange is 2 inches above the finished grade. The finished grade shall be a true line from the top of curb to the sidewalk. The Contractor is advised to use a MJ & PE ductile iron offset pipe with mega lugs to achieve the required elevation of the traffic flange. The fitting shall have a nominal inside diameter of 6 inches and have a maximum offset of 12 inches. The offset fitting is to be installed at the tee of the proposed water main for the fire hydrant at locations designated and as directed by the Engineer. The MJ & PE ductile iron offset pipe and mega lugs with thrust blockings shall be considered incidental to the installation of the fire hydrant.

### **BASIS OF PAYMENT**

This work will be paid for at the contract unit price for each "FIRE HYDRANT ASSEMBLY COMPLETE", which price shall be payment in full for all labor, materials and equipment necessary to complete the work as specified herein.

## **WATER VALVES**

### **Description**

This work shall consist of furnishing and installing a resilient wedge gate valve, in the sizes indicated, on the new water main at locations shown on the contract drawings or as directed by the Engineer. Water valves for water mains shall be installed within valve vaults.

Materials

Water main and auxiliary valves shall be a Resilient Wedge Gate Valve rated for 250 p.s.i.g. cold water working pressure, have a ductile iron body with a modified wedge disc, have mechanical joint ends unless otherwise specified, and be a non-rising stem type valve. The valve shall be manufactured in accordance with AWWA Standard C515. Both mechanical joint ends shall comply with AWWA Standard C111 and ANSI Standard A21.11 specifications. Flanged ends shall comply with ANSI/AWWA C110/A21.10. Gate valves shall be epoxy coated according to AWWA C550.

Valves 14 Inch and larger shall have an enclosed gear case. Design shall be of the bevel gear type (horizontal installation) or as specified on the plans.

Bolts and nuts shall be Grade 304L stainless steel, annealed.

BASIS OF PAYMENT

This work will be paid for at the contract unit price each for "WATER VALVES", of the indicated diameter, which price shall include all labor, equipment and material necessary for a complete installation as specified herein.

**GATE VALVE AND VALVE BOX**

Description

This work shall consist of furnishing and installing a resilient wedge gate valve and valve box on new 4" water services at locations shown on the contract drawings or as directed by the Engineer.

Materials

The valve shall be a Resilient Wedge Gate Valve rated for 250 p.s.i.g. cold water working pressure, have a ductile iron body with a modified wedge disc, have mechanical joint ends unless otherwise specified, and be a non-rising stem type valve. The valve shall be manufactured in accordance with AWWA Standard C515. Both mechanical joint ends shall comply with AWWA Standard C111 and ANSI Standard A21.11 specifications. Flanged ends shall comply with ANSI/AWWA C110/A21.10. Epoxy coatings shall comply with AWWA C550.

Valve Box:

Valve boxes shall be a two-piece, cast iron valve box with a 5 ¼ -inch shaft, a screw type top section, and a cast iron drop lid marked "water". Any extensions required to bring the valve box to grade shall be incidental to this pay item, and shall be comprised of a third screw type section to be installed above the bottom section.

Construction Requirements

Mega Lugs shall be installed at locations where a gate valve is installed at the Tee, for connection to existing main after testing, or adjacent to a fitting.

Basis of Payment:

This work will be paid for separately at the contract unit price each for "WATER VALVES, 4" and the contract unit price for each " VALVE BOX", which price shall include all labor, equipment and material necessary for a complete installation as specified herein.

**CONNECTION TO EXISTING WATER MAIN (SIZE SPECIFIED)**

Description: This item shall consist of all work necessary to connect a new water main as an end connection to an existing pressurized water main as shown on the plans or upon the direction of the Engineer in association with the use of a Line Stop to depressurize the existing water main in the location of the proposed connection. The work shall be performed in accordance with the applicable sections of the Standard Specifications for Water and Sewer construction in Illinois, applicable sections of AWWA Standards, plan detail and as revised or amended in this special provision.

The contractor shall notify the Village of Oak Park 48 Hours in advance of the proposed work.

The Contractor shall excavate to expose the existing water main without undermining the structural stability of the existing water main. The existing water main shall be cleaned of all soil and debris prior to proceeding to connect the respective mains consistent with the joint type of the existing water main. All exposed water main shall be encased in Polyethylene Plastic. Following the connection work, the Contractor shall place any required thrust blocks prior to initiating backfill activities. All excavation and backfill beyond the limits of the trench work for the new water main shall be included in the cost of Connection to Existing Water Main (Size Specified)

The Contractor shall not proceed until he has all the required materials on site.

Sizes, materials and locations of all existing water mains as depicted in the Contract Documents are based solely on the best available information. This information has not been verified by field inspections. The CONTRACTOR shall verify the outside diameter of the existing pipe to which the new water main is to be connected prior to proceeding to install the line stop.

Following the installation of line stop on the existing water main, the Contractor shall connect the new water main to the existing water main as a non-pressure connection.

Method of Measurement: CONNECTION TO EXISTING WATER MAIN shall be measured on an EACH basis for each installed unit.

Basis of Payment: This work shall be paid for at the contract unit price per EACH for CONNECTION TO EXISTING WATERMAIN of the size specified. The unit price shall include all labor, materials, equipment and cost necessary for excavation, dewatering, installation of line stop, backfill and compaction.

WATER MAIN LINE STOP shall be paid for separately.

**WATER MAIN LINE STOP (SIZE SPECIFIED)**

Description: This item shall consist of providing a temporary line stop, upon the direction of the Engineer, when an existing valve is not functional and the water main cannot be shutdown.

Materials: Line stop material shall be Hydra-Stop.

Execution: All work shall be in accordance with the manufacturer's specifications.

Line stops shall only be utilized upon the direction of the Engineer if the existing valves are not functional and the water main cannot be shutdown.

Line Stops shall be suitable for ordinary water works service, intended to be installed in a normal position on buried pipe lines for water distribution systems.

The Contractor shall not proceed until he has all the required materials on site.

Sizes, materials and locations of all existing water mains as depicted in the Contract Documents are based solely on the best available information. This information has not been verified by field inspections. The CONTRACTOR shall perform the following prior to installation of line stops:

1. Verify the outside diameter, ovality and bore diameter required for line stop fittings and plug head sealing elements. Excavate at each proposed location, and caliper the header outside diameter along at least four diameters to determine ovality.
2. Determine main wall thickness, uniformity, and structural integrity by means of ultrasonic testing if necessary. Determine extent of internal deposits, tuberculation, and other criteria which may affect line stopping operations. If the ENGINEER determines that the CONTRACTOR's data is not adequate, the ENGINEER may direct the CONTRACTOR to make one or more pressure taps on the water main to obtain test pipe coupons for the ENGINEER's evaluation. Minimum size of test coupons shall be 5 inches in diameter, drilled through a nominal 6-inch valve.

Method of Measurement: WATER MAIN LINE STOP shall be measured on an EACH basis for each installed unit.

Basis of Payment: This work will be paid for at the contract unit price for each WATER MAIN LINE STOP of the size specified. Unit price shall include all labor, materials, equipment and cost necessary for excavation, dewatering, installation of line stop, backfill and compaction.

### **CONNECTION TO EXISTING WATER MAIN (NON-PRESSURE)**

Description: This item shall consist of all work necessary to connect a new water main as either an end extension or a tee connection to an existing water main for conditions absent pressure in the existing water main achieved by shutting water grid system valves as necessary to depressurize the existing water main in the location of the proposed connection. The work shall be performed in accordance with applicable sections of the Standard Specifications for Water and Sewer Construction in Illinois, applicable sections of AWWA Standards, plan details and as revised or amended in this special provision.

The Contractor shall notify the Village of Oak Park and the occupant or owner of all structures affected loss of water service a minimum of 48 hours in advance of the proposed service shutdown.

The Contractor shall work expeditiously to install the water main, as well as test and chlorinate it, to limit the duration of the loss of service to affected parties.



The Contractor shall excavate to expose the existing water main without undermining the structural stability of the existing main. The existing main shall be cleaned of all soil and debris prior to proceeding to connect the respective mains consistent with the jointing type of the existing water main. All exposed water main shall be encased in Polyethylene Plastic. Following the connection work, the Contractor shall place any required thrust blocks prior to initiating backfill activities. All excavation and backfill beyond the limits of the trench work for the new water main shall be included in the cost of Connection to Existing Water Main (Non-pressure).

Payment. This work will be paid for at the contract unit price for Each CONNECTION TO EXISTING WATER MAIN of the size specified. This price shall include the cost of all materials, labor, and equipment required for the connection work.

The Contractor shall not proceed until he has all the required materials on site.

### **CUT AND CAP EXISTING WATER MAIN**

#### Description

This work shall consist of the installation of a cap on an existing water main at locations indicated on the drawings and as directed by the Engineer. This work shall include the excavation and disposal of all excavated material, capping both ends of the existing water main at the cut location, and furnishing, placing, and compacting FA6 backfill in an approved manner.

#### Materials

The cap(s) and or plug(s) shall be of an approved material with a mechanical joint and gasket and shall be secured in place with mega lugs. Preformed Portland Cement Concrete blocks shall also be used to further brace the cap.

#### Construction Requirements

The Contractor shall give a minimum of forty-eight (48) hour notice to the Village's Water and Sewer Superintendent for a request for a water shut-off so that the customers can be notified by the Village Water Department of any service interruption. The Village's Water and Sewer Superintendent shall determine the time and duration of the shut-off. The Contractor shall continue the work to complete and restore service to the interrupted main. No additional compensation will be given for overtime due to the hours of shut-off.

The Contractor shall excavate the area where the cap is to be inserted and expose the existing connection. All materials necessary to cut away the existing connection and to install the cap shall be on the job site prior to doing the work. Once it is determined that all necessary equipment and materials are available, the Contractor may proceed with shutting down the main and performing the work.

#### BASIS OF PAYMENT

This work will be paid for at the contract unit price each for "CUT AND CAP EXISTING WATER MAIN", which price shall include all labor, equipment and material necessary for a complete installation as specified herein.

## WATER SERVICE INSTALLATION

### Description

This item in the contract is to provide the connection of new copper water service tap to new and existing water mains at locations shown on the plans and extending the copper water service to include its water service valve assembly. The WATER TAP shall be according to the separate Special Provision for WATER TAP, 2 INCH. The water service line shall be soft temper, Type K of the diameter specified. The work shall include the furnishing and installing of brass corporation stops and the replacement of existing round ways now in service, for all copper services of sizes specified herein. New service boxes (buffalo boxes) shall be Chicago style of the type manufactured by Mueller Co. New Service boxes (buffalo boxes) shall be placed 3 feet from the back of curb line. If conditions prevent new service boxes to be placed 3 feet behind the back of curb line, the Contractor shall immediately notify the Engineer of this and a new location for the buffalo boxes will be determined and used for the length of that block.

Lids from the curb boxes shall be cast iron with brass plugs coated with an anti-sizing, galling and corrosion lubricant conforming to standard MIL-A-907E, Permatex Lubricant Part No. 133K. Prior to applying this lubricant, the plug threads shall be cleaned removing all shipping and storage coatings.

- a) Type H-10302 Curb Box Minneapolis Pattern Base together with 1" Round Way Type H-15124.
- b) Type H-10304 Curb Box Minneapolis Pattern Base together with 1 ½" and 2" Round Way Type H-15124.

The Contractor may choose to install the water service by either augering or trenching methods. Trenching methods shall include the placement of compacted trench backfill. Augering equipment shall consist of a pneumatic or hydraulic powered drill with a sectional shaft and drill bit, and shall be pushed through the ground by hand. The use of a directional drilling machine or a pneumatic piercing tool will not be allowed.

### Basis of Payment

This item will be paid for at the respective contract unit price each for:

WATER SERVICE INSTALLATION, 1"

WATER SERVICE INSTALLATION, 1 ½"

WATER SERVICE INSTALLATION, 2"

which price shall include all excavation and disposal of unsuitable material, the furnishing of corporation stops, roundways, fittings, reducers, service boxes, (Buffalo Boxes) and all labor, material, and equipment to render the service installation operative.

## WATER TAP, 2 INCH

Description: This work must consist paying for and obtaining a water main tap permit from the Village of Oak Park, scheduling date and time for the Village to perform the tap, excavation to the existing water main, exposing the water main, cleaning the exterior of the water main, installing copper piping from the water tap to the water valve assembly, and placing and compacting trench backfill for each of the water service connections shown on drawings or as directed by the Engineer.

General Requirements: A Licensed Plumbing Contractor must perform this work.

The Contractor must obtain a Water Tap Permit from the Village of Oak Park. The Contractor must supply any other information required by Village. The Contractor will be required to pay a fee to the Village in order to obtain the permit, which will be incidental to the cost of this item.

The Contractor must schedule the date and time to perform the tap with the Village. The tap date is approximately two (2) weeks following permit issuance. The tap date must be coordinated with the Construction Phasing and the Maintenance of Traffic Plans, to minimize traffic conflicts.

The Contractor must not remove pavement or excavate trench to the water main more than one (1) working day prior to the scheduled tap, unless otherwise approved by the Engineer. The placement and anchoring of steel plates and all additional traffic control required must be considered incidental to this item.

Excavation must be in accordance with applicable portions of Section 202 of Standard Specifications. Excavation must be the minimum area required to facilitate the water tap. All shoring required must be considered incidental to this item. This item must also include excavation required to install pipe from the water tap to the Water Valve Assembly.

The excavation for water taps to be installed under pavement must be from the sub-grade elevation to the depth required to perform the water tap. The excavation for water taps under non-paved areas must be from the existing surface elevation to the depth required to perform the tap. Excavation must not be paid for separately but must be considered incidental to this item. Pavement removal and replacement must be paid for using applicable line items. Restoration of non-paved areas must be paid using applicable line items.

The Contractor must clean the exterior of the water main to facilitate placement of the "saddle" by Village to perform the water tap. The Contractor must use equipment that will not damage the water main. If the water main is not prepared to the satisfaction of the Village the tap will not be performed and must be rescheduled.

The Contractor must install Type K Copper Pipe, 2-inch diameter from the water tap to the Water Valve Assembly. This work must be considered incidental to this item.

Trench Backfill must be placed and compacted in accordance with Section 208 of the Standard Specification and must be included in the cost of this item. Trench backfill must be FA 2 gradation.

Basis of Payment: WATER TAP, 2 INCH will be included within the contract unit price for WATER SERVICE INSTALLATION.

## **EXPLORATORY EXCAVATION (UTILITY)**

Description: This item shall consist of excavating an area for the purpose of locating existing utilities within the construction limits of the proposed improvement. This work shall be performed as directed by the ENGINEER.

Execution: The Contractor will notify the Engineer before any Exploratory Excavation work is performed and the Engineer will determine if Exploratory Excavation is required. After the excavation has been inspected, it shall be backfilled as directed by the ENGINEER. If it is located

in a paved area (existing or proposed), the excavation shall be backfilled with Selected Granular Backfill as specified by the ENGINEER. Otherwise, the excavation shall be backfilled with excavated material compacted to the satisfaction of the ENGINEER. Any excess material shall be disposed of in accordance with Article 202.03 of the Standard Specifications. Any damage to existing utilities or services that occurs as a result of this work shall be repaired at the contractor's expense.

**Method of Measurement:** EXPLORATORY EXCAVATION shall be measured on a lineal foot basis along the ground surface based on the dimension ordered by the ENGINEER. Selected Granular Backfill will not be measured for payment.

**Basis of Payment:** This work shall be paid for at the contract unit price per foot for EXPLORATORY EXCAVATION (UTILITY). The unit price shall include excavation, backfill and legal disposal of excess material.

### **TEMPORARY PATCHING**

**Description:** This work shall consist of the replacement of any existing hard surface pavement, gutters, or sidewalks disturbed during construction of the water main, sanitary sewer, or storm sewer associated with this project. Any necessary excavation shall be included. The direction for the work and extent of TEMPORARY PATCHING shall be as prescribed by the ENGINEER.

The temporary patch shall be constructed of Portland Cement Concrete (PCC) or Hot-Mix Asphalt (HMA) at the Contractor's discretion, shall be a thickness of three (3) or four (4) inches dependent upon conditions as defined in the Pavement Patching Detail and shall match the adjacent finished surface (driveway, sidewalk, etc.) elevation or as required to maintain positive surface drainage as directed by the ENGINEER. Prior to placing the PCC or HMA pavement, the CA-6 trench backfill within the trench shall be raised and compacted to the bottom of the pavement patch. The cost of the additional trench backfill shall be included in the cost of the TEMPORARY PATCH. The CONTRACTOR shall maintain the temporary patching for its functional purpose until such time that it is removed.

Removed material shall be included as part of this pay item and shall be disposed of according to Article 202.03.

**Method of Measurement:** This work will be measured for payment in place and the area computed in square yards.

**Basis of Payment:** This work will be paid for at the contract unit price per square yard for TEMPORARY PATCHING. Since roadway, driveway and sidewalk pavements, as well as existing curbs and gutters that are removed in the course of trench excavation will be paid separately for their removals, TEMPORARY PAVEMENT REMOVAL will be paid for separately.

### **TEMPORARY PAVEMENT REMOVAL**

**Description:** This work shall consist of the removal and disposal of temporary patching. The temporary patching shall be removed to the bottom of the subgrade of the ultimate improvement for the location.

Removed material shall be disposed of according to Article 202.03.

**Method of Measurement:** This work will be measured for payment in place and the area computed in square yards.

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

### **CLEARING, SPECIAL**

**Description.** This work shall be according to Section 201 of the "Standard Specifications for Road and Bridge Construction" except as follows:

- 1) In addition to the clearing elements listed in 201.01 (a), clearing shall include the removal and disposal of the short concrete retaining wall and the rail road tie retaining wall which are present along the south property line of South Boulevard. Excavation and disposal of pavement and earthwork behind the wall to leave a 1:3 vertical/horizontal slope shall be included as part of this work. This work shall be done upon approval of the Engineer and coordination with the Contractor for the adjacent development.

**Method of Measurement:** CLEARING, SPECIAL will be measured on a LUMP SUM basis.

**Basis of Payment:** The work under this item will be paid for at the applicable contract lump sum price for CLEARING, SPECIAL, which price shall be payment in full for all labor, materials, equipment, transportation, handling and disposal work as approved by the Engineer.

### **CONCRETE STEP REMOVAL**

**Description.** This item shall consist of removing and disposing of existing concrete steps as shown on the plans and according to Section 440 of the "Standard Specifications for Road and Bridge Construction".

**Method of Measurement.** The removal of the existing stairway in its entirety will be measured for payment in units of each at the location designated on the plans.

**Basis of Payment.** This work shall be paid for at the contract unit price per each for CONCRETE STEP REMOVAL, no additional compensation will be allowed.

### **PAVEMENT REMOVAL**

**Description.** This item shall be according to Section 440 of the Standard Specifications as supplemented as follows. The removal of existing traffic signal detector loops which are embedded within the existing pavement shall be included as a pavement appurtenance to be removed and disposed along with the pavement.

### **REMOVE PAY STATION**

**Description.** This item shall consist of removing the existing pay station and its foundation as shown on the plans and delivering the pay station to the Village of Oak Pak Public Works Facility (708) 358-5700.

**Method of Measurement.** The removal of the existing pay station in its entirety will be measured for payment in units of each at the location designated on the plans.

**Basis of Payment.** This work shall be paid for at the contract unit price per each for REMOVE PAY STATION. No additional compensation will be allowed.

#### **WELDED WIRE FABRIC 6X6**

**Description.** This work shall be done in accordance with these Special Provisions and the materials used shall be in accordance with the applicable portions of Section 1006 of the Standard Specifications for Road and Bridge Construction.

Welded wire fabric 6x6 shall be placed in the sidewalk over the concrete base. The fabric shall be set on chairs to ensure that it is half the thickness of the proposed sidewalk.

**Basis of Payment.** This work shall be paid for at the contract unit price bid per SQUARE YARD for WELDED WIRE FABRIC 6X6, which includes all labor, equipment, and material necessary to complete.

#### **DRILL AND GROUT DOWEL BARS**

**Description:** Work under this item must be performed in accordance with Sections 442, 420, and 1000 of the Standard Specifications for Road and Bridge Construction and subsequent special provisions. The work consists of furnishing and installing epoxy coated, deformed reinforcement bars, of the size specified, in the existing Portland cement concrete (PCC) base course where new curb and gutter, PCC pavement, or PCC base course is poured against the existing. The tie bars must be 18" in length and be spaced as shown in the plans. This work must be performed at the location, as detailed, or as directed by the Engineer.

**General Requirements.** Materials must meet the requirements of Article 1006.10 of the Standard Specifications for reinforcement bars, Grade 60, and Article 1024.01 of the Standard Specifications for Non-shrink Grout or one of the approved chemical adhesives as listed by the Bureau of Materials and Physical Research. Epoxy adhesive will not be allowed.

Bars must be located and spaced as indicated on the plan detail. Individual bar locations must be shifted at least 5 inches away from existing cracks, joints and unsound concrete.

Holes for tie bars must be drilled with suitable equipment for this purpose to the depth shown and to a diameter large enough to allow grouting around the tie bar. The tie bars must be secured in the drilled holes with non-shrink grout. The grout must be allowed to cure before the concrete for new curb and gutters, pavements, or base courses are poured.

**Method of Measurement:** DRILL AND GROUT DOWEL BARS will be measured on a per each basis.

**Basis of Payment:** This work will be paid for at the contract unit price each for DRILL AND GROUT DOWEL BARS, which price will be payment in full for drilling holes, furnishing and installing all materials, and for all labor, tools, equipment, and incidentals necessary to complete the work as specified.

### **TELESCOPING STEEL SIGN SUPPORT**

**Description.** This work shall be according to Section 728 of the Standard Specifications except the galvanized steel post shall be painted black using a powder coat paint process to match the color and finish of the ornamental street lights. The paint finish and shipping procedures shall be submitted with catalog cuts at the time of contract award.

### **BASE FOR TELESCOPING STEEL SIGN SUPPORT**

**Description.** This work shall be according to Section 731 of the Standard Specifications except the galvanized steel post shall be painted black using a powder coat paint process to match the color and finish of the ornamental street lights. The paint finish and shipping procedures shall be submitted with catalog cuts at the time of contract award.

### **WAYFINDING SIGN**

**Description.** This item shall consist of removing an existing wayfinding sign and its foundation and reinstalling it on a new foundation at the location shown on the plans or as directed by the Engineer. The old foundation shall be removed to 6 (six) inches below the subgrade of the proposed improvement and disposed of according to Article 202.03 of the Standard Specifications. The removal shall extend deeper where required to facilitate roadway construction at no additional cost to the Department. The hole shall be filled with compacted Subbase Granular Material, Type B. The new foundation for reinstallation of the existing sign and its support shall consist of a vertical hole not exceeding 12 inches in diameter, and not less than 4 feet deep. The support shall be centered in the hole and plumbed. The hole shall be filled with concrete.

**Method of Measurement.** The removal and reinstallation of existing wayfinding signs in its entirety will be measured for payment for each wayfinding sign that is removed from its existing location and reinstalled.

**Basis of Payment.** This work shall be paid for at the contract unit price per each for WAYFINDING SIGN.

### **PARKING METERS TO BE REMOVED**

**Description:** This work will consist of the removal of existing parking meters, meter posts, and post foundation when present. All parking meters beyond those to be reinstalled, as well as the removed posts and excess mounting hardware shall be delivered to The Village of Oak Park Public Works Facility (708) 358-5700.. All meters and mounting hardware needed for future parking meter installation shall be retained by the Contractor. The Engineer shall select those parking meters which are to be retained by the Contractor for re-installation.

**Method of Measurement:** PARKING METERS TO BE REMOVED will be measured by each meter post that is removed.

**Basis of Payment:** This work will be paid for at the contract unit price each for PARKING METERS TO BE REMOVED.

## **PARKING METERS TO BE MOVED**

Description: This work will consist of painting the retained parking meters and parking meter mounting hardware and installing the posts at the locations indicated on the plan or as directed by the Engineer.

The retained parking meters and mounting hardware shall be cleaned and painted according to Section 1008 of the Standard Specifications using an Aluminum Epoxy Mastic or Waterborne Acrylic product that best matches the powdered black color of the street lights. The Contractor shall submit manufacturer information to the Engineer for concurrence prior to initiating the painting process.

The Contractor shall provide new black galvanized steel posts having equal dimensions to the existing meter posts that will fit the parking meters

The Contractor shall install the parking posts into the concrete sidewalk on the north side of South Boulevard in the same manner of the existing posts. The Contractor shall install the parking posts on the south side of South Boulevard in the same manner that that the posts are installed in the Bluestone Pavers along Marion Street. All post shall be plumb

The Contractor shall install the painted parking meters onto the posts using black galvanized steel hardware.

Method of Measurement: PARKING METERS TO BE MOVED will be measured by each meter post that is installed at a new location.

Basis of Payment: This work will be paid for at the contract unit price each for PARKING METERS TO BE MOVED.

## **REMOVE EXISTING SURVEILLANCE CAMERA EQUIPMENT**

Description: This work will consist of the removal of the existing surveillance camera that is mounted on an existing street light which is to be separately and subsequently removed. Following its removal the Contractor shall deliver the surveillance camera to the Village of Oak Park Public Works Facility (708) 358-5700.

Method of Measurement: Remove Existing Surveillance Camera Equipment will be measured by each street light from which surveillance camera equipment is removed.

Basis of Payment: This work will be paid for at the contract unit price each for REMOVE EXISTING SURVEILLANCE CAMERA EQUIPMENT.

## **CONTROLLER CABINET, TYPE II**

**Description:** The work shall include, pole mounting an empty type II controller cabinet.

**Materials:** Cabinet shall be a type II controller cabinet, 5 cubic foot or more in volume, with or without a police door, weather resistant, and lockable. Cabinet shall be supplied without: suppressor, miscellaneous function requirements or peripheral equipment.

**Method of Measurement:** Measurement of CONTROLLER CABINET, TYPE II will be EACH.



**Basis of Payment:** The CONTROLLER CABINET, TYPE II will be paid for at the contract unit price for each and shall include the cost of all labor, equipment and materials required to safely store coils of signal cables and provide a suitable place to make temporary splices if directed by the engineer.

### **REMOVE AND REINSTALL FIBER OPTIC CABLE IN CONDUIT**

This work shall consist of disconnecting and reconnecting the existing fiber optic cable per the requirements of Sections 871 and 1076.02 of the Standard Specifications.

The existing fiber optic cable shall be disconnected from the existing signal controller in the cabinet at South Boulevard in both directions and protected during the construction phase.

The fiber optic cable which is connected to the south to the controller at Randolph Avenue should be pulled back from the controller to the handhole on the southeast corner of South Boulevard and Illinois Route 43 (Harlem Avenue) and coiled safely in the existing handhole for the duration of the construction of the proposed signal items. Subsequent to the construction of the proposed double handhole and new conduits at the South Boulevard intersection this fiber optic cable shall be pulled back through the conduit and reinstalled to the existing cabinet.

The fiber optic cable which is connected to the north to the controller at Lake Street should be pulled back from the controller to the handhole on the southeast corner of North Boulevard and Illinois Route 43 (Harlem Avenue) and coiled safely in the existing double handhole for the duration of the construction of the proposed signal items. Subsequent to the construction of the proposed double handhole and new conduits at the South Boulevard intersection this fiber optic cable shall be pulled back through the conduit and reinstalled to the existing cabinet.

#### Method of Measurement.

Remove and reinstall fiber optic cable in conduit will be measured along length of conduit from which the fiber optic cable is to be removed, rather than the actual length of the cable.

#### Basis of Payment.

This work will be paid for at the contract unit price per foot for REMOVE AND REINSTALL FIBER OPTIC CABLE IN CONDUIT as specified in the plans, which price shall be payment in full for disconnecting and safely coiling the cable in a handhole and reinstalling the fiber optic cable to the cabinet after construction of the proposed signal items and all related connections for proper operation.

### **ORNAMENTAL LIGHT UNIT COMPLETE**

Description. This item shall consist of furnishing, testing as required, and installing a complete assembly of ornamental decorative pole, arms, and luminaires suitable for permanent roadway lighting as specified herein.

General. The lighting pole, ornamental base, anchor base, luminaire arms and luminaries shall be a complete assembly and designed and installed as detailed on the plans. The pole and luminaire assembly shall be designed for a minimum wind speed of 80 mph with a 1.3 gust factor and is in accordance with the latest edition of the American Association of State and Highway Officials (AASHTO) specifications for luminaire supports and assemblies.

Pole. The pole assembly shall consist of an aluminum 26' pole shaft, a cast aluminum anchor base, an ornamental shroud, luminaire arms and banner arms as detailed on the plans. The pole shaft shall be fabricated from round aluminum tubing in accordance with AA6083-t8. The tube profile will consist of three (3) pieces .250" thick with a top diameter of 4.50" and a bottom diameter of 8.00". The bottom tube will be welded to an 11 ¼" square slotted cast aluminum base. The pole shaft will have two (2) 4" x 8" reinforced handholes with a 1 ½-13 grounding lug and a gasketed handhole cover with stainless steel core nylon hex head screws. Four (4) 1" x 40" long galvanized steel anchor bolts with two (2) each hex nuts and flat washers for leveling will be supplied to anchor the pole. The bolt circle shall be 11" and the anchor bolt projection from the foundation shall be 5". The anchor bolts shall conform to ASTM F1554 GR 55.

The pole shall be Sternberg SC15555 Ornamental Decorative Street Light with Pedestrian Globe Fixture and banner arms as shown on the plans.

Luminaire The luminaire shall be Sternberg 1914 LED for roadway and G16WALED for sidewalk as shown on the fixture schedules.

Finish The pole, luminaries and bracket arm assembly shall all be painted black using a powder coat paint process. The paint finish procedures shall be submitted with catalog cuts at the time of contract award.

Warranty Five-year limited warranty. See product and finish warranty guide for details.

Listings UL listed, suitable for wet locations.

Method of Measurement. The assembly furnished and installed will be measured as each. Basis of Payment. This item shall be paid at the contract unit price each for ORNAMENTAL LIGHT UNIT, COMPLETE, which shall be payment in full for the material and work described herein.

## **PEDESTRIAN ST LIGHT**

Description. This item shall consist of furnishing, testing as required, and installing a complete assembly of ornamental decorative pole, arms, and luminaires suitable for permanent roadway lighting as specified herein.

General. The lighting pole, ornamental base, anchor base, luminaire arms and luminaries shall be a complete assembly and designed and installed as detailed on the plans. The pole and luminaire assembly shall be designed for a minimum wind speed of 80 mph with a 1.3 gust factor and is in accordance with the latest edition of the American Association of State and Highway Officials (AASHTO) specifications for luminaire supports and assemblies.

Pole The pole assembly shall consist of an aluminum 10' pole shaft, a cast aluminum anchor base, an ornamental shroud, luminaire arms and banner arms as detailed on the plans. The pole shaft shall be fabricated from round aluminum tubing in accordance with AA6083-t8. The tube profile will consist of three (3) pieces .250" thick with a top diameter of 4.50" and a bottom diameter of 8.00". The bottom tube will be welded to an 11 ¼" square slotted cast aluminum base. The pole shaft will have two (2) 4" x 8" reinforced handholes with a 1 ½-13 grounding lug and a

gasketed handhole cover with stainless steel core nylon hex head screws. Four (4) 1" x 40" long galvanized steel anchor bolts with two (2) each hex nuts and flat washers for leveling will be supplied to anchor the pole. The bolt circle shall be 11" and the anchor bolt projection from the foundation shall be 5". The anchor bolts shall conform to ASTM F1554 GR 55.

The pole shall be Sternberg SC13663 Ornamental Decorative Pedestrian Globe Light as shown on the plans.

Luminaire The luminaire shall be Sternberg G16WALED for sidewalk as shown on the fixture schedules.

Finish The pole, luminaries and bracket arm assembly shall all be painted black using a powder coat paint process. The paint finish procedures shall be submitted with catalog cuts at the time of contract award.

Warranty Five-year limited warranty. See product and finish warranty guide for details.

Listings UL listed, suitable for wet locations.

Method of Measurement. The assembly furnished and installed will be measured as each.

Basis of Payment. This item shall be paid at the contract unit price each for PEDESTRIAN ST LIGHT, which shall be payment in full for the material and work described herein.

## **OUTLET SPECIAL**

Description: This work will consist of furnishing and installing GFIC 20 Amp duplex receptacle in weatherproof enclosure mounted 36 inches above grade (using uni-strut) as shown in drawings. The enclosure shall be corrosion resistant and the cover shall be per NEC 406.8.B.2.a. The installation shall be vandal proof and suitable for use only by authorized persons.

Material: The receptacle and enclosure shall meet all requirements of Material Specification of IDOT and shall be UL listed/labeled.

Method of Measurement: The receptacle furnished and installed will be measured as each.

Basis of Payment: This work will be paid for at the contract unit price each for OUTLET SPECIAL. Such price will be payment in full for furnishing, installing, and testing, and will include all material, labor, and incidentals necessary to complete the work as per the contract plans.

## **LIGHTING CONTROLLER, BASE MOUNTED, 240 VOLT, 100 AMP**

Description: This work will consist of furnishing and installing Stainless Steel Weatherproof cabinet with time clock and circuit breakers as shown in drawings for lighting and receptacles as indicated on the plans and diagrams. This work shall be performed according to section 825 of the standard specifications. This work includes the concrete foundation and work pad.

Material: The cabinet shall meet all requirements of Material Specification of IDOT.

Method of Measurement: The cabinet furnished and installed will be measured as each.

Basis of Payment: This work will be paid for at the contract unit price each for LIGHTING CONTROLLER, BASE MOUNTED, 240 VOLT, 100 AMP. Such price will be payment in full for furnishing, installing, and testing, and will include all material, labor, and incidentals necessary to complete the work as per the contract plans.

#### **TEMPORARY LIGHTING SYSTEM, LOCATION 1**

Description: This work shall consist of temporarily disconnecting existing wiring and removing the wiring existing conduits, providing aerial wiring with messenger from the existing combination traffic signal/lighting cabinet to temporary wood poles installed for the temporary traffic signals at the South Boulevard and North Boulevard intersections with Harlem Avenue as shown in drawings. This work entails all lighting system work necessary in association with the removal and reconstruction of the existing double handhole at the northeast corner of the Harlem Avenue/South Boulevard intersection. This work shall include, but not limited to, adjusting poles, providing support wiring, and sealing all holes/openings as applicable. The work shall include removing the temporary wiring after work is complete and returning all lighting components to original configuration and condition.

Method of Measurement: The work will be measured as lump sum.

Basis of Payment: This work will be paid for at the contract lump sum for TEMPORARY LIGHTING SYSTEM, LOCATION 1. Such price will be payment in full for providing new wiring, adjusting existing poles, connecting to existing lighting, support, disconnecting, and removing, cleaning and boxing existing luminaires, and will include all material, labor, and incidentals necessary to complete the work as per the contract plans.

#### **TEMPORARY LIGHTING SYSTEM, LOCATION 2**

Description: This work shall consist of all work necessary to preserve and maintain the existing lighting along the south side of South Boulevard within the work area to be utilized as temporary lighting during construction. This existing lighting system is controlled by a controller located at the South Boulevard and Home Avenue intersection. Those light poles that affect the street widening and prevent the construction of the new curbs can be removed. This work shall include, but not limited to, adjusting poles, providing support wiring, and sealing all holes/openings as applicable. The work shall include removing the temporary wiring after work is complete and new lighting system is in operation at South Boulevard.

Method of Measurement: The work will be measured as lump sum.

Basis of Payment: This work will be paid for at the contract lump sum for TEMPORARY LIGHTING SYSTEM, LOCATION 2. Such price will be payment in full for providing new wiring, adjusting existing poles, connecting to existing lighting, support, disconnecting, and removing, cleaning and boxing existing luminaires, and will include all material, labor, and incidentals necessary to complete the work as per the contract plans.

## **BOLLARDS**

**Description:** This work shall consist of the furnishing of fabricated materials, labor, and equipment for the installation of an 8 inch nominal diameter # 9 galvanized steel pipe bollard that is filled with concrete as detailed in the plans. The pipe shall be set plum and centered in a drilled hole having a diameter not less than 18 inches. Reinforcement for the concrete foundation shall be as detailed in the plans. The foundation and pipe shall be filled with concrete with its top surface shaped to form a domed top.

Removal and disposal of excavated materials and soils shall be according to Article 202.03 of the Standard Specifications.

The entire bollard shall be primed and painted with two coats of yellow paint that is designed for metal applications. The Contractor shall submit documentation that verifies the applicability of the paint for its intended purpose for approval by the Engineer prior to its application.

**Basis of Payment:** This work will be paid for at the contract unit price for each BOLLARDS

## **STRUCTURAL SOIL**

**Description:** Work under this item must consist of furnishing, excavating for, and placing Structural Soil to meet finish grade elevations as specified on the plans or herein and be performed in accordance with Sections 200 and 201 of the Standard Specifications and US Patent #5,849,069 for 'CU-Structural Soil <sup>TM</sup>' (see material specification), except as herein modified. Structural Soil is designed to function as a sub-base material under sidewalk and pavement, as well as a growing media around the tree pits and tree grate pits.

The following references are abbreviated and used herein and must be interpreted as follows:

"CBR" means "California Bearing Ratio".

"Structural Soil" refers to "CU Soil" as defined and specified by the patent for "CU Soil" and as specified here.

"USDA" means "United States Department of Agriculture".

Material provided must be 'CU-Structural Soil <sup>TM</sup>', US Patent #5,849,069. The material must be produced and obtained from the exclusively licensed vendor, Amereq, Inc. (800) 832-8788, or from a sub-licensed vendor such as Midwest Trading in St. Charles, IL, (847) 742-1840, as suggested.

## **SAMPLES AND SUBMITTALS**

At least thirty days prior to ordering materials, the Contractor must submit to the Engineer samples, certificates, manufacturer's literature and certified tests for materials specified below. No materials must be ordered until the required samples, certificates, manufacturer's literature and test results have been reviewed and approved by the Engineer. Delivered materials must closely match the approved samples. Approval must not constitute final acceptance. The Engineer reserves the right to reject, on or after delivery, and material that does not meet these specifications.

1. Submit two - one half cubic foot representative samples of Clay Loam and two - two cubic foot representative samples Structural Soil mixes in this section for testing, analysis and

approval. Submit one set of samples for every 500 CY of material to be delivered. In the event of multiple source fields for Clay Loam, submit a minimum of one set of samples per source field or stockpile. Samples must be taken randomly throughout the field or stockpile at locations as directed by the Engineer and package in the presence of the Engineer. Contractor must deliver all samples to testing laboratories and must have the test results sent directly to the Engineer. Samples must be labeled to include the location of the source of the material, the date of the sample and the Contractors name. One of the two samples it to be used by the testing laboratory for testing purposes. The second sample of all Clay Loam and Structural Soil must be submitted to the Engineer at the same time at test analysis as a record of the soil color and texture.

2. Submit the locations of all source fields for Clay Loam
3. Submit a list of all chemicals and herbicides applied to the Clay Loam for the last five years and a list of all corps grown in the Clay Loam source fields for the last three years.
4. Submit soil test analysis reports for each sample of Clay Loam and Structural Soil from an approved soil-testing laboratory. The test results must report the following:
  - a. The soil-testing laboratory must be approved by the Engineer. The testing laboratory for particle size and chemical analysis may be a public agricultural extension service agency or agricultural experiment station.
  - b. Submit a particle size analysis including the following gradient of mineral content:

USDA Designation Size in mm.

1. Gravel	+2mm
2. Sand	0.05 - 2mm
3. Silt	0.002-0.05mm
4. Clay	minus 0.002mm

5. Sieve analysis must be performed and compared to USDA Soil Classification System.
6. Submit a chemical analysis, performed in accordance with current AOAC Standards, including the following:
  - i. pH and Buffer pH.
  - ii. Percent organic matter as determined by the loss of ignition of over dried samples.
  - iii. Analysis for nutrient levels by parts per million including nitrate nitrogen, ammonium nitrogen, phosphorus, potassium, magnesium, iron, zinc, calcium and extractable aluminum. Nutrient test must include the testing laboratory recommendations for supplemental additions to the soil as calculated by the amount of material to be added per volume of soil for the type of plants to be grown in the soil.
  - iv. Analysis for levels of toxic elements and compounds including arsenic, boron, cadmium, chromium, copper, lead mercury, molybdenum, nickel, zinc and PCB. Test results must be cited in milligrams per kilogram.

- v. Soluble salt by electrical conductivity of a 1:2 soil/water sample measured in Milliohm per cm.
  - vi. Cation Exchange Capacity (CEC).
7. Submit 5-point minimum moisture density curve AASHTO T 99 test results for each Structural Soil sample without removing oversized aggregate.
  8. Submit California Bearing Ratio test results for each Structural Soil sample compacted to peak standard density. The soaked CBR must equal or exceed a value of 50.
  9. Submit measured dry-weight percentage stone in the mixture.
  10. The approved Structural Soil samples must be the standard for each lot of 500 cubic yards of material.
  11. All testing and analysis must be at the expense of the Contractor.
  12. At least 10 days prior to installation, the Contractor must submit to the Engineer a copy of the vendor's license, proof of purchase from that vendor, and a copy of the vendor's material test reports for that specific batch of material. No materials must be ordered until the required submittals have been reviewed and approved by the Engineer. Approval will not constitute final acceptance. The Engineer reserves the right to reject, on or after delivery, any material that does not meet these specifications.
  13. Submit material test reports for the following, certifying the materials comply with the following criteria:

## MATERIALS

### 2.01 CLAY LOAM

- A. Clay Loam / Loam must be a "loam to clay loam" based on the analysis (ASTM D-422) and it must be of uniform composition, without admixture of subsoil. It must be free of stones greater than one-half inch, lumps, plants and their roots, debris and other extraneous matter over one inch in diameter or excess of smaller pieces of the same materials as determined by the Engineer. It must not contain toxic substances harmful to plant growth. It must be obtained from areas that have never been stripped of planting soil before and have a history of satisfactory vegetative growth. Clay Loam must contain not less than 2% or more than 5% organic matter as determined by the loss on ignition of oven-dried samples.

1. Mechanical analysis for a Loam / Clay Loam must be as follows:

Textural Class	% of total weight
Gravel	Less than 5%
Sand	20-45%
Silt	20-50%
Clay	20-40%

2. Chemical analysis: Must be amended to meet the following criteria.
  - i. pH between 6.0 to 7.6
  - ii. Percent organic matter 2-5% by dry weight
  - iii. Nutrient levels as required by the testing laboratory recommendations for the type of plants to be grown in the soil.
  - iv. Toxic elements and compounds below the United States Environmental Protection Agency Standards for Exceptional Quality sludge or local standard; whichever is more stringent.
  - v. Soluble salt less than 1.0 Milliohm per cm.
  - vi. Cation Exchange Capacity (CEC) greater than 10
  - vii. Carbon/Nitrogen Ratio less than 33:1.

#### 2.02 CRUSHED STONE

1. Crushed Stone must be an IDOT certified crushed stone. A non-limestone aggregate will be preferred. Ninety-100 percent of the stone should pass the 1.5-inch sieve, 20-55 percent should pass the 1.0-inch sieve and 10 percent should pass the 0.75-inch sieve. A ratio of nominal maximum to nominal minimum particle size of 2 is required.
2. Acceptable aggregate dimensions will not exceed 2.5:1.0 for any two dimensions chosen.
3. Minimum 90 percent with one fractured face, minimum 75 percent with two or more fractured faces.
4. Results of Aggregate Soundness Loss test must not exceed 18 percent. Losses from LA Abrasion tests must not exceed 40%

#### 2.03 HYDROGEL

1. Hydrogel must be a potassium propenoate-propenamamide copolymer Gelscape as manufactured by Amereq Corporation. (800) 832-8788.

#### 2.04 WATER

1. The Contractor must be responsible to furnish its own supply of water to the site at no extra cost. All work injured or damaged due to the lack of water, or the use of too much water, must be the Contractor's responsibility to correct. Water must be free from impurities injurious to vegetation.

#### 2.05 FINAL MIX CRITERIA

1. A uniformly blended mixture of Crushed Stone, Clay Loam and Hydrogel, mixed to the following proportion:



MATERIAL	UNITS OF WEIGHT (either metric or English)
Crushed Stone	100 units or 80-84% of total weight
Loam (dry)	Approx. 20 units or 15-16% of total weight
Hydrogel	0.03 units or 12 oz./ cubic yard
Total moisture	8.5 -11.0 % of total weight (AASHTO T-99 optimum moisture)

2. Submit certification that CBR test results meet acceptance (CBR # 50).
3. Submit certification that Proctor test standard is met (> or equal to 95%.)

3.01 Delivery, Storage, and Handling:

1. Do not deliver or place soils in frozen, wet, or muddy conditions. Material must be delivered at or near optimum compaction moisture content as determined by AASHTO T 99 (ASTM D 698). Do not deliver or place materials in an excessively moist condition (beyond 2 percent above optimum compaction moisture content as determined by AASHTO T 99 (ASTM D 698)).
2. Protect soils and mixes from absorbing excess water and from erosion at all times. Do not store materials unprotected from large rainfall events. Do not allow excess water to enter site prior to compaction. If water is introduced into the material after grading, allow material to drain or aerate to optimum compaction moisture content.

4.01 SOIL MIXING AND QUALITY CONTROL TESTING

1. All Structural Soil mixing must be performed at the Contractor's yard using appropriate soil measuring, mixing and shredding equipment of sufficient capacity and capability to assure proper quality control and consistent mix ratios. No mixing of Structural Soil at the project site must be permitted. Portable pugging may be used.
2. Maintain adequate moisture content during the mixing process. Soils and mix components must easily shred and break down without clumping. Soil clods must easily break down into a fine crumbly texture. Soils must not be overly wet or dry. The Contractor must measure and monitor the amount of soil moisture at the mixing site periodically during the mixing process.
3. A Mixing procedure for front-end loader must be as follows:
  - a. On a flat asphalt or concrete paved surface, spread an 8-inch to 12-inch layer of crushed stone.
  - b. Spread evenly over the stone the specified amount of dry hydrogel.
  - c. Spread over the dry hydrogel and crushed stone a proportional amount of clay loam according to the mix design.
  - d. Blend the entire amount of turning, using a front-end loader or other suitable equipment until a consistent blend is produced.
  - e. Add moisture gradually and evenly during the blending and turning operation as required to achieve the required moisture content. Delay applications of moisture for 10 minutes prior to successive applications. Once established, mixing should produce a material within 1% of the optimum moisture level for compaction.

4. A pugging operation mixing procedure may be as follows:
  - a. Feed a known weight of crushed stone into the mixing trough.
  - b. Add hydrogel as slurry into trough and mix slurry and stone into a uniform blend.
  - c. Meter is soil in proper proportion of Clay Loam soil while stone-slurry mixture is in motion.
  - d. Add water to bring mixture to target moisture content after factoring in water from the slurry and the Clay Loam moisture.
  - e. Auger out to stockpile or transport vehicle (or into pit if using a portable pugging operation).
5. The Contractor must mix sufficient material in advance of the time needed at the job site to allow adequate time for final quality control testing as required by the progress of the work. Structural Soil must be stored in piles of approximately 500 cubic yards and each pile must be numbered for identification and quality control purposes. Storage piles must be protected from rain and erosion by covering with plastic sheeting.
6. During the mixing process, the Contractor must take two - one cubic foot quality control samples per 500 cubic yards of production from the final Structural Soil. The samples must be taken from random locations in the numbered stockpiles as required by paragraph 1.03 B of this specification. Each sample must be tested for particle size analysis and chemical analysis as described in Paragraph 1.03 C 2 and 3 above. Submit the results directly to the Engineer for review and approval.
7. The quality control sample Clay Loam-Crushed Stone ratios must be no greater or less than 2% of the approved test sample as determined by splitting a known weight of oven dried material on a #4 sieve. In the event that the quality control samples vary significantly from the approved Structural Soil sample, as determined by the Engineer, remix any retest and lot of soil that fails and procedures to achieve the approved consistency.

#### 4.02 INSTALLATION OF STRUCTURAL SOIL MATERIAL

1. Install Structural Soil in 8-inch lifts and compact each lift. (Minimum of 30" total structural soil depth).
2. Compact all materials to peak dry density from a standard AASHTO compaction curve (AASHTO T 99). No compaction must occur when moisture content exceeds maximum as listed herein. Delay compaction 24 hours if moisture content exceeds maximum allowable and protect Structural Soil during delays in compaction with plastic or plywood as directed by the Engineer.
3. Bring Structural Soils to finished grades as shown on the Drawings. Immediately protect the Structural Soil material from contamination by toxic materials, trash, debris, water containing cement, clay, silt or materials that will alter the particle size distribution of the mix with plastic or plywood as directed by the Engineer.
4. The Engineer may periodically check the material being delivered and installed at the site for color and texture consistency with the approved sample provided by the

Contractor as part of the submittal for Structural Soil. In the event that the installed material varies significantly from the approved sample, the Engineer may request that the Contractor test the installed Structural Soil. Any soil that varies significantly from the approved testing results, as determined by the Engineer, must be removed and new Structural Soil installed that meets these specifications.

5.01 General Requirements:

1. Locate and confirm the location of all underground utility lines and structures prior to the start of any excavation. Repair any underground utilities or foundations damaged by the Contractor during progress of work incidental to contract.
2. Complete all walls, curb footings and utility work in the work area prior to installing Engineered Soil.
3. Verify that sub-base is adequately graded and compacted prior to placement. Notify the Engineer of any subsurface conditions, which will affect the Contractor's ability to complete the work.
4. Excavate in accordance with section 202 of the Standard Specifications for Road and Bridge Construction and compact the proposed sub-grade to depths, slopes and widths as shown on the contract plans. Confirm that the sub-grade is at the proper elevation and compacted as required. Sub-grade elevations must slope parallel to the finished grade and or toward the subsurface drain lines as shown on the drawings. **Note that all excavation for STRUCTURAL SOIL is included in the unit price of this item.**
5. Clear the excavation of all construction debris, trash, rubble and any foreign material. In the event that fuels, oils, concrete washout, silts or other material harmful to plants have been spilled into the sub-grade material, excavate the soil sufficiently to remove the harmful material. Fill any over excavation with approved fill and compact to the required sub-grade compaction.
6. Stockpiling of material on site will not be permitted, unless otherwise directed by the Engineer.
7. Protect adjacent walls, walks and utilities from damage or staining by the soil. Use 1/2" plywood and or plastic sheeting as directed to cover existing concrete, metal and masonry work and other items as directed during the progress of the work. Any damage to adjacent facilities incurred during the installation of Structural Soil must be repaired incidental to this item.
8. Install CU Soil in 6 inch lifts to the depth indicated on the contract plans and compact each lift as specified here.
9. Compact all materials to peak dry density from a standard AASHTO compaction curve (AASHTO T 99). No compaction must occur when moisture content exceeds maximum as listed herein. Delay compaction 24 hours if moisture content exceeds maximum allow-able and protect CU Soil during delays in compaction with plastic or plywood as directed by the Engineer.

10. Bring Structural Soil to finished grades as shown on the contract plans. Immediately protect the Structural Soil from contamination by toxic materials, trash, and debris, water containing cement, clay, silt or materials that will alter the particle size distribution of the mix with plastic or plywood as directed by the Engineer.
11. Clean up work area at the end of each working day. Do not track soil from the site onto adjacent property and the public right of way.
12. Upon completion of the of this work, remove all excess fills, soils and mix stockpiles and legally dispose of all waste materials, trash and debris. Remove all tools and equipment and provide a clean, clear site. **Sweep, do not wash surfaces of dirt and mud until sidewalk has been installed over the Structural Soil.**

**Method of Measurement:** STRUCTURAL SOIL will be measured in place in accordance with the Standard Details located in the plans and the volume computed in cubic yards. The cubic yards measured will be paid for only once.

**Basis of Payment:** The work under this item will be paid for at the contract unit price per cubic yard as shown in the Schedule of Unit Prices for STRUCTURAL SOIL which price will be payment in full for completing the work as specified. All excavation related to installation of STRUCTURAL SOIL is incidental to this item.

#### **PLANTING SOIL, FURNISH AND PLACE 24"**

Work under this item must be performed in accordance with Division 200 and Section 211 of the Standard Specifications for Road and Bridge Construction and subsequent special provisions except as herein modified.

**Description:** This work must consist of locating, stockpiling, testing, preparing, and placing planting soil including finish grading. All operations and materials to be furnished within this Item must be included PLANTING SOIL, FURNISH AND PLACE 24".

It must include the excavation of all planting sites and plant beds and tree pits, of the necessary volume of existing material to specified depths and disposing of debris and the material removed, and removal and disposal of spoil; root removal only as directed by the Engineer; grading the area; furnishing the planting soil and other soil mix ingredients, mixing them and preparing them for placement; and placing required soil mix volumes; raking and preparing the soil mix for planting. This work must also include the excavation of the volume of existing material at locations where proposed trees will be planted. It also includes any plant under drainage layers, and excess excavation and disposal of material required to accommodate drainage layers, as shown on the plans, which may be required by the Engineer.

**General Requirements:** Notify Utility Owner and have Utility Owner stake all locations of utilities prior to any excavation operations. Contractor must be responsible for location of all utilities prior to any disruption of grade. Adequate advance notification and clearance by Utilities Alert Network (JULIE) is required for all planting sites.

The excavation and placement of planting soil mix, after settlement, must be the entire length and width of beds, to the following depths:

New Sod Areas in Existing Parkways without Existing Trees - See SODDING, SALT TOLERANT.

**Parkway Tree Pits:** Excavate to full dimensions shown in the planting details. Add approved planting soil mix to volumes shown on the Drawings. Individual tree pits must have three times the volume of the root ball side width and tree pit sides must be angled as shown on the Drawings.

**Tree Grated Tree Pits:** Coordinate with concrete installer. Excavate to full dimensions shown on the Drawings. Add approved planting soil mix to volumes shown on the Drawings and compact as shown and specified herein.

**Curbed Planters:** Excavate to full dimensions shown on the Drawings. Add approved planting soil mix to volumes shown on the Drawings and compact as shown and specified herein.

Provide all excavations of plant beds and tree pits. Excavate to full dimensions shown on the Drawings. Excavation and grading around protected existing tree roots and plant materials must be done by hand. Remove all excavated materials and legally dispose off site. Note that excavation of all areas is incidental to this item.

Notify Engineer immediately if unusual subgrade conditions exist, such as old foundations or uncharted utilities are discovered. Notify Engineer immediately if conditions do not allow enough space for required soil depths.

Provide soil tests, sandy loam planting soil, sand and all other specified materials to be used as ingredients for preparing planting soil mix for all areas. All landscape areas indicated on the plans must be filled with planting soil mix. Suitable fill in all landscape areas must be defined as PLANTING SOIL, FURNISH AND PLACE 24". Additional or alternate materials must meet the approval of the Engineer.

**Submittals:**

**Samples:** Before any planting soil is delivered, the Contractor must furnish the Engineer soil samples and statements specified herein. The Contractor must inform the Engineer in writing, 10 days in advance of the delivery of planting soil to the job site, as to the location from which the planting soil is to be obtained, names and addresses of the Owners of the properties, the crops or plants which have been grown in the soil during the past 5 years and the depth to which the top soil is to be taken. A minimum of three (3) samples of the planting soil proposed for this work must be furnished a minimum of ten days before delivery of planting soil to the jobsite. Each sample submitted must be in a separate container, approximately one-quart in size, appropriately labeled and taken from a different location at the source. Each container must be completely filled with un-compacted planting soil. Do not deliver soil to the site until the Engineer has approved required submittals.

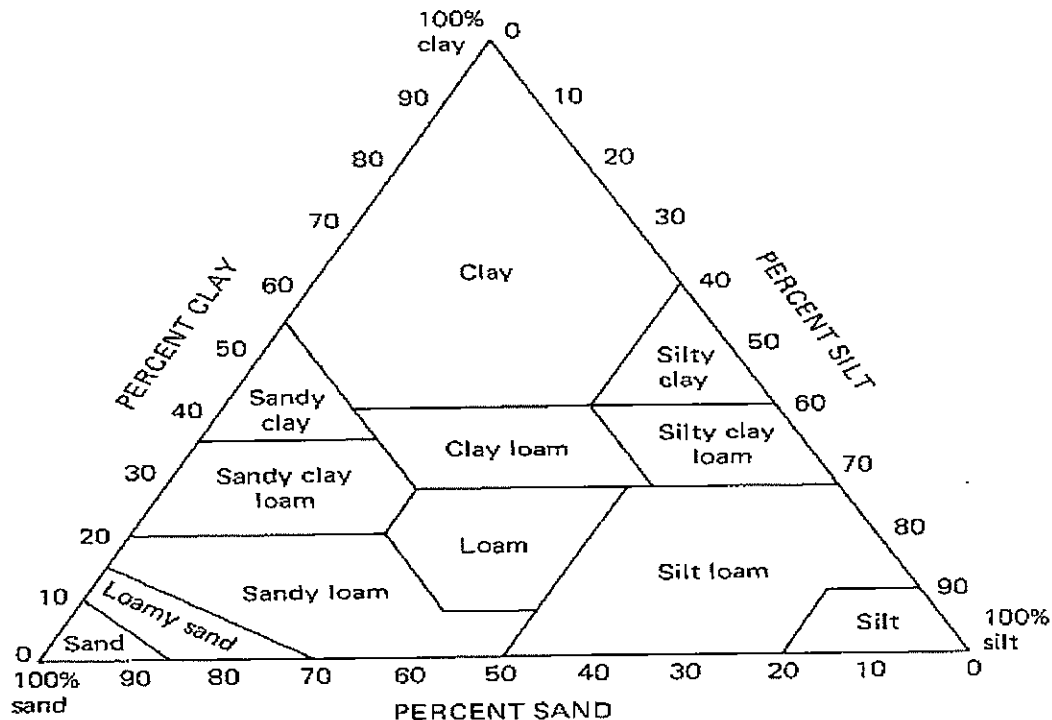
**Soil Testing:** Planting soil must be tested and approved prior to preparing planting soil mix and prior to delivery to the site. Planting soil that is mixed or delivered to the site prior to testing and approval by the Engineer will be rejected. The Contractor must submit a horticultural soil test to the Engineer showing the results of a mechanical sieve test which demonstrates that the planting soil is sandy loam, having less than 50% preponderance of clay and silt, a pH tests evidencing compliance with pH requirements, and other test results as specified below.

The Contractor must employ a soil testing agency acceptable to the Engineer and which uses methods approved by the Association of Agricultural Chemists. A minimum of three (3) samples must be taken from different locations of proposed planting soil source.

The planting soil test must report and the appropriate ranges are as follows:

1. Chemical Analysis/Soil Reaction: pH between 5.5 and 7.0.
2. Mechanical Analysis: Sandy Loam as defined by the chart below.
3. Additionally the following variables are required.
  - a. Cation exchange capacity (CEC)
  - b. Soluble salts
  - c. Organic matter
  - d. Phosphorous
  - e. Available potassium
  - f. Other nutrients
  - g. Residual chemicals, herbicides, pesticides
4. Recommendations to mitigate any issues from the results in items 3a through 3g.

The mechanical analysis should show that the % sand (25% to 33%), % silt (45% to 77%), and the % clay (0% to 28%) must yield a **silt loam soil**. See the attached Textural Classes diagram. To determine the class plot a line parallel to the % clay axis starting the line at the value of the % silt. Plot another line parallel to the % sand axis starting the line at the value of the % clay. The intersection of these lines should be in the silt loam region.



Planting Soil Quality: Planting soil must be pulverized, natural, fertile, friable, sandy loam planting soil-possessing characteristics of rich productive A horizon planting soil in the Chicago area. Clay soils will not be acceptable. Planting soil must be obtained from naturally well-drained areas, not excessively acidic or alkaline within a tolerance of 5.5 to 7.0 pH and contain no toxic substances

which may be harmful to plant or sod growth. It must be free from clay lumps, roots, stones and other debris. Planting soil must not be handled in a frozen or muddy condition. Supplemental planting soil means all planting soil imported to the site, which is required to meet finish grades shown.

All planting soil for planting must be a loamy soil rich in organic matter, without admixture of B horizon subsoil or any material toxic to plant growth. It must be free from large roots, sticks, hard clays, weeds, bush, stones, or other litter or waste materials of any kind. Acceptable planting soil must also have demonstrated, in its original location that it has the ability to sustain healthy plant growth of the species required.

**Planting Soil Mix and Amendments:** Planting soil mix must consist of a mixture of (2) two parts of well-pulverized planting soil, as approved by the Engineer upon review of soil test compliance for mechanical properties and pH range, and (1) one part coarse sand, and all amendments recommended by the Soil Test Laboratory and as specified herein.

Sand must consist of clean, sharp, well-graded, coarse sand of an FA-2 gradation, free of dust, foreign and organic matter, with a pH of 6.0 to 7.0. If approved by the Engineer, planting soil must be amended with 1) sulfur or limestone to adjust pH, quantity determined by soil test to achieve a slightly acid soil, 2) gypsum incorporated at the rate of 88 kg/92 square meters, and 3) fertilizers as recommended by the soil test laboratory.

Prepare Planting Soil Mix off the site. Do not store soil mix materials on site. Planting soil must be dry prior to amending. Clean planting soil of lumps, stones, debris and noxious weeds before mixing. Provide supplemental pulverized planting soil and sand to achieve soil mix volumes and ratios required to meet finish grades. Mix planting soil and amendments thoroughly to provide uniform mixture, using drum-type mechanical mixer, or other means acceptable to the Engineer. Thoroughly mix all amendments by mechanical means prior to soil placement.

Soil mix must be amended full depth. Mix specified soil amendments at rates according to soil test recommendations. Mix pH adjusters with dry soil prior to adding any gypsum or fertilizers. Fertilize according to soil test recommendation, and with super-phosphate.

Sulfur must be granular as specified by the Engineer, according to the soil test recommendations and to the types of plantings in the area requiring amendments. Ground limestone (calcium carbonate) if required as specified by the Engineer, must have an analysis as specified in accordance with Section 1124 of the Standard Specifications.

Gypsum must be pelletized, consisting of calcium sulfate, calcium, sulfur, and water soluble binder, with a maximum moisture content of one percent, and 95% finished pellet size passing between #4 and #14 mesh, gray in color, such as Cal-Sul, as manufactured by American Pelletizing Corporation, Des Moines, Iowa; or equivalent.

Fertilizer must be complete fertilizer, uniform in composition, free flowing and suitable for application with approved equipment. Type and application rates must be determined by testing agency soil test, but may contain the following percentages by weight: 10% nitrogen, 10% phosphorous, and 10% potash. If recommended by testing lab, apply a soluble mixture of treated minerals, 20% available phosphoric acid, rate to be determined by testing lab.

**Inspections:** The Engineer retains the right to visually inspect planting soil mix on site before placement. The Engineer may ask that material suspected of not meeting specification be removed from the site. The Engineer may take samples of the planter soil after it has been placed. The same chemical and mechanical test will be performed. If the in place planting soil does not meet specification, than that area or planter will not be paid for. The Contractor will be given an opportunity to remedy the planting soil, so that full payment can be made.

**Preparation, Drainage Tests and Underdrainage:**

Lay out plant bed locations, mark with stakes, adjust locations if requested and obtain the Engineer's approval of locations before proceeding. Perform excavations and clean planting areas of all trash and debris before placement of soil mix. Remove and legally dispose off site all excavated materials and items removed from cleaning and preparing beds.

Test all tree and plant bed pits by filling with water prior to backfilling with soil. If excavation does not percolate within 2 hours, inform Engineer and obtain his instructions before proceeding with backfill operations.

Washed Drainage Gravel: Water-worked, hard, durable non-limestone gravel, washed free of loam, sand, clay and other foreign substances, such as pea Gravel: 3/8" minimum, 5/8" maximum.

Soil Separator: 100% continuous polymeric filament, polyester non-woven, needle-punched landscape filter fabric with a weight of 4.2 oz/yd., 70 mils thick, with needlepoint puncture, such as Trevira Spunbond #011/140, as manufactured by Hoechst Celanese Corporation of Spartanburg, South Carolina. Do not use woven, knitted, heat bonded or polyethylene soil separator.

Drainage Sand: Clean, sharp, well-graded, coarse sand passing 1/4" mesh screen, free of dust, foreign and organic matter, with a pH of 5.5 to 6.5.

**Placement:**

Structure Adjustments: Perform or coordinate final adjustments of any utility structure.

Bed Prep: Clean planters of all trash and debris before placement of soil mix. Remove and legally dispose of debris off site. Repair to the satisfaction of the Engineer any portion of the sand pre-filter under drainage fabric or layers prior to installation of planting soil mix.

Place Planting Soil Mix: All beds must be completely backfilled with planting soil mix, raked, and prepared for planting. Provide, place, spread and rough grade specified planting soil mix for planting in all areas to be planted, to depths specified.

Place planting soil in 6-inch lifts. Upon installation of the first planting soil mix lift, moisten the surface at a rate of two gallons of water per square foot. Allow water to thoroughly percolate through the soil before placing the next lift. Allow soil to settle and dry at which time compact with manual pull-behind 100 pound per square foot concrete sod roller with one pass over the entire planting soil surface. Compact to 90% under all root balls and under all areas which will be paved over.



Check permeability of soil before adding second lift. Upon approval from the Engineer, install second lift of planting soil, moisten, allow for settling and compact to 90% under all root balls and under all areas which will be paved over. Place additional planting soil mix in required lifts following the same procedures, as necessary. Place enough soil mix to meet finish grades within specified tolerances, including any additional rolls to grades as described on the plans. Allow for placement and mixing of mulch, but place enough soil mix to meet finish grades within specified tolerances.

Protect soil mix from freezing prior to planting.

Final Grading: Rake smooth and finish grade all planted areas. The removal of excess material or the addition of planting soil maybe required prior to landscaping. This must be considered incidental to planting soil. Grading will be to a tolerance +/- 0.10 foot of design grades. Grade disturbed by irrigation installation must be restored to finish grade and raked smooth.

The finish surface of the soil must be free from clods, stones, sticks and debris and must conform to the lines, grades and the minimum thickness shown on the plans. Raking and rolling of the entire surface must be made until the surface reaches a finish grade condition. Existing sidewalks, curbs, structures, trees and other plant materials that are to remain in place must be protected from damage. Any damage caused by the Contractor must be replaced at the Contractor's expense. All material "tracked" down the street must be removed each day. All sidewalks, driveways, alleys and pavements must be left in a broom cleaned condition daily.

All debris, litter, tire tracks, dirt, and unintended materials must be removed, swept or washed off of all landscape and hard median surfaces and pavement on a daily basis.

**Method of Measurement:** PLANTING SOIL, FURNISH AND PLACE 24" will be measured for payment in place and the volume computed in square yards.

**Basis of Payment:** This work will be paid for at the contract unit price per square yard for PLANTING SOIL, FURNISH AND PLACE 24", which prices must include all materials, labor, excavation and equipment necessary to complete the work.

## **PLANTING WOODY PLANTS**

Effective: January 1, 2012

Revised: August 1, 2012

Revise the second sentence of Article 253.01 of the Standard Specifications to read:

" This work shall consist of furnishing, transporting, and planting woody plants such as trees, shrubs, evergreens, vines, and seedlings."

Revise Article 253.02(a) of the Standard Specifications to read:

" (a) Trees, Shrubs, Evergreens, Vines and Seedlings .....1081.01"

Revise the first sentence of Article 253.08(a) of the Standard Specifications to read:

" (a) Excavation for Deciduous Trees and Evergreen Trees."

Revise the first sentence of Article 253.08(b) of the Standard Specifications to read:

“ (b) Excavation for Deciduous Shrubs, Evergreen Shrubs, Vines, and Seedlings.”

Delete the fourth paragraphs of Article 253.10 and substitute the following:

Work each layer by hand to compact backfill and eliminate voids. Maintain plumb during backfilling. When backfill is approximately 2/3 complete, saturate backfill with water and repeat until no more water can be absorbed. Place and compact remainder of backfill and thoroughly water again. Approved watering equipment shall be at the site of the work and in operational condition PRIOR TO STARTING the planting operation and DURING all planting operations OR PLANTING WILL NOT BE ALLOWED.

Delete Article 253.11 and substitute the following:

Within 48 hours after planting, mulch shall be placed around all plants in the entire mulched bed or saucer area specified to a depth of 3 inches (76 mm). No weed barrier fabric or pre-emergent herbicide will be required for tree and shrub planting.

Revise the first sentence of Article 253.13 of the Standard Specifications to read:

“ All deciduous and evergreen trees, with the exception of multi-stem or clump form specimens, over 8 ft (2.5 m) in height shall require three 6 ft (2 m) long steel posts so placed that they are equidistant from each other and adjacent to the outside of the ball.”

Revise the first sentence of the second paragraph of Article 253.14 of the Standard Specifications to read:

“ This period of establishment for the plants shall not delay acceptance of the entire project and final payment due if the contractor requires and receives from the subcontractor a third party performance bond naming the Department as obligee in the full amount of the planting quantities subject to this period of establishment, multiplied by their contract unit prices.”

Revise the third sentence of Article 253.16 of the Standard Specifications to read:

“ Trees, shrubs, evergreens, and vines will be measured as each individual plant.”

Revise Article 253.17 of the Standard Specifications to read:

“ **253.17 Basis of Payment.** This work will be paid for at the contract unit price per each for TREES, SHRUBS, EVERGREENS, or VINES, of the species, root type, and plant size specified; and per unit for SEEDLINGS. Payment will be made according to the following schedule.

- (a) Initial Payment. Upon completion of planting, mulch covering, wrapping, and bracing, 90 percent of the pay item(s) will be paid.
- (b) Final Payment. Upon inspection and acceptance of the plant material, or upon execution of a third party bond, the remaining ten percent of the pay item(s) will be paid.”

Revise the first paragraph of Article 1081.01 of the Standard Specifications to read:

" **1081.01 Trees, Shrubs, Evergreens, Vines, and Seedlings.** Trees, shrubs, evergreens, vines, and seedlings shall be according to the current standards adopted by the ANLA."

#### **PLANTING PERENNIAL PLANTS**

Delete Article 254.04 (b) Planting Times and substitute the following:

The perennials and vines shall be planted after all construction work has been completed and during the time frame either between May 1 and June 15.

Refer to Plant Bed Preparation Special Provision for Layout of Planting and Planting Procedures.

Delete the first sentence of Article 254.07 Mulching and substitute the following:

Within 24 hours, the entire perennial plant bed shall be mulched with a total of 3 inches (75 mm) of fine grade Shredded Mulch. A mulch sample shall be submitted to the Engineer for approval 72 hours prior to placing. Care shall be taken to place the mulch so as not to smother the plants.

Delete Article 254.09 (b) and substitute the following:

Perennial plants must undergo a 30-day period of establishment. Additional watering shall be performed not less than twice a week for four weeks following installation. Water shall be applied at the rate of 2 gallons per square foot. Should excess moisture prevail, the Engineer may delete any or all of the additional watering cycles. In severe weather, the Engineer may require additional watering.

A spray nozzle that does not damage small plants must be used when watering perennial plants. Water shall be applied at the base of the plant to keep as much water as possible off plant leaves. Watering of plants in beds shall be applied in such a manner that all plant holes are uniformly saturated without allowing water to flow beyond the periphery of the bed.

Add the following Article 254.09 Period of Establishment:

During the period of establishment, weeds and grass growth shall be removed from within the mulched perennial beds. This weeding shall be performed twice during the 30 day period of establishment. The Contractor will not be relieved in any way from the responsibility for unsatisfactory plants due to the extent of weeding.

The weeding may be performed in any manner approved by the Engineer provided the weed and grass growth, including their roots and stems, are removed from the area specified. Mulch disturbed by the weeding operation shall be replaced to its original condition. All debris that results from this operation must be removed from the right-of-way and disposed of at the end of each day in accordance with Article 202.03.

Add the following to Article 254.11 Basis of Payment:

- a) Payment for Shredded Mushroom Compost shall be included in contract unit price of the perennial plant pay item.
- b) The unit price shall include the cost of all materials, equipment, labor, plant care, removal, disposal and incidentals required to complete the work a specified herein and to the satisfaction of the Engineer.

### **SODDING, SALT TOLERANT**

**Description:** Work under this item must be performed in accordance with Section 252 of the Standard Specifications for Road and Bridge Construction and subsequent special provisions except as herein modified. This work must consist of preparing the ground surface and furnishing, transporting and placing sod and other materials required in the sodding operations at areas designated by the Engineer. Sod must be top quality, nursery grown salt tolerant sod, dense, well-rooted, and free from weeds and unsuitable grasses.

**General Requirements:** Prior to placing planting soil mix, the existing soil must be scarified to a depth of 4 inches. The existing soil must be free of rocks, sticks, and debris. Planting soil mix must be added to bring the area to grade. Planting soil mix must be pulverized, natural, fertile, friable soil possessing characteristics of rich productive soil in the Chicago area. It must be obtained from naturally well-drained areas, not excessively acidic or alkaline and contain no toxic substances which may be harmful to plant and lawn growth. It must be free from clay lumps, roots, stones and other debris. Planting soil mix must not be handled in a frozen or muddy condition. Note that excavation for placement of planting soil will be paid for as excavation. Placement of planting soil mix to meet finish grade elevation, but not less the 12" depth is included the cost of placement of SODDING, SALT TOLERANT.

New Sod Areas in Existing Side Street Parkways: Excavation area limits must end at the drip line of all existing trees to remain. If new sod is to be installed within a tree's dripline, care must be taken to protect tree roots. Excavate area of all unsuitable materials such as concrete, limestone base materials, subsoil, roots and other debris a depth of 12" inches. Add approved planting soil mix to excavated low areas, restore damage, and provide for smooth finish grades. Where existing trees are indicated to remain and protected, existing grade CAN NOT be changed either by excavation or addition of mulch or planting soil by more than 3 inches within the existing tree dripline.

All materials must be removed each day from the site, no on-site storage of materials must be allowed. All sidewalks, driveways, alleys and pavements must be left in a broom-cleaned condition.

Fertilizer must conform to Article 1081.08 and have an analysis of 10-6-4, or have a different analysis but still meet the 5-3-2 ratio requirements. Fertilizer must be applied at such a rate that each square yard to be sodded must receive a total of 0.0324 pounds of Nitrogen, Phosphorous, and Potassium nutrients as specified. Agricultural ground limestone must be applied at the rate of 1.7 pounds per square yard and conform to Article 1081.07. No separate measurement or payment will be made for fertilizer or ground limestone, the cost of which will be included in the cost of SODDING, SALT TOLERANT.

Salt tolerant sod must conform to Article 1081.03(b), as shown in the following table:

<u>Variety</u>	<u>Percent by Weight</u>
Buffalo Grass	30%
Buchloe dactyloides	
Inferno tall fescue	20%
Audubon Red fescue	15%
EcoStar Hard fescue	15%
Rugby Kentucky Bluegrass	5%
Fults Pucinnellia Distans	15%

All other sod must conform to Article 1081.03(a)

The sod shall be weed-free nursery grown Kentucky Blue Grass conforming to the requirements of Article 1081.03. Sod must be grown on native mineral soil. No peat-based sod will be accepted.

With every shipment of SODDING, SALT TOLERANT, the Contractor must provide to the Engineer a letter of certification from an authorized representative of the nursery stating the seed mixture used in the sod conforms to the specifications.

Sod must be subject to inspection and approval at place of growth and/or upon delivery for conformity to specification requirements. Approval at place of growth must not impair the right of inspection and rejection upon delivery at the site or during the process of the work.

Rejected material must be removed immediately from the site. Care must be taken to retain the native soil on the roots during the process of stripping, transporting and placing.

Prepared soil surfaces that became crusted must be reworked to an acceptable condition for sodding. All soil surfaces must be moist when the sod is placed. When directed by the Engineer, the Contractor must be required to apply water to dry soil surfaces at a minimum rate of 1 Gal/square yard immediately prior to placing the sod. Reworking and moistening the soil surface will not be measured separately for payment but considered included in the cost of SODDING, SALT TOLERANT.

The sodding operations must be done in such manner that workmen will not walk on the prepared planting soil mix surface but must walk on the previously laid sod. Sod must be laid so that no voids or air pockets occur and with tight joints and staggered seams. Seams must be staggered a minimum of 15 to 18 inches. Immediately following the laying of the sod, it must be rolled and/or tamped to obtain a smooth firm surface and to prevent air pockets from forming between the underside of the sod strips and the surface of the soil. The sod must be pinned or staked, as necessary, to maintain the alignment of the sod when placed on slopes or embankment. Screened soil must be brushed or raked over the joints. The completed sod surface must be true to finished grade, even and firm over the entire area.

Within 2 hours after the sod has been placed 5 gals. of water per sq. yd. must be applied. Thereafter, on days designated by the Engineer, additional water must be applied at the rate of 3 gals. per sq. yd. The number of additional applications must not exceed 7 during the period of establishment, which is defined as the period of time between sod placement and when the sod becomes knitted to the soil and is growing in place. All watering described must be done with a spray application. An open-end hose will not be acceptable. The manner of watering must meet the approval of the Engineer. Water furnished for application must be free from oil, acid, alkali, salts or other impurities harmful to the best development of the sod. Water will not be paid for separately but will be included in the cost of SODDING, SALT TOLERANT.

The Contractor must notify the Engineer in advance of installation of sod.

**Method of Measurement:** SODDING, SALT TOLERANT will be measured in place in square yards. To be accepted the sod must be in a fine healthy condition and knitted to the soil.

**Basis of Payment:** The work under this item will be paid for at the contract unit price per square yard as shown in the Schedule of Unit Prices for SODDING, SALT TOLERANT which includes furnishing all labor, materials and equipment, including planting soil, fertilizers, water, required to perform sodding operations.

#### **IRRIGATION SYSTEM SPECIAL**

**Description:**

- A. This work includes design and installation of the irrigation system as indicated on the drawings and as specified herein.
1. Contractor must prepare design drawings and shop drawings for approval by the Engineer prior to commencement of any work on this item.
  2. This work must include all labor, material, equipment, permits, and services to construct the irrigation system as designed in approved shop drawings, in accordance with sections 561, 562, 563, and 565 of the Standard Specification for Road and Bridge Construction and the Standard Construction Details, except as herein modified.

**Water Services:**

Work described in the items WATER METER IN VAULT, BACKFLOW PREVENTER (R.P.Z.), and WATER SERVICE LINE will collectively be described as Water Service Components within this specification.

The WATER SERVICE INSTALLATION 2", which includes the water tap, type K copper water service, and water valve assembly, and provides water to the irrigation system will not be considered a component of the irrigation system.

The Water Service Installation and Water Service Components must be installed prior to the installation of the irrigation system, unless otherwise approved by the Engineer.

The Water Service Components to be provided in this contact are shown in the plans. The numbers of water services and sizes shown in the plans have been designed to provide an

adequate amount of water supply to service the areas to be irrigated. If it is determined the Irrigation System requires a greater water supply to conform to the requirements of this specification the Contractor must notify the Engineer immediately.

The locations of Water Service Components are shown on the plans schematically. The Engineer in the field will determine the location the Water Service Components. The irrigation system must be designed to accommodate the location of the Water Service Components as installed.

**Electrical Services:**

- a) The items contained in this contract used to supply electrical power for the irrigation system will be collectively described as the Electrical Service within this specification.
- b) This specification includes requirements for electrical powered components. Therefore, some items are dependent on the type of system to be installed.
- c) Electrical Services will be obtained from the new lighting cabinet.
- d) Electrical Service will extend to the pump station or irrigation system controller, and paid for separately using appropriate items. All electrical components including 1" PVC conduit and wiring, from the pump station or irrigation system controller required to operate the irrigation system in accordance with this specification are considered incidental to this item and must be shown on the shop drawings.

**Codes and Standards:**

Codes: All plumbing and electrical work must be installed within applicable provisions of the Village of Oak Park building codes.

All devices and their installation must be in accordance with Village of Oak Park Plumbing Code.

Standards: Items listed to conform to ASTM, ANSI, or manufactures recommendations, for installation.

**Design:**

The design will be completed, reviewed, and signed by a Licensed Professional Engineer or a Licensed Plumber. The design will follow these guidelines:

Max velocity = 5 feet per second.

Spray head distribution system must be designed, unless the existing water main pressure is not sufficient. If main pressure is not sufficient a drip line system could be designed if approved by the Engineer.

Spray Heads Minimum Height:

Non-Turf Areas:	12 inches expandable to 18 inches
Turf Areas:	minimum 4 inches or sufficient height to account for grade differentials

PSI variance:

All spray heads should operate at  $\pm 3$  psi of every spray head within a zone.  
All zones should operate at  $\pm 3$  psi of every zone within a system.

Isolation Valves:

Median Planters	Isolate each median planter
Parkway Planters	Isolate every 300 feet
Turf, Parks, & Malls	Per Engineer's Approval

Head Spacing:

Median and Parkway Planters:	10 feet max spacing
Turf, Parks, Malls, and Plazas:	50% of the diameter of throw minimum.

Square or triangular spacing must be used. The heads should have a matched precipitation rate.

Angle of Trajectory: Should be calculated so that the spray will be above the mature plant height.

Precipitation:

Non-turf:	Minimum 1 ½ Inch per week
Turf:	Minimum 1 Inch per week

Watering Run Times:

Spray Head:	Three (3) waterings per week, eight (8) hour per watering maximum duration.
Drip:	Three (3) run times per week, twenty-four (24) hour per watering maximum duration.

Wiring size: calculations must be made to account for voltage drops and any splicing must be reflected on the shop drawings.

Quick Couple Valves Spacing:

Median Planters:	200 feet or 1 per median
Parkway Planters:	200 feet or 3 per block
Parks, Malls and Plazas:	100 feet radius between valves, minimum 1.

**Submittals:**

Shop drawings must be prepared by a Licensed Professional Engineer or a Licensed Plumber with proven experience in the design of irrigation systems of the magnitude of this project.

Shop drawings must include pump design information, pipe detailing, controller layout, fabrication and installation of irrigation systems. Indicate plans, elevations and dimensions, including all accessories.

Submittals must include hydraulic calculations for circuit pressure losses, including pump design requirements.

Submittals must include wiring sizes and electrical calculations.

Submittals must include a complete package of catalog cut sheets for all equipment used in this irrigation system.



**Manufacturers and Minimum Requirements:**

Manufacturers: All products list herein are as suggested. However, the Contractor can specify other products. These will be subject to review for approval prior to installation. Judgment of whether a product is as suggested will be based on the product information sheet, and the Engineer's past experiences with products.

**1. PVC or Polyethylene Piping & Fittings:**

All sprinkler piping mainlines and lateral pipe must be SDR-21, Class 200, Polyvinyl Chloride (PVC) with a minimum pressure rating of 200 PSI. Pipe must be permanently and continuously marked with the manufacturer's name, trademark, size, type, and National Sanitation Foundation (NSF) seal of approval. Pipe must conform to the requirements of Commercial Standard CFS-256 and ASTM D-2241. PVC pipe must be as manufactured by Crestline Industries as suggested.

All PVC fittings must be solvent weld, Schedule #40 and must conform to ASTM D-2466. Fittings must be manufactured from PVC Type I materials and must meet National Sanitation Foundation (NSF) standards. PVC fittings must be as manufactured by Spears Manufacturing Company as suggested. PVC fittings must be joined with an as suggested PVC primer and cement.

Polyethylene piping 1 inch thru 1 ½ inch can be used for lateral piping, (downstream of the control valve). The pipe must be polyethylene NT80 irrigation pipe SDR-15 PE2406 NSF-PW ASTM D 2239 PPFA manufactured by Crestline. The pipe must be permanently continuously labeled accordingly. The insert fittings are to be constructed of PVC and must conform to ASTM D 2609 and National Sanitation Foundation Standard #14 plastic fittings for potable water. Insert fittings must be clamped to pipe with two (2) stainless steel crimp type clamps on each pipe end.

Spears Manufacturing Company manufactures plastic insert fittings for polyethylene plastic pipe. Oetiker must manufacture clamps.

**2. Installation Main & Lateral Piping:**

All sprinkler main lines must be installed by open trench method using either a chain type trencher or hand excavated. Trenches must be excavated so as to provide sufficient depth and width to permit proper handling and installation of pipe and fittings. Excavate the trench deep enough to provide a minimum of 18 inches of cover over the pipe. Ensure that the bottom of the trench is clean and smooth with all rock, loose soil and organic matter removed. Trench bottom must provide a smooth and continuous bearing surface to support the pipe.

When the cutting of pipe is required the pipes must be cut clean and square with all burrs removed prior to solvent welding. Pipe must be free of all dust, dirt, moisture, grease, oil, or any other foreign material.

Solvent welding method using a quality primer and cement applied according to the manufacturer's recommendation must join pipe. Excess solvent must be wiped cleaned from the pipe and fittings.

Sprinkler lateral piping may be installed by either open trench method or with an approved "vibratory plow". Where the open trench method is employed, the above specifications

must apply. In both the "open trench" method and the "vibratory plow" method, the minimum depth of cover for the lateral lines must be 18 inches.

Where the "vibratory plow" method is used, the "mole" or "bullet" of the plow that precedes the pipe and is used to form the opening for the pipe must not be less than 1-inch larger diameter than the outside diameter of the pipe. Starting and finishing holes must be of sufficient size to allow for proper connection of the required fittings.

For polyethylene pipe, the insert fittings are to be clamped with stainless steel clamps. All fittings are to be double clamped securely over the barbs on fittings.

Detectable Warning Tape must be installed over all pipes. The tape will be placed so that it is 6 inches above the top of the pipe. Polyethylene film warning tape manufactured for marking and identifying underground utilities, 4 inches wide and 5 mils thick minimum continuously inscribed with "Irrigation" detectable by metal detector when tape is buried up to 30 inches deep.

**3. Irrigation Controllers (Electric Operated):**

The irrigation controllers must accommodate all zones plus 3 extra zones, providing for complete automatic operation of the system. Run time for the controller must be 0-2 Hours per station and must provide for schedules of up to 2 weeks with interval scheduling available as an alternate method. The controllers must have a seasonal adjust features capable of increasing or decreasing station timing from 0% to 200%. The controllers must have a non-volatile memory capable of holding program information during power outages.

The controllers must have a 365-day calendar, which automatically adjusts for leap year.

The controllers must be programmable for up to 32 start times per day per program and must be capable of operating 24 Volt AC electric remote control valves via a 30 Volt AC transformer.

The controller cabinets must be constructed of cold forged stainless steel, and have a key-lockable door for vandal resistance.

The controllers must be UL listed.

The controllers must be Rainbird model ESP-MC.

**4. Install Irrigation Controller (Electric Operated):**

The irrigation controller is to be installed in a cabinet. The cabinet must be brown in mulched areas and green in turfed areas or as directed by the Engineer. The cabinet must have a single GFI weatherproof duplex outlet securely fastened. The cabinet will be able to be locked with a single lock. The Village will provide the lock. The cabinet will have the dimensions and installed per the details in the plans.

Weatherproof breakaway in-line fuses must be installed in the electrical service cable prior to the connection to the controller. The fuses must be in the controller cabinet.

The low voltage irrigation control wiring is to be installed in 2 inch steel heavy wall electrical conduit for protection. The conduit must run from the controller, down and out 12 inches into the soil area. Conduit fittings are to be used to make 90 degree turn backs on the

conduit at points of exit from the walls. (In no case must the low voltage irrigation control wiring be installed in Class 160 or 200 PVC sprinkler pipe and Schedule 40 PVC 90-degree elbows).

The locations of all zones and recommended run times must also be labeled on the controller along with the name, address, and phone number of the irrigation Installer.

The Contractor is responsible for obtaining any electric permits required for the low voltage wiring.

The irrigation controller must be installed in a secured enclosure (cabinet). The enclosure must be UL NEMA 4X Hinge Clip with provisions for a padlock and safety chain for doorstops. The approximate dimensions are 20"x20"x8" with 4 legs. It must be constructed of all stainless steel type 316 code gauge all seam weld grinded smooth. All conduits must enter from the bottom. The enclosure must be equipped with proper ventilation. The enclosure must be primed and painted (brown in mulch area and green in turf area or black if determined by the Engineer). The controller and equipment must be mounted on a back plate. It must include a disconnect, GFI protection, duplex outlet, and protected fuses. All equipment housed in the enclosure must be labeled as UL assembly. The enclosure must be securely fastened square and level to the concrete pad using all stainless steel fasteners.

5. **Automatic Control Valves (Electric Operated):**

Automatic Control Valve must be female pipe inlet and female pipe outlet connection. The diaphragm must be of rubber construction to retain flexibility and provide maximum sealing throughout its area.

The valve must have a manual flow control, with a hand-operated, rising-type flow control stem with control wheel/handle. All parts must be serviceable without removing valve from the line.

18-inch solenoid lead wires must be attached to a 24 VAC, 50/60-cycle solenoid with waterproof molded coil. The valves must be normally closed.

The automatic control valve must be model PEB series as manufactured by Rainbird.

6. **Installation Automatic Control Valves (Electric Operated):**

The automatic control valves are to be installed at the locations indicated on the shop drawings. All PVC must conform to the Section 1. PVC Piping and Fittings. Schedule 80 toe-nipples are to be used on the up-stream and down-stream sides of the valve. Wire splicing for valves to follow Section 12 of this specification, CONTROL WIRING. Valves must be assembled so that they fit comfortably and properly in the valve boxes allowing sufficient room for service. Every effort should be made to install the valves, and valve boxes, in a location where they will not interfere with foot traffic or the maintenance of the landscape.

7. **Heads; Rotary, Spray, Swing Joints:**

- a. Median and Parkway Planters: The Sprinkler Heads must be fixed spray type designed for in-ground installation. The body of the sprinkler must be constructed of non-corrosive heavy-duty cyclac. The sprinkler heads must have a riser screen

filter to prevent entry of foreign materials to the nozzle. All parts must be removable through the top of the sprinkler case. The sprinkler heads must have a stainless steel retraction spring to ensure positive pop-down and must have a Conilip seal and cap to provide proper sealing.

The sprinkler heads must be of pop-up design with an overall body height of 16 inches, and have a pop-up stroke of 12 inches.

The Spray Heads must be Model 1812 for landscaped areas as manufactured by the Rainbird, for turf areas Model 1804 is permitted provided that available pressure does not allow for the use of rotary heads.

- b. Turf Areas (when approved by the Engineer): Full and Part Circle Rotary Sprinkler Heads must be gear drive rotary sprinkler heads with a built in check valve to eliminate low head drainage. Radius reduction must be adjustable by up to 25% by means of radius adjustment screw accessible from the top of the cap. Water distribution must be via two (2) nozzles mounted in a stainless nozzle turret. The dual nozzles must elevate 2-3/8 inches when in operation.

Retraction must be achieved by a heavy-duty stainless steel retraction spring. The sprinkler head must have a riser seal and a wiper which permits limited flushing on the up and down stroke. A planetary gear assembly must accomplish rotation. The sprinkler head housing must be of high impact molded plastic with a 1 inch NPT connection.

The rotary heads must be I-25 ADS series with stainless steel sleeve, manufacturing by Hunter.

- c. All heads will be installed with swing joints. Sprinkler head swing joints are to be factory assembled PVC swing joints constructed of 315-psi pressure rated materials. Swing joints must be three-elbow construction with pre-lubricated buttress threaded connections and double O-Ring seals.

Spears Manufacturing Company, Sylmar, California, must manufacture sprinkler head swing joints.

8. **Installation Heads; Rotary, Spray, Swing Joints:**

Sprinkler heads must be installed flush and level with existing grades. Where sprinkler heads are installed along curbs or sidewalks, heads are to be placed 4 inches from the curb or sidewalk to allow for mechanized trimming. Where sprinkler heads are installed in plant beds, the sprinkler heads must be installed 2 inches from the edge of planter wall. Soil around sprinkler head must be tightly compacted.

All lines are to be flushed clean of debris prior to the installation of sprinkler head. Sprinkler heads and spray arcs are to be adjusted so that spray does not encroach into roadways or wet buildings and other structures.

9. **Quick Couple Valves:**

Quick Couple Valves must be 1 inch with one-piece body construction from heavy cast bronze.

Quick Couple Valves must be model QCV100N manufactured by Storm irrigation Products.

Two quick Coupler Keys must be provided. The keys must be one (1) inch single lug coupler made from heavy cast bronze.

Quick Couple Keys must be model C-100 with hose swivel model HS100 manufactured by Storm irrigation Products.

10. **Installation of Quick Couple Valves:**

Quick coupler valves are to be installed plumb in a 10 inch round valve box (see Valve Box for product) The quick coupler valves are to be secured with a 3/8 inch x 5/8 inch epoxy coated steel rebar driven into stable ground. The quick coupler valve and rebar are to be secured together with three separate heavy-duty stainless hose clamps. All quick coupler valves must be mounted on a prefabricated triple swing joint assembly.

The swing joint assembly must be model 5806-01-012 manufactured by Spears Manufacturing Company.

11. **Control Wiring:**

The irrigation control wire must be a minimum of 14 gauge, single conductor, and low energy circuit cable. A single 12-gauge single conductor white control wire must be utilized as the common wire and connected in series to each valve. Zone wire must be red, yellow, or orange in color. Irrigation Control Wire must be a 14-gauge minimum PVC jacketed, single conductor, 600 volt rated, low energy direct burial circuit cable. The irrigation control wire must be UL listed.

Paige Electric Company, Union New Jersey, must manufacture irrigation control wiring.

12. **Installation of Control Wiring:**

Every other solenoid valve should have a spare control wire running from the irrigation controller. The spare wires should be marked at both termination points. The irrigation control wires are to be bundled and taped together at five-foot intervals. An expansion loop must be provided every 100 feet, at every 90-degree angle, and at each valve location. Where irrigation control wiring is installed by itself, the minimum depth of cover must be 24 inches. Under no circumstance must the control wires be pulled through the ground. If a vibratory plow is utilized to install control wire, the plow must be used with a wire or cable-laying blade, which allows for cable installation without pulling the wire through the ground.

Splicing is not permissible unless approved on the shop drawings. If splicing has been approved all splices must be waterproof. Should splices be required other than at valve locations, those splices must be installed in a valve box and noted on the As Built Plans. Under no circumstances must splices be buried.

Splice Kits must be Scotch DBY Direct Bury Splice Kit as manufactured by Electric Products Division/3M, St. Paul, MN.

**13. Valve Boxes:**

Valve Access Boxes must be constructed of a combination of polyolefin and fibrous inorganic components (Superflexon Plastic) that is chemically inert and normally unaffected by moisture, corrosion and the effects of temperature change. Valve Boxes must have a tensile strength of 3,400 psi.

For the automatic control valves, the Valve Box Base must be #170101 and Valve Box Lid must be #17314 as manufactured by Ametek Plymouth Products Division, Sheboygan, Wisconsin.

For the quick couple valves, the Valve Box must be Model #181014 as manufactured by Ametek Plymouth Products Division, Sheboygan, Wisconsin.

The lids and boxes will be green for turfed areas and brown for mulched areas.

**14. Installation of Valve Boxes:**

Each automatic control valve must be installed in a valve box. A minimum of two valve boxes must be stacked. The valve boxes must be installed so that the valve is centered in the box allowing sufficient room for servicing of the valves. Clearance between the highest part of the valve and the bottom of the valve box lid must be 2-inch minimum. The lid must not be too deep for convenient service. The valve box must not rest on the pipe. Clearance between the top of the piping and the bottom of the valve box must be a minimum of 1 inch. Each valve box is to be installed flush and plumb to grade.

As a part of the valve box installation 3 to 4 inches of ½ to 1-inch stone, free of fines should be placed so that the top of the stone is 2" below the valve.

**Drip Lines:**

The drip system must include all necessary components for a drip system. Such as, filter for solenoid, drip tubing, and check valves, air vacuum relief valve, lateral piping, and line flush valve and fittings.

The drip tubing is to have a root barrier which makes it resistant to root intrusion.

The drip tubing is to be Netafim Techline pipe with a dripper flow rate of 0.9 GPH part # TLDL 9-1210 with 12 inch on center spacing for the drippers.

**Drip Lines Installation:**

The drip tubing will be installed in rows 12 to 16 inches apart. The rows closest to the walls of the landscaped planter must be 2 to 4 inches from the edge of the walls. The drip tubing must be laid on the finished grade of the soil mixture. The drip tubing must be secured a minimum of every 3 feet with Techline Staples (TLS6). The drip tubing must be installed parallel to the longest wall of the landscaped planter. If the drip tubing needs to go around a plant or obstacle, the tubing must return to its original line as soon as possible. The installation must be complete prior to mulch installation.

When possible the system must use a center feed layout. The drip tubing must feed from a PVC or Polyethylene supply header in a grid layout. The exhaust header and the supply header must form a continuous loop with PVC or Polyethylene piping. The maximum distance between each supply header and exhaust header is 70 feet. The furthest

distance in each direction of the solenoid valve must contain a Netafim Line Flushing Valve, model TLFV-1. The flush valve will be below grade in a valve box with a sump. A filter must be installed down stream of the solenoid valve with the appropriate filter mesh in accordance with Techline design manual. An air vacuum relief valve is to be installed at the highest points of each zone. The air vacuum relief valve is to be installed in a valve box. A single micro-spray head is required for each zone. The spray head is required to indicate that a zone is on and working. It should not be used as a main watering source for an area.

In situations where the slope is greater than or equal to 4% install the drip tubing perpendicular to the slope. Check valves must be installed to prevent water from draining to the lower elevations.

**Hydrostatic Testing:**

The test must consist of pressurizing the mainline piping system to a minimum of 150 psi for a period of four (4) hours.

During the test, the piping system must maintain 150 psi with an allowable pressure drop of not more than 5-psi, if any deficiencies in the piping system are found, the piping or fittings must be repaired or replaced at no additional cost to the contract.

**Pressure & Flow Testing:**

A test will be taken of the static pressure on the upstream and downstream sides of the RPZ valve.

A pressure reading must be taken at each zone while each zone is running.

The flow rate must be recorded from the water meter at each running zone for a 5-minute period.

This information must be recorded on the As-Built drawings.

**As Built Drawings:**

Upon completion of the installation the Contractor must prepare and submit an "As-Built" drawing of the completed project. The drawings will show the accurate locations of all valves, quick couplers, mainline, wire splices, backflow devices, and controllers. The drawing must also show the approximate location of sprinkler heads and lateral lines. Each controller must be labeled on the plan alphabetically starting with A and the zones controlled by that controller must be labeled A-1, A-2, A-3...etc.

The drawings must also show the locations of Water Service Components and Electrical Service Components.

**Demonstration:**

Demonstrate to Village maintenance personnel operation of equipment, sprinklers, specialties, and accessories. Review operating and maintenance information. Provide 7 day notice to all parties in advance of each demonstration.

**Irrigation system startup, shutdown and inspection:**

The work to be performed under this section consists of placing the irrigation systems into operation (start-up), preparing the irrigation systems for winter (shutdown), performing inspections and adjusting the irrigation systems in accordance with the detailed specifications herein and generally accepted practices for operating, adjusting, and maintaining irrigation systems. The period covered by this work will begin with the date of acceptance by the Engineer (i.e., substantial completion/beneficial occupancy date) and complete with the end of the Fall Shut-Down in October of the following year.

1. The Contractor is responsible for the shutdown, startup, and inspection of the irrigation system the year following the original date of installation.
2. The Contractor is responsible for storing the RPZ's, irrigation keys, and other hardware or software related to the irrigation system between shutdown and startup the year following installation. Once the system has been restarted the following year, all hardware and software are to be transferred to the Village of Oak Park.
3. All work on the irrigation systems must be performed between April 1 and November 30 or as specified
4. All plumbing work must be done by licensed plumbers as per the applicable requirements of the Village of Oak Park Building Code and Illinois Plumbing Code (latest edition)

General Requirements: The Contractor must coordinate all activities required for the completion of contract requirements with the Engineer's vendors, suppliers, all subcontractors, and Village personnel. The procedures described below represent the intended minimum requirements for irrigation system maintenance; however, the Contractor's design may require different or additional procedures. The Contractor must submit his recommended maintenance procedures in similar detail for review and approval by the Engineer.

1. Irrigation Systems Spring Startup (April 1st - May 1st):
  - A. The Contractor must place the entire irrigation system(s) into operation by reinstalling and/or reactivating, testing, operating, and adjusting applicable components of the irrigation systems including manual valves, meters, backflow prevents, and water outlets. Spring start-up may be performed after April 1st and must be completed not later than May 1st. This work includes, but is not limited to, the following activities:
    1. Coordination of the start-up with the Village of Oak Park a minimum of 48 hours in advance of start-up on each irrigation system so the Water Department can witness the annual testing and recertifying of the reduced pressure backflow preventers (RPZ's) and reestablish service. Such testing and recertification of the backflow preventers is the responsibility of the Contractor. Illinois Plumbing and Backflow Testing Licenses are required. Any permits required from the Water Department, to perform this work, must be included in the cost of this pay item.
    2. Coordination of pick-up and/or delivery of stored RPZ units with the Village storage facility and reinstallation of the RPZ units in the same locations from which they were removed.
    3. Full inspection as detailed in the 'Irrigation Systems Inspection' section.



4. Full mainline activation and pressurization of each zone and sub-zone in each irrigation system.
  5. Flushing each mainline system at each end of each system for a minimum of 15 minutes at each end.
  6. Flushing and testing each water outlet.
  7. Verifying satisfactory activation of each solenoid valve. Inspecting of all wire connections within valve boxes related to these solenoid valves.
  8. Inspecting and adjusting (if necessary) all wire connections within each Irrigation System Controller.
  9. Verifying satisfactory operation of all functions of each controller. Replacing any batteries each Spring. Placing the Spring program into the controller.
  10. Testing the operation of each moisture sensor. If moisture conditions do not allow testing, a thorough soaking of the sensor area will be necessary. Placing sensor in active and then in bypass modes to test each operation.
  11. Closing and then opening each isolation valve.
  12. Lubricating hinges and locks on all controller and RPZ cabinets.
  13. Testing and tagging each RPZ
  14. Re-compacting soil within valve box of each water outlet. Additionally, the Contractor must verify that the concrete pads for valves or control boxes have compacted soil under them; not just mulch. If necessary, soil must be placed completely under the pads to ensure continuing proper support and avoidance of stress loads on attached water lines or conduits.
  15. Observing for visual evidence of water leaks.
  16. Submitting a field report to the Engineer, the following day after each inspection/spring turn-on, as an overview of each system's operation, performance and required repairs.
- B. Any damage caused by improper or inadequate irrigation systems' start-up must be repaired immediately at the Contractor's expense.
2. Syringing Plants/Flushing Beds (April 1st - May 1st):
- A. The objective of syringing (washing) plants and flushing beds is to reduce damage from winter salt.
  - B. In early spring, when temperatures are anticipated to remain above 35 degrees Fahrenheit for a minimum of 24 hours and the threat of snowfall and road salting has diminished, the Contractor must wash all plant material with a gentle spray of water to remove accumulated salt from stems, bark and crowns. Contractor is responsible for supplying water.
  - C. Between April 1st and May 1st, after irrigation system start-up, apply water at double the normal rate for a period of one (1) week to flush salts from mulch, beds and soil.
  - D. Syringing of plants and flushing of beds must be included on a Maintenance Report that must be submitted to the Engineer. This report must be faxed or delivered to Village personnel. If the Maintenance Report is not received, it will be assumed that no work was performed and no payment will be made.
  - E. Syringing the plants and flushing the beds at irrigated planters will be considered incidental to IRRIGATION SYSTEM SPECIAL.

3. Irrigation Systems Inspection:
  - A. The Contractor must perform Irrigation Systems Inspections once during the period between June 15th and June 30th and once again during the period between August 15th and August 30th. The Contractor must be responsible for notifying the Village 48 hours prior to any inspections.
  - B. Inspection must be performed while the system is in operation. Each inspection must include the following activities:
    1. Testing all zones. Verifying each flushing valve operation. Cleaning each filter of each circuit.
    2. Verify each manual water outlet valve operation.
    3. Cleaning all clogged water outlets.
    4. Trimming plants or grass around water outlets and valve boxes as required.
    5. Testing each entire system for overall performance.
    6. Observing for visual evidence of water leaks.
    7. Making necessary adjustments.
    8. Submitting a written field report to the Engineer the following day after each inspection and including an overview of the system's operation and performance. Identifying any items requiring repairs.
  - C. Any damage caused by improper or inadequate inspection must be repaired immediately at the Contractor's expense.
4. Irrigation Systems Fall Shut-Down (October 1st - 31st):
  - A. The Contractor must prepare the entire irrigation system(s) for winter and protect its components against damage due to freezing or exposure.
  - B. Fall shutdown must occur after October 1st and must be completed not later than October 31st. The following descriptions of work are minimum requirements applicable to all parts of the irrigation systems within the limits shown on the plans:
    1. Full inspection as detailed in "Irrigation Systems Inspection" section.
    2. Close valve in service line between city water main and water meter vault and, in the water meter vault, close both valves at the water meter (supply side and discharge side). The piping drain valve downstream of the meter discharge valve must remain closed and plugged at this time.
    3. Open water outlets on ends of main piping to depressurize piping. Using the controller, activate each circuit to permit depressurization.
    4. Remove the reduced pressure zone (RPZ) backflow preventer and prepare it for winter storage, including draining all water from the unit.
    5. Provide compressed air (minimum one compressor - 160 C.F.M.). Open each water outlet until all water and water vapor is released.
    6. Carefully introduce compressed air into the water service line at the downstream (output) side of the RPZ. The Contractor must provide any necessary special fittings for connection to the pipe flanges where the RPZ was removed.

7. Purge the water service line, the water supply pipe, and each circuit with compressed air. Purge each circuit for a minimum of five (5) minutes.
  8. In the meter vault, remove the plug from the drain valve and open the drain valve to allow water in the water service line between the RPZ and the water meter to drain into the meter vault. Open the meter discharge side valve and allow water to drain from the water meter. Leave both the drain valve and the meter discharge valve open (until Spring Startup).
  9. Remove all standing water from within the water meter vault. Record the water meter reading, serial number, and location.
  10. Store RPZ units for the winter in a secured, frost-free storage facility.  
Important: RPZ units must be reinstalled in the spring on the same water service lines from which they were removed in the Fall. After an RPZ is removed, record its serial number and location to facilitate reinstallation at the correct location in the spring.
  11. Lubricate hinges and locks on all controller and RPZ cabinets.
  12. Cover the exposed pipe connection fittings on RPZ units and water service lines with black or gray pipe caps. If caps are not available, the Contractor must provide them at no additional cost to the contract. Covering the fittings with duct tape is not acceptable.
- C. Any damage caused by improper or inadequate irrigation systems' fall shutdown must be repaired immediately at the Contractor's expense.
- D. Contractor is responsible for any equipment losses during winter storage. Cost of storage must be included in the cost of this pay item.
- E. Any lane closures required to perform any of this work must be done in accordance with Section 701 of the Standard Specifications and as stated under Traffic Control and Protection. Traffic Control and Protection will not be paid for separately, but will be considered incidental to this pay item.

**Method of Measurement:** IRRIGATION SYSTEM SPECIAL will be measured as a lump sum item.

**Basis of Payment:** The work under this item will be paid for at the contract unit price per lump sum as shown in the Schedule of Unit Prices for IRRIGATION SYSTEM SPECIAL, which price will be payment in full for all labor, material, equipment, and services necessary for providing the landscape irrigation systems in a serviceable, fully operational manner, including, but not limited to, excavation and backfilling, furnishing and installing the pump, piping system (beginning at the pipe adapter) including sprinkler heads, solenoid control valves, isolation valves, valve boxes and automatic controls, system testing and maintenance, owner personnel training, piping and equipment identification, plumbing permits and inspection fees, valve tags and charts, and all supports, sleeves, fittings, valves, meters, accessories, and start-up and shutdown.

The following Irrigation System Components will be paid for separately:

- A. WATER METER IN VAULT, 2 INCH
- B. RPZ BACKFLOW PREVENTER
- C. WATER SERVICE LINE, 2 INCH

## **WATER METER IN VAULT, 2 INCH**

**Description:** This work must consist of excavation, furnishing and installing water meter in a concrete vault, Type K, 1 inch or 2 inch copper pipe, and sand backfill at locations indicated on the plans or as directed by the Engineer.

The water meter type and brand must be in accordance with the Village of Oak Park Standards and AWWA C-700. The vault must be a precast concrete as shown on the details in accordance with Section 504 of the Standard Specifications and as directed by the Engineer.

This item includes excavation, furnishing and installing the Type K, 1 inch or 2 inch copper pipe, and trench backfill from the water meter in vault to the backflow preventer (RPZ).

Excavation must be in accordance with applicable portions of Section 202 of Standard Specifications. Excavation must be limited to the area shown on the plans and details, or as directed by the Engineer. All shoring required must be considered incidental to this item. Any dewatering required must not be paid for separately but will be incidental to the contract unit price of this item.

Pavement removal and replacement must be paid for using applicable line items. Restoration of non-paved areas must be paid using applicable line items.

Trench Backfill must be placed and compacted in accordance with Section 208 of the Standard Specification and must be included in the cost of this item. Trench backfill must be FA 2 gradation

The installation of the water service line must conform to Section 562 of the Standard Specifications and the Village of Oak Park requirements.

The Contractor must notify Village seventy-two (72) hours before this work commences so that the Village can provide field inspectors to oversee this work.

**Method of Measurement:** **WATER METER IN VAULT, 1 INCH OR 2 INCH** will be measured on an each basis.

**Basis of Payment:** **WATER METER IN VAULT, 1 INCH OR 2 INCH** shall be paid for at the contract unit price per each which price must include excavation, disposal of excavated material, meter, vault, frame and lid, fittings, connections and adjustments, Type K, 1 inch or 2 inch copper pipe, and sand backfill required to complete the work as specified.

## **RPZ BACKFLOW PREVENTER**

**Description:** This item must consist of excavation, installation of ASSE Standard backflow preventers, installation Type K copper water pipe, and sand backfill as indicated on the plans, and as directed by the Engineer.

**General Requirements:** Backflow preventers must be of the size indicated for maximum flow rate and maximum pressure loss required. Village approved with AGD Series air gap.

1. Working Pressure: 150-psi minimum except where otherwise indicated.
2. 2 Inches and Smaller: Bronze body with threaded ends.

3. 2-1/2 Inches and Larger: Bronze, cast-iron, steel, or stainless steel body with flanged ends. Provide AWWA C550, interior protective epoxy coating for backflow preventers with cast-iron or steel body.

Interior Components must be Corrosion-resistant materials.

Other incidental items:

1. Strainer supplied within RPZ and compatible with size and capacity of unit, on the inlet.
2. Winterizing pipe caps.
3. RPZ Enclosure fastened to concrete base, complete with lock and powder coating

Reduced-Pressure-Principle Backflow Preventer: ASSE 1013, with (OS&Y) gate valves on inlet and outlet, and strainer on inlet. Include test cocks and pressure-differential relief valve with ASME A112.1.2 air-gap fitting located between 2 positive-seating check valves for continuous pressure application.

1. Pressure Loss: 15 psi maximum, through middle third of flow range.
2. Gate valves supplied with and compatible for size and testing of unit on inlet and outlet. Valves 2 inches (50 mm) and smaller may be ball valves if these are unit manufacturer's standard valve for this application.
3. Test Kit: Unit manufacturer supplied, complete calibrated backflow preventer testing equipment kit with carrying case.

Anti-siphon, Pressure-Type Vacuum Breakers: ASSE 1020, with valves, spring-loaded check valve, and spring-loaded floating disc. Include test cocks and atmospheric vent for continuous pressure application.

1. Pressure Loss: 6 psi maximum, through middle third of flow range.
2. Gate valves supplied with and compatible for size and testing of unit on inlet and outlet. Valves 2 inches and smaller may be ball valves if these are unit manufacturer's standard valve for this application.
3. Test Kit: Unit manufacturer supplied, complete calibrated backflow preventer testing equipment kit with carrying case.

Pressure Gauge:

ASME B40.1, 4-1/2-inch (115 mm) diameter dial, with dial range of 2 times system operating pressure and bottom outlet.

Concrete Base: Concrete: Portland cement mix, 3000 psi.

1. Cement: ASTM C 150, Type I.
2. Fine Aggregate: ASTM C 33, sand.
3. Coarse Aggregate: ASTM C 33, crushed gravel.
4. Water: Potable.

Reinforcement: Steel conforming to the following:

1. Fabric: ASTM A 185, welded wire fabric, plain.
2. Reinforcement Bars: ASTM A 615, Grade 60, deformed.

Backflow Preventers: RPZ's must be FEBCO Model No. 825YA complete with shutoff valves, wye strainers must be FEBCO Model 650 as suggested RPZ's must be furnished with flanged unions to facilitate field removal for freeze protection or maintenance. All work must be in accordance with Village of Oak Park Standards.

Valves for above ground installation must be

- A. Grinnell Supply Sales Co., Grinnell Corp.
- B. Milwaukee Valve Co., Inc.
- C. Nibco, Inc.
- D. Hammond Valve Div., Prairie Manufacturing Corp.

RPZ Enclosure

Enclosure must be lockable.

Steel must meet the requirements of ASTM Specification A-36.

Coating

1. Phosphating must be performed by totally immersing parts in a heated phosphate solution to provide the transition coating between the metal and the electrodeposition coating.
2. All parts must then be rinsed by total immersion in a continuously overflowing rinse tank to remove any excess phosphate solution.
3. Powder coating preparation for electrodeposition coating must require all parts to be totally immersed in a continuously overflowing tank containing PPG Powercron 590, or equivalent, heavy metal free cationic Electrodeposition coating. All parts must then be rinsed by total immersion in a continuously overflowing tank to remove any excess electrodeposition coating solution.
4. All parts must be cured by heating to the exact time and temperature requirements of the electrodeposition coating by precisely controlled gas ovens.
5. Powder coating must be applied by electrostatic ally depositing a uniform coating on all parts to a thickness of 8 mils minimum in two applications utilizing the electrodeposition coating preparation and 2.5-3 Mils utilizing the hot dip galvanizing preparation. Powder Coat specifications:
  - a. Color: black.
  - b. Resin Type: Polyester Urethane
  - c. 60 Degree Gloss: 92+
  - d. Specific Gravity: 1.36+/-0.05 g/cm<sup>3</sup>
  - e. Cure schedule: 20 min. at 380° F peak metal temperature
  - f. Impact Resistance 60 in. lbs/60 in lbs.
  - g. Pencil Hardness: 2H
  - h. 1/8 conical mandrel bend pass
  - i. Storage Stability: Min. 6 months at or below 30°. F
6. All parts must be cured by heating to the exact time and temperature requirements of the powder in a precisely controlled oven.

An acceptable alternate to the above phosphating process is hot dip galvanizing all parts to ASTM 123 followed by an etch priming to prepare for powder coating

This item includes excavation, furnishing and installing the Type K, 2 inch copper pipe, and trench backfill from the backflow preventer (RPZ) to a point five (5) feet downstream. From that point the system will either be paid as IRRIGATION SYSTEM or WATER SERVICE LINE.

Excavation must be in accordance with applicable portions of Section 202 of Standard Specifications. Excavation must be limited to the area shown on the plans and details, or as directed by the Engineer. All shoring required must be considered incidental to this item.

Pavement removal and replacement must be paid for using applicable line items. Restoration of non-paved areas must be paid using applicable line items.

Trench Backfill placed and compacted in accordance with Section 208 of the Standard Specification and must be included in the cost of this item. Trench backfill must be FA 2 gradation.

**Method of Measurement:** RPZ BACKFLOW PREVENTER will be measured per each installed.

**Basis of Payment:** This work shall be paid for at the contract unit price per each RPZ BACKFLOW PREVENTER of the diameter specified, which price must include excavation, disposal of excavated material, backflow preventer (RPZ), enclosure, locks, keys, pipe caps, installation of Type K copper piping, and sand backfill required to complete the work as specified.

#### **WATER SERVICE LINE, 2 INCH**

**Description:** This work must consist of excavation, furnishing and installing the water service line, and trench backfill. Water service line must be installed from the Backflow Preventer, (RPZ) to the nearest planter, and between planters at the locations indicated on the plans or as directed by the Engineer.

The installation of the water service line must conform to Section 562 of the Standard Specifications and the Chicago Department of Water Management Requirements

**General Requirements:** The Water Service Line must be installed in a trench at a minimum depth of thirty (30) inches below the finished elevation. The line must be continuously snaked in alternate horizontal curves, in accordance with the pipe manufacturer's recommendations, to compensate for thermal contraction and expansion.

A tracing wire, 1/C # 14 cable, starting at the RPZ backflow preventer, must be run continuously in the bottom of the trenches and through the sleeves alongside the full length of the PVC piping.

A warning tape must be run continuously, at six (6) inches below grade, directly above the Water Service Line and for its full length. At street crossings, the warning tape must be located above the pipe sleeve between the base course and the bottom of pavement. The warning tape must be Presco Products Detectable Underground Utility Marking Tape # D2105-Blue.

Horizontal and vertical separation requirements between water and sewer lines must be in accordance with IEPA requirements.

The Water Service Line must enter median planters beneath the concrete median and above the Geotechnical Fabric Envelope that surrounds the French Drain.

Excavation must be in accordance with applicable portions of Section 202 of Standard Specifications. Excavation must be limited to the area shown on the plans and details. All shoring required must be considered incidental to this item.

Pavement removal and replacement must be paid for using applicable line items. Restoration of non-paved areas must be paid using applicable line items.

Trench Backfill placed and compacted in accordance with Section 208 of the Standard Specification and must be included in the cost of this item. Trench backfill must be FA 2 gradation.

Water Service Line must consist of irrigation mainline pipe, ductile iron sleeves, and additional conduits.

#### **Irrigation Mainline Piping**

The polyvinyl chloride (PVC) irrigation mainline piping must connect to the copper water piping a minimum of five (5) feet downstream of the RPZ assembly and extend not less than four (4) feet inside of the planter. The line must be Class 200, Polyvinyl Chloride (PVC) with a minimum pressure rating of 200 PSI. Standard Dimension Ratio (SDR) 21, pressure-rated pipe, Type 1, Grade 1, as identified in ASTM D-1784. Pipe must conform to the requirements of Commercial Standard CFS-256 and ASTM D-2241. The water service line must meet or exceed the minimum requirements set forth by the American Society of Testing Materials (ASTM) and the National Sanitation Foundation (NSF). Materials used in manufacture of the service line piping must contain the specified amounts of pigment, stabilizers, and other additives approved by the NSF for conveyance of potable water.

Pipefittings, such as elbows and tees, must be schedule 80 PVC meeting or exceeding the requirements of ASTM D-2466 for socket-type PVC fittings. Material must be Type 1, Grade 1 white PVC (cell classification 12454B) and conform to ASTM D-1784. A PVC cap must be temporarily installed on the downstream end of the Water Service Line to permit hydrostatic testing prior to connection to the Irrigation System.

After all PVC pipe joints, including the temporary end cap, are completely cured, and after shallow backfilling (leaving all joints exposed to view), the Irrigation Mainline must be subjected to hydrostatic pressure testing using only water. Compressed air or gases must not be used for testing. The line must remain under low-pressure while it is visually inspected in its entirety. After repair of any leaks, the line must be more heavily backfilled but still leaving the joints exposed pipe must then be subjected to full city water pressure for not less than twelve hours. Removal of the temporary end cap, after completion of all testing, must be included in this item.

Installation and testing of the Water Service Line 2" must be performed in a manner meeting the approval of the Engineer.

#### **Ductile Iron Sleeves**

Water Service Lines beneath pavement, sidewalk, alley, driveways, and concrete median wall, and concrete median surface must be installed in Ductile Iron Sleeves, 4-inch diameter.

Sleeve lengths must extend not less than twelve (12) inches into planter or turf areas.

#### **Additional Conduits**

Water service line must also include the installation of additional conduits in trench. At all locations one (1) three (3") inch PVC Conduit Schedule #80 and one (1) three-quarter (3/4") inch Schedule #80 must be installed.



At locations where the Water Service Line is in sleeves the three-quarter (3/4) inch Schedule #80 must be installed in the sleeve.

Polyvinyl chloride (PVC) conduit must conform to the requirements of National Electrical Manufacturers Association Standard, Publication Number TC2 for EPC-40.

**Method of Measurement:** WATER SERVICE LINE, 2 INCH will be measured in per linear foot basis.

**Basis of Payment:** WATER SERVICE LINE, 2 INCH must be paid for at the contract price per foot, which price must include all excavation, trench backfill, PVC piping, fittings, warning tape, tracing wire, ductile iron sleeves, additional conduits, hydrostatic testing, all permits and associated fees, and all other incidentals required to complete this work as specified herein and as shown on the plans.

### **COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12 (MODIFIED)**

**Description:** This item shall consist of furnishing all labor, materials, tools and equipment required to construct combination concrete curb and gutter with gutters matching the width of the existing gutters that have been removed and curb heights that are greater than 6 inches high and meet proposed sidewalk and curb amp elevations as shown on the plans or as directed by the Engineer. This work shall be performed according to Section 606 of the standard Specifications except as modified herein.

**Method of Measurement:** COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12 (MODIFIED) will be measured for payment in feet along the face of the proposed curb.

**Basis of Payment:** This work will be paid for at the contract unit price per foot for COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12 (MODIFIED).

### **BRICK PAVERS**

**Description:** This item shall consist of furnishing all labor, materials, tools and equipment required to construct clay brick paver street paving for heavy vehicle application, in accordance with the drawings and as herein specified. In addition to the clay brick pavers, the work shall include, but is not limited to, the furnishing granite parking striping, sand setting bed, weep holes, and all setting accessories.

Except as modified herein, the work shall be done in accordance with applicable articles of the Standard Specifications at locations as shown on the plans or as directed by the Engineer.

#### **General Requirements:**

#### **SUBMITTALS**

**Samples:** Five individual samples of each brick color and/or texture showing representative of size, shape, color and finish, indicating color variation and texture range expected in finished installation.

Submit manufacturer's certification of conformance to ASTM standards.

**Certifications:** Submit certifications that all brick pavers will meet or exceed designated specifications.

#### DELIVERY, STORAGE AND HANDLING

**Delivery:** Deliver materials in manufacturer's original, unopened, undamaged packaging with identification labels intact.

1. Unload pavers with proper equipment, so no damage occurs to pavers.

**Storage:** Store materials so they are protected from contamination by foreign substances and excessive moisture.

1. Store pavers to prevent damage and staining.
2. Do not store bedding sand and jointing sand on compacted aggregate base course or in areas that channel water into the sand.
3. Cover bedding sand and jointing sand with waterproof covering. Secure the covering in place.

#### QUALIFICATIONS OF INSTALLER

Installer shall have a minimum of five years of experience installing clay pavers.

Installer shall submit for approval, a list of projects similar in nature and size that establishes his/her ability to complete this project. A resume for the project-superintendent should be submitted to establish his/her ability to complete the project. If for any reason, the qualifications are not acceptable, work shall not commence until an acceptable installer is found.

**Pre-Installation Meeting(s):**

1. Conduct pre-installation meeting [two weeks] prior to commencing work of this Section to verify project requirements, substrate condition, coordination with other trades and installation instructions.
2. Confirm status of ordered material.

#### Material:

**Clay Brick Pavers:** Pavers shall match existing Marion Street paving in material, dimensional size, color, and workmanship.

**Paver Manufacturer:** Whitacre-Greer, 1400 S. Mahoning Ave., Alliance, OH 44601. Phone: 330-823-1610, Fax: 330-823-5502, email: [info@wgpaver.com](mailto:info@wgpaver.com).

Slip resistance shall be tested in general accordance with ASTM C 1028-96, standard test method for determining the static coefficient of friction of ceramic tile and other like surfaces by the horizontal dynamometer pull-meter test. Minimum static coefficient of friction shall be .60 for wet and .70 for dry.

**Sand Setting Bed:** Where sand setting bed is indicated sand shall meet the requirements of Section 1003 of the Standard Specifications for FA-6. Thickness of setting bed shall vary to allow the surface of the pavers to be at the required finished grade. The paver joint material shall be dry sand conforming to ASTM C-144 with all particles passing the No. 16 sieve.

**Construction.** Pavers shall be installed per the respective manufacturer's recommendations. No paver setting work shall be performed when the underlayment has free moisture, ice, or snow, or

when the underlayment is frozen. Concrete underlayment shall be sound, clean, and free from debris and materials or substances that will hinder the bond of the setting bed. The top surface of concrete underlayment slab shall not vary more than one half (1/2) inch of its proposed elevation. See detail plans for cross section of typical unit paver system.

To reduce dust during paver installation, pavers shall only be cut using wet saws. No dry cutting is permitted. Cut pavers shall be placed in areas shown on the details in the plans. "L" shaped pavers shall be avoided where possible. Pavers shall be cut radially when joints between pavers on curves exceed 1/8 inch. Radial cut pavers shall be created by trimming both sides of paver.

Sand Setting Bed. Sand shall be spread over the PCC base course to the depth indicated on the plans as a setting bed for pavers. The HIGH-EARLY-STRENGTH PORTLAND CEMENT CONCRETE BASE COURSE will be paid for separately. Sand shall be spread so that there is a minimum 3/4 in. thickness and no more than a maximum 1 in. thickness. Sand shall be leveled to required slope and grade. Bed shall not be compacted until pavers are installed. Surface tolerance shall be within 1/4 in. of required grade as measured with a 10 ft. straightedge in both the transverse and longitudinal directions.

Paver Installation. Setting bed shall be protected from damage prior to setting pavers. Unit pavers shall be set on sand setting bed. Setting shall be done by competent workmen under adequate supervision, and in accordance with manufacturer's recommendations. Pavers with chips, cracks, or other structural or aesthetic defects or those rejected by the Engineer shall not be used. Pavers shall be set true to the required lines and grades in the pattern detailed on the Plans. Pavers shall be tightly butted. Joints between pavers shall be uniform and shall not exceed 1/16 in. There shall be no raised edges that could allow someone to trip for either pavers or materials adjacent to pavers. The tolerance for such edges shall be 0" - 1/16" maximum in range.

After a sufficient area of pavers has been installed, the pavers shall be compacted by running a mechanical vibratory compactor over the paved surface until the pavers are uniformly leveled, true to grade, and totally immobilized. Where required, pavers shall be accurately cut with a masonry or concrete saw. Cut edges shall be plumb and straight. Scoring and breaking shall not be acceptable. Joints between pavers shall be filled by sweeping sharp sand into the joints. When joints are filled, paver surfaces shall be swept clean of sand. Paver edgings shall be installed per manufacturer's recommendations.

After completion of the pavers, paver installation areas shall be thoroughly swept clean and surface shall be left unsoiled. Where required by the Engineer, surface shall be cleaned with water or an approved cleaner.

Protect newly laid pavers with plywood or carpeting as the work progresses. If additional leveling is required, you must protect the surface to avoid chipping.

Method of Measurement: BRICK PAVERS will be measured in place per square foot.

Basis of Payment: This work will be paid for at the contract unit price per square foot for BRICK PAVERS and include all materials, labor, setting bed, and accessories. Edge restraints and PORTLAND CEMENT UNDERLAYMENT will be paid for separately.

## GRANITE PAVERS

Description: This item shall consist of furnishing all labor, materials, tools and equipment required to construct natural stone granite paver crosswalks, in accordance with the drawings and as herein specified. In addition to the granite paving stone, the work shall include, but is not limited to, the furnishing mortar setting bed, grout, sealant and all setting accessories.

Except as modified herein, the work shall be done in accordance with applicable articles of the Standard Specifications at locations as shown on the plans or as directed by the Engineer.

### General Requirements:

### REFERENCES

ASTM C 97-02: Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone.  
ASTM C 119-04: Terminology Relating to Dimension Stone  
ASTM C 170-90 (1999): Test Method for Compressive Strength of Dimension Stone  
ASTM C 270-03: Specification for Mortar for Unit Masonry  
ASTM C 615-03: Specification for Granite Dimension Stone  
ASTM C 880-98: Test Method for Flexural Strength of Dimensional Stone

### DEFINITIONS

Definitions contained in ASTM C 119 apply to this Section.

Metric Conversions: The following metric conversions shall apply where English measurements are indicated in the text:

1. 1/16 inch (1.5 mm)
2. 1/8 inch (3 mm)
3. 3/16 inch (5 mm)
4. 1/4 inch (6 mm)
5. 5/16 inch (8 mm)
6. 3/8 inch (10 mm)
7. 1/2 inch (12 mm)
8. 5/8 inch (15 mm)
9. 13/16 inch (20 mm)
- 1 inch (25 mm)
10. 1-3/16 inches (30 mm)
11. 1-1/4 inches (32 mm)
12. 1-1/2 inches (40 mm)
13. 1-5/8 inches (40 mm)
14. 2 inches (50 mm)
15. 3 inches (75 mm)
16. 4 inches (100 mm)
17. 6 inches (150 mm)
18. 8 inches (200 mm)
19. 12 inches (300 mm)

## SUBMITTALS

**Product Data:** For each stone type and each manufactured product shown on Drawings or specified.

1. For each stone variety used on Project, include physical property data.

**Shop Drawings:** Show fabrication and installation details for stone:

1. Include dimensions and profiles of stone units.

**Samples:** Submit samples for each stone type required, exhibiting the full range of color characteristics expected.

1. Submit a minimum of 2 each, 12 inches x 12 inches in size, in each color and finish specified.
2. Submit a minimum of 2 each, 12 inches x 12 inches in size, in each color and finish specified.
3. In the case of more variegated stones, color photos shall be submitted in addition to the number of samples to show the full range of color and markings to be expected.

**Mortar Samples:** Full range of exposed color and texture.

**Sealant Samples:** For each type and color of joint sealant required.

**Preliminary Test Reports:** Submit test reports for proposed stones prior to final stone selection. Preliminary test reports shall be indicative of the stone to be proposed for the project.

1. Testing of production stone is required in addition to preliminary test reports.

**Certification:** Submit a letter of certification from the stone fabricator, stating the material being furnished is the specified material and there are sufficient reserves available to supply the project and furnish replacements if needed.

**Material Test Reports:** From a qualified independent testing agency, as follows:

1. Provide reports for each stone type.

**Qualification Data:** Submit qualification data as specified under Article, "Quality Assurance" for the following:

1. Installer
2. Fabricator

**Cold-Weather Procedures:** Detailed description of methods, materials, and equipment.

## QUALITY ASSURANCE

**Source Limitations for Stone:** Obtain each stone variety from a single quarry.

**Qualifications:**

1. **Installer Qualifications:** Engage experienced installer that has completed stone installation similar in material, design, and extent to that indicated for the project.

2. Fabricator Qualifications: Engage experienced fabricator that has completed stone fabrication similar in material, design, and extent to that indicated for the project.

Preconstruction Stone Testing: Engage an independent testing agency to perform the following testing for each stone variety:

1. Furnish test specimens that are representative of materials.
2. Physical Property Tests: ASTM standards specified for stone type.

#### DELIVERY, STORAGE, AND HANDLING

Store and handle materials to prevent deterioration or damage.

1. Stone shall be carefully packed and loaded for shipment using reasonable care and customary precautions against damage in transit. Material, which may cause staining or discoloration shall not be used for blocking or packing.
2. The stone shall be stacked on timber or platforms at least 4 inches above the ground. Care shall be taken to prevent staining or discoloration during storage.
3. If storage is to be for a prolonged period, polyethylene or other suitable plastic film shall be placed between wood and finished surfaces of completely dry stone.

Properly store cementitious materials. Do not use damp cementitious materials.

#### PROJECT CONDITIONS

Cold-Weather Requirements for Exterior Stone Paving: ACI 530.1/ASCE 6/TMS 602.

Hot-Weather Requirements for Exterior Stone Paving: ACI 530.1/ASCE 6/TMS 602:

#### Materials.

#### STONE SOURCE

Varieties and Source: Subject to compliance with requirements, provide stone of the following variety and from the following source:

1. Stone Quarrier: Cold Spring, 17482 Granite West Road  
Cold Spring MN 56320, 1 (800) 328-5040 [www.coldspringusa.com](http://www.coldspringusa.com).

#### GRANITE MATERIAL

Granite: ASTM C 615.

Cut stone from one block or contiguous, matched blocks in which natural markings occur.

Granite Paving Type A:

1. Rockville White 12" x 12" x 3" thickness.
2. Finish: Thermal

Granite Paving Type B:

1. Masabi Black – 12" x 24" x 3" thickness
2. Finish: Thermal

## MORTAR MATERIALS

Portland Cement: ASTM C 150, Type I or Type II, except Type III may be used for cold-weather construction.

Hydrated Lime: ASTM C 207.

Portland Cement-Lime Mix: ASTM C 150, Type I or Type III, and ASTM C 207.

Colored Portland Cement-Lime Mix: ASTM C 150, Type I or Type III; ASTM C 207; and mortar pigments.

Aggregate: ASTM C 144.

Latex Additive: Acrylic-resin water emulsion recommended by additive manufacturer for use with field-mixed Portland cement mortar bed.

Mortar Pigments: Natural and synthetic iron oxides. Use only pigments with a record of satisfactory performance in mortar and containing no carbon black.

Thin-Set Mortar: Latex-Portland Cement Mortar: ANSI A118.4.

1. Laticrete 254
2. Laticrete 3701

Water: Potable.

## GROUT

Grout Colors:

1. Match existing Marion Street Granite Crosswalk grout color

Polymer Modified Cement Grout: ANSI A118.7.

1. Polymer Type: Acrylic resin in liquid-latex form for addition to prepackaged dry-grout mix.

## ACCESSORIES

Cleavage Membrane:

1. Polyethylene sheeting, ASTM D 4397, 4.0 mils thick.
2. Unperforated asphalt felt, ASTM D 226, Type I (No. 15).

Reinforcing Wire: ASTM A 185 and ASTM A 82 except for minimum wire size.

Cork Joint Filler: Preformed strips, ASTM D 1752, Type II.

Cleaner: As recommended by stone producer.

## STONE FABRICATION

Select stone for intended use to prevent fabricated units from containing cracks, seams, and starts that could impair structural integrity or function.

Fabricate stone to comply with requirements indicated and with the following references:

1. Granite: NBGQA's "Specifications for Architectural Granite."
2. Dolomitic Limestone: MIA's "Dimension Stone - Design Manual."

Cut stone to produce pieces of thickness, size, and shape indicated, including details on Drawings and Shop Drawings.

1. Pattern: As indicated on Drawings.
2. Joint Width: 3/8", or as indicated on drawings

Carefully inspect finished stone units at fabrication plant for compliance with requirements. Replace defective units. Clean backs of stones to remove rust stains and iron particles.

#### MORTAR AND GROUT MIXES

Mortar: Comply with referenced standards and with manufacturers' written instructions.

1. Do not use admixtures. Do not use calcium chloride.
2. Combine mortar materials and mix thoroughly. Discard mortar when it has reached initial set.

Latex-Modified Portland Cement Setting Mortar: Proportion and mix Portland cement, aggregate, and latex additive to comply with manufacturer's written instructions.

Mortar-Bed Bond Coat: Mix neat cement and latex additive to a creamy consistency.

Latex-Modified Portland Cement Bond Coat: Proportion and mix Portland cement, aggregate, and latex additive to comply with manufacturer's written instructions.

Cement-Paste Bond Coat: Mix either neat cement or cement and sand with water to a consistency similar to that of thick cream.

Joint Grout: Comply with mixing requirements in referenced ANSI standards and with manufacturer's written instructions.

#### Paver Installation.

#### EXAMINATION

Examine surfaces indicated to receive stone.

Proceed with installation only after unsatisfactory conditions have been corrected.

#### PREPARATION

Sweep concrete substrates to remove dirt, dust, debris, and loose particles.

Remove substances from concrete substrates that could impair mortar bond.

Clean dirty or stained stone surfaces before setting.

1. Scrub with fiber brushes; drench with clear water.
2. Use mild cleaning compounds.



## INSTALLATION

Do necessary field cutting as stone is set. Cut lines straight and true and finish field-cut edges to match shop-cut edges.

1. Use power saws with diamond blades to cut stone.

Set stone to comply with Drawings and Shop Drawings.

Scribe and field-cut stone as necessary to fit at obstructions. Produce neat joints of size specified or indicated.

Expansion- and Control-Joint Installation: Locate and install according to Drawings and Shop Drawings.

## INSTALLATION TOLERANCES

Variation in Line: Do not exceed 1/4 inch in 20 feet maximum.

Variation in Joint Width: Do not vary joint thickness more than 1/16 inch or 1/4 of nominal joint width, whichever is less.

Variation in Surface Plane: Do not exceed 1/4 inch in 20 feet or 3/8 inch maximum from level or slope indicated.

Variation in Plane between Adjacent Units (Lipping): Do not exceed 1/32-inch difference between planes of adjacent units.

## INSTALLATION OF STONE DIRECTLY OVER CONCRETE

Saturate concrete with clean water several hours before placing setting bed. Remove surface water about one hour before placing setting bed.

Apply mortar-bed bond coat to damp concrete and broom to provide an even coating that completely covers the concrete. Do not exceed 1/16-inch thickness. Limit area of mortar-bed bond coat to avoid its drying out before placing setting bed.

Place reinforcing wire mesh over concrete, lapped at joints by at least one full mesh and supported so mesh becomes embedded in middle of setting bed. Hold edges back from vertical surfaces about 1/2 inch.

Apply mortar bed to finished elevations indicated immediately after applying mortar-bed bond coat.

Mix and place only that amount of mortar bed that can be covered with stone before initial set. Cut back, bevel edge, and discard material that has reached initial set before stone can be placed.

Place stone before initial set of mortar occurs. Immediately before placing stone on setting bed, apply uniform 1/16-inch thick bond coat to bed or to back of each stone unit.

Tamp and beat stone with a wooden block or rubber mallet.

1. Set each unit in a single operation before initial set of mortar; do not return to areas already set.

2. Rake out joints to depth required to receive grout or pointing mortar as units are set.
3. Point joints after setting.

#### GROUTING

Polymer-Modified Cement Grout for Stone Joints: ANSI A108.10 and manufacturer's written instructions.

1. Do not use sanded grout for polished stone.
2. Grout joints as soon as possible after initial set of setting bed. Finish joints by tooling to produce a slightly concave polished joint, free of drying cracks.
3. Maintain grout in damp condition for seven days.

#### CLEANING

Clean stone as work progresses. Remove mortar, sealant, and stains before tooling joints.

Final Cleaning: Clean stone as recommended by fabricator or stone producer.

1. Clean all finished stonework with a mild detergent using a fiber brush.
2. After cleaning, rinse with clean water.
3. Do not use acid or other caustic materials.

When cleaning is completed, remove temporary protection.

Method of Measurement: GRANITE PAVERS will be measured in place per square foot.

Basis of Payment: This work will be paid for at the contract unit price per square foot for GRANITE PAVERS and include all materials, labor, mortar setting bed, and accessories. Edge restraints and PORTLAND CEMENT UNDERLAYMENT will be paid for separately.

#### PAVER BLOCKS, SPECIAL

Description: This item shall consist of furnishing all labor, materials, tools and equipment required to construct bluestone sidewalk paving, in accordance with the drawings and as herein specified. In addition to the bluestone pavers, the work shall include, but is not limited to, setting bed, weep holes, and all setting accessories.

Except as modified herein, the work shall be done in accordance with applicable articles of the Standard Specifications at locations as shown on the plans or as directed by the Engineer.

General Requirements:

#### SUBMITTALS

Samples: Five individual samples 12" square showing representative color variation and texture range expected in finished installation.

Submit manufacturer's certification of conformance to the following requirements:

1. Absorption - ASTM C97, 1.5% maximum after 48 hours
2. Compressive Strength - ASTM C170, Minimum 30,000 kPa
3. Abrasion Index - ASTM C241, 28.84

Certifications: Submit certifications that all bluestone pavers will meet or exceed designated specifications.

#### DELIVERY, STORAGE AND HANDLING

Delivery: Deliver materials in manufacturer's original, unopened, undamaged packaging with identification labels intact.

1. Unload pavers with proper equipment, so no damage occurs to pavers.

Storage: Store materials so they are protected from contamination by foreign substances and excessive moisture.

1. Store pavers to prevent damage and staining.
2. Do not store bedding sand and jointing sand on compacted aggregate base course or in areas that channel water into the sand.
3. Cover bedding sand and jointing sand with waterproof covering. Secure the covering in place.

#### QUALIFICATIONS OF INSTALLER

Installer shall have a minimum of five years of experience installing bluestone paving.

Installer shall submit for approval, a list of projects similar in nature and size that establishes his/her ability to complete this project. A resume for the project-superintendent should be submitted to establish his/her ability to complete the project. If for any reason, the qualifications are not acceptable, work shall not commence until an acceptable installer is found.

Pre-Installation Meeting(s):

1. Conduct pre-installation meeting [two weeks] prior to commencing work of this Section to verify project requirements, substrate condition, coordination with other trades and installation instructions.
2. Confirm status of ordered material.

#### Material:

Bluestone paving shall match existing Marion Street sidewalk paving in material, dimensional size, color, laying pattern and workmanship.

Thermal Pennsylvania Bluestone Pavers:

1. Finish: Thermal smooth and flat surface.
2. Thickness: Natural thickness, 2-1/4 inches or 3 inches, see plans for location.
3. Nominal Face Size: Sized in 6 inch increments as follows
  - a. 18 inches by 30 inches.

The bluestone pavers shall have a thermal surface finish, edges smooth sawn and a rubbed finish on the bottom.

Sand Setting Bed: Where sand setting bed is indicated sand shall meet the requirements of Section 1003 of the Standard Specifications for FA-6. Thickness of setting bed shall vary to allow the surface of the pavers to be at the required finished grade. The paver joint material shall be dry sand conforming to ASTM C-144 with all particles passing the No. 16 sieve.

Mortar Setting Bed: Where mortar setting bed is indicated mortar shall contain the following ingredients:

Portland Cement: ASTM C 150, Type I or Type II, except Type III may be used for cold-weather construction.

Hydrated Lime: ASTM C 207.

Portland Cement-Lime Mix: ASTM C 150, Type I or Type III, and ASTM C 207.

Colored Portland Cement-Lime Mix: ASTM C 150, Type I or Type III; ASTM C 207; and mortar pigments.

Aggregate: ASTM C 144.

Latex Additive: Acrylic-resin water emulsion recommended by additive manufacturer for use with field-mixed portland cement mortar bed.

Mortar Pigments: Natural and synthetic iron oxides. Use only pigments with a record of satisfactory performance in mortar and containing no carbon black.

Thin-Set Mortar: Latex-Portland Cement Mortar: ANSI A118.4.

3. Laticrete 254

4. Laticrete 3701

Water: Potable.

## GROUT

Grout Colors:

1. Match existing Marion Street Granite Crosswalk grout color

Polymer Modified Cement Grout: ANSI A118.7.

2. Polymer Type: Acrylic resin in liquid-latex form for addition to prepackaged dry-grout mix.

Construction. No paver setting work shall be performed when the underlayment has free moisture, ice, or snow, or when the underlayment is frozen. Concrete underlayment shall be sound, clean, and free from debris and materials or substances that will hinder the bond of the setting bed. The top surface of concrete underlayment slab shall not vary more than one half (1/2) inch of its proposed elevation. See detail plans for cross section of typical bluestone paving installation.

To reduce dust during paver installation, pavers shall only be cut using wet saws. No dry cutting is permitted. Cut pavers shall be placed in areas shown on the details in the plans.

Sand Setting Bed. Sand shall be spread over the PCC base course to the depth indicated on the plans as a setting bed for pavers. The PORTLAND CEMENT CONCRETE UNDERLAYMENT will be paid for separately. Sand shall be spread so that there is a minimum ¾ in. thickness and no more than a maximum 1 in. thickness. Sand shall be leveled to required slope and grade. Bed shall not be compacted until pavers are installed. Surface tolerance shall be within 1/4 in. of

required grade as measured with a 10 ft. straightedge in both the transverse and longitudinal directions.

Mortar Setting Bed. Saturate concrete with clean water several hours before placing setting bed. Remove surface water about one hour before placing setting bed.

Apply mortar-bed bond coat to damp concrete and broom to provide an even coating that completely covers the concrete. Do not exceed 1/16-inch thickness. Limit area of mortar-bed bond coat to avoid its drying out before placing setting bed.

Place reinforcing wire mesh over concrete, lapped at joints by at least one full mesh and supported so mesh becomes embedded in middle of setting bed. Hold edges back from vertical surfaces about 1/2 inch.

Apply mortar bed to finished elevations indicated immediately after applying mortar-bed bond coat.

Mix and place only that amount of mortar bed that can be covered with stone before initial set. Cut back, bevel edge, and discard material that has reached initial set before stone can be placed.

Place stone before initial set of mortar occurs. Immediately before placing stone on setting bed, apply uniform 1/16-inch thick bond coat to bed or to back of each stone unit.

Tamp and beat stone with a wooden block or rubber mallet.

1. Set each unit in a single operation before initial set of mortar; do not return to areas already set.

Rake out joints to depth required to receive grout or pointing mortar as units are set.

Point joints after setting.

Paver Installation. Setting bed shall be protected from damage prior to setting pavers. Pavers shall be set on sand setting bed. Setting shall be done by competent workmen under adequate supervision. Pavers with chips, cracks, or other structural or aesthetic defects or those rejected by the Engineer shall not be used. Pavers shall be set true to the required lines and grades in the pattern detailed on the Plans. Pavers shall be tightly butted. Joints between pavers shall be uniform and shall not exceed 1/16 in. There shall be no raised edges, either pavers or materials adjacent to pavers that could allow someone to trip. The tolerance for such edges shall be 0" - 1/16" maximum in range.

After a sufficient area of pavers has been installed, the pavers shall be compacted by running a mechanical vibratory compactor over the paved surface until the pavers are uniformly leveled, true to grade, and totally immobilized. Where required, pavers shall be accurately cut with a masonry or concrete saw. Cut edges shall be plumb and straight. Scoring and breaking shall not be acceptable. Joints between pavers shall be filled by sweeping polymeric sand into the joints. When joints are filled, paver surfaces shall be swept clean of sand.

After completion of the pavers, paver installation areas shall be thoroughly swept clean and surface shall be left unsoiled. Where required by the Engineer, surface shall be cleaned with water or an approved cleaner.

Protect newly laid pavers with plywood or carpeting as the work progresses. If additional leveling is required, you must protect the surface to avoid chipping.

Method of Measurement: PAVER BLOCKS, SPECIAL will be measured in place per square foot.

Basis of Payment: This work will be paid for at the contract unit price per square foot for PAVER BLOCKS, SPECIAL and include all materials, labor, setting bed, and accessories. Edge restraints and PORTLAND CEMENT CONCRETE UNDERLAYMENT will be paid for separately.

## **PORTLAND CEMENT CONCRETE UNDERLAYMENT**

This work shall be done in accordance with Section 353 of the Standard Specifications except as modified herein.

353.01 Description. Revise this Article to read:

**"353.01 Description.** This work shall include installing a Portland cement concrete underlayment under a brick paver sidewalk." The underlayment section shall include a provision for one inch weep holes spaced at 12 inch intervals located a minimum of 4 inches from any contraction or expansion joint.

353.02 Materials. Add the following to the end of this Article:

"Concrete underlayment shall be constructed of high early strength concrete (Class PP) to minimize construction duration."

353.13 Basis of Payment. Revise this Article to read:

**"353.13 Basis of Payment.** This work will be paid for at the contract unit price per square yard for PORTLAND CEMENT CONCRETE UNDERLAYMENT, of the thickness specified."

## **PAVE-EDGE PAVER RESTRAINING SYSTEM**

Description: The work shall include supply and installation of aluminum edge restraint where indicated on drawing or as needed to secure unit pavers in place where no concrete border or ridged surface abuts paving. Aluminum edge restraint shall be secured to PCC underlayment with expanding wedge anchors

Submittals: Prior to installation, Contractor shall submit a one foot long sample of aluminum edging and one wedge anchor.

General Requirements: Paver edge restraint shall be placed on smooth PCC underlayment that matches the proposed grade of the finish paving elevation. PCC underlayment shall cure a minimum of 14 days prior mounting of edge restraint. Edge restraint shall be installed in straight segments and tight against the edge of the proposed paving material.

Aluminum Edge Restraints: Manufacturer's standard L-shaped, 1/8-inch thick by 2-1/4-inch high extruded-aluminum edging with 1-1/2-inch x 4-inch flange pressed from face to receive expanding wedge anchors at 12 inches o.c. Edge restraint shall be made of 6063 aluminum alloy with T-5 hardness and come in minimum 8-foot length segments. Subject to compliance with requirements, provide products by one of the following:

Brickstop Corporation.  
Curv-Rite, Inc.  
Permaloc Corporation.  
Sure-loc Edging Corporation.

Expanding Wedge Anchors: anchors shall be hot dipped galvanized 3/8" x 3" with hex nut and washer. Wedge anchor design shall allow them to be firmly anchor fixtures in concrete by inserting them in a drilled hole. Anchors shall be installed on 12-inch centers. Subject to compliance with requirements, provide products by one of the following:

1. Concrete Fastening Systems.
2. Hilti
3. Strongtie

Basis of Payment: This work shall be paid for at the contract unit price per FOOT for PAVE-EDGE PAVER RETAINING SYSTEM, measured in place, which price shall include all necessary material, equipment and labor to perform the operation as specified herein.

#### **SIDEWALK REPAIR (SPECIAL)**

Description: This work will consist of the removal of the existing Thermal Pennsylvania Bluestone Pavers and the existing underlying sand bedding beneath the pavers and the replacement of those Thermal Pennsylvania Bluestone Pavers on a new one inch sand bedding after the existing Portland Cement Concrete Underlayment has been removed and replaced at a raised elevation that is compatible with the proposed finished grades of the Bluestone Pavers, also termed PAVER BLOCKS, SPECIAL in these plan documents. The limits of the paver removal shall be as shown on the plans or as determined by the Engineer.

The Thermal Pennsylvania Bluestone Pavers shall be removed without damage and temporarily stored until it can be replaced according to the procedures prescribed for handling and storing PAVER BLOCKS, SPECIAL. Any existing Bluestone Pavers that are damaged during the removal and replacement work shall be disposed of and replaced at the Contractor's expense.

The Thermal Pennsylvania Bluestone Pavers shall be reinstalled on a 1 inch sand bedding placed upon PORTLAND CEMENT CONCRETE UNDERLAYMENT as prescribed according to all installation procedures specified for PAVER BLOCKS, SPECIAL.

Method of Measurement: Sidewalk Repair (Special) shall be measured in place on a square foot basis according to the limits of existing Thermal Bluestone Pavers that are removed.

Basis of Payment: This work will be paid for at the contract unit price per square foot for SIDEWALK REPAIR (SPECIAL). The unit price shall include all materials, labor, setting bed, and accessories.

#### **CURB AND GUTTER SPECIAL**

Description: This item shall consist of furnishing all labor, materials, tools and equipment required to construct natural stone granite curb and gutter, in accordance with the drawings and as herein specified. Granite curb and gutter shall match the materials and workmanship of the existing Marion Street granite curb and gutter. In addition to the stone curb and gutter, the work shall include, but is

not limited to, the furnishing concrete base underlayment, mortar setting bed, stainless steel pins and all mounting and setting accessories.

Except as modified herein, the work shall be done in accordance with applicable articles of the Standard Specifications at locations as shown on the plans or as directed by the Engineer.

General Requirements:

Stone Quarrier: Company specializing in manufacturing products specified in this section with minimum five years documented experience.

Stone Masonry Company: Company specializing in performing Work of this section with minimum five years documented experience.

Design Requirements: Perform Work in accordance with ACI 530/ASCE 5/TMS 402 Building Code Requirements for Masonry Structures, ACI 530.1/ASCE 6/TMS 602 Specifications for Masonry Structures and the applicable Building Code.

Design foundations, supporting walls, anchorage, spans, fastening, and joints under direct supervision of Professional Engineer experienced in design of this Work and licensed at Project location.

Preconstruction Meetings: Conduct preconstruction meetings including the Engineer, Contractor, stone masonry subcontractor to verify project requirements, substrate conditions, manufacturer's installation instructions and other requirements.

REFERENCES

- ASTM A 153 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- ASTM A 580 - Standard Specification for Stainless Steel Wire.
- ASTM A 666 - Standard Specification for Austenitic Stainless Steel Sheet, Strip, Plate, Flat Bar.
- ASTM C 91 - Standard Specification for Masonry Cement.
- ASTM C 97 - Standard Specification for Absorption and Bulk Specific Gravity of Dimension Stone.
- ASTM C 99 - Standard Specification for Modulus of Rupture of Dimension Stone.
- ASTM C 144 - Aggregate for Masonry Mortar.
- ASTM C 150 - Standard Specification for Portland Cement.
- ASTM C 170 - Standard Specification for Compressive Strength of Dimension Stone.
- ASTM C 207 - Standard Specification for Hydrated Lime for Masonry Purposes.
- ASTM C 270 - Mortar for Unit Masonry.
- ASTM C 615 - Standard Specifications for Granite Dimension Stone.
- ASTM C 616 - Standard Specification for Quartz-Based Dimension Stone.
- ASTM C 780 - Preconstruction Evaluation of Mortar for Plain & Reinforced Masonry.
- ACI 530/ASCE 5/TMS 402 - Building Code Requirements for Masonry Structures.
- ACI 530.1/ASCE 6/TMS 602 - Specifications for Masonry Structures.
- National Concrete Masonry Association TEK 8-2A for masonry cleaning.



## SUBMITTALS

Manufacturer's data sheets on each product to be used, including:

1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Installation methods.
4. Cleaning methods.
5. Shop drawings.

Design Data: Submit design mix when Property specification of ASTM C270 is to be used, with required environmental conditions, and admixture limitations.

Stone Samples: Submit two full-size samples of stone curb and gutter of dimensions, color and finish indicated, minimum size 12 inches in length.

Samples: Submit samples of mortar representing actual mortar color and color range.

Quarrier's Certificate: Certify stone properties and mortar mix will conform to specified requirements.

### Materials:

Stone Quarrier: Cold Spring, 17482 Granite West Road  
Cold Spring MN 56320, 1 (800) 328-5040 [www.coldspringusa.com](http://www.coldspringusa.com).

Stone Color: Shall be "Masabi Black" matching the existing stone curb and gutter used on Marion Street.

Other Anchors in Direct Contact with Stone: ASTM A 666, Type 304, stainless steel of sizes and configurations required for support of stone and applicable superimposed loads.

1. Setting Buttons and Shims: Lead or Plastic.

Masonry Cement: Complying with ASTM C91:

1. Type M.
2. Submit samples to Landscape Architect.

Mortar Aggregate: Complying with ASTM C144, standard masonry type.

Water: Clean and potable.

Mortar Mixes:

1. Mortar for Structural Masonry: Complying with ASTM C270, using Proportion Specification.
  - a. Type M.
2. Mortar Mixing:
  - a. Mix mortar ingredients in accordance with ASTM C270. Mix only in quantities needed for immediate use.

b. Do not use anti-freeze compounds to lower freezing point of mortar.

3. Testing of Mortar Mix: In accordance with ASTM C780, Annex A4, for mortar aggregate ratio and ASTM C 780, Annex A5, for mortar water content.

Installation:

Do not begin installation until backing structure is plumb, bearing surfaces are level and substrates are clean and properly prepared.

Verify that built-in items are in proper location, and ready for roughing into stone masonry.

Notify Engineer of unsatisfactory preparation before proceeding.

Stone must be water saturated, surface-dry when placed. Water down the stone 24 hours prior to placement until saturated. Reapply water to keep stone saturated as required by weather conditions.

Coordinate placement of reinforcement, anchors and accessories.

Clean all built-in items of loose rust, ice, mud, or other foreign matter before incorporating into work.

If required, provide temporary bracing during installation of masonry work. Maintain bracing in place until structure provides permanent support.

Maintain masonry courses to uniform dimension(s). Form vertical and horizontal joints of uniform thickness.

Pattern Bond:

1. Lay stone with the bedface, splitface or weather edge exposed. Take care to avoid a concentration of any one color to any one wall surface.
3. Maintain an approximate 1/2 inch (12.5 mm) joint, as stone allows.
4. Lay out work in advance and distribute color range of stone uniformly over total work area.

Anchoring: Anchor stone to concrete sub-base with stainless steel pins as shown on the Construction Documents and as recommended by supplier. As a minimum tie stone to sub-base as follows:

1. Provide minimum two stainless steel pins per section of stone.
2. Maximum spacing between pins shall be 4 feet o.c. horizontally.
3. Pins shall be imbedded in concrete sub-base and anchored with two-part epoxy to a minimum depth of 3 inches.

Joining Work: Where fresh masonry joints partially set masonry.

1. Remove loose stone and mortar.
2. Clean and lightly wet surface of set masonry.
3. To avoid a horizontal run of masonry rack back 1/2 (12.5 mm) the length of stone in each course.
4. Tothing is not permitted.

Joints:

1. Lay stone with an approximate 1/2 inch (12.5 mm) mortar joint, as stone allows.
4. Tool joints when "thumb-print" hard with a round jointer slightly larger than the width of the joint.
5. Trowel-point or concave tool exterior joints below grade.
6. Flush cut joints to be finished with a soft brush only.
7. Retempering or mortar is not permitted.
8. Use non-corrosive stone shims as required to maintain uniform joint thickness.

Control and Expansion Joints: Keep joints open and free of debris. Coordinate control joint in accordance sealant performance.

Sealant Recesses: Provide open joint 3/4 inch (19 mm) deep and 1/4 inch (6 mm) wide, where masonry meets doors, windows and other exterior openings. Coordinate sealant joints in accordance with sealant performance.

Protection:

1. Protect installed products until completion of project.
2. Cover the top of unfinished stone masonry work to protect it from the weather.
3. Touch-up, repair or replace damaged products before Substantial Completion.

Cleaning: Promptly remove excess wet mortar from the face of the stone as work progresses. Clean stone masonry with a stiff nylon brush and clean water only. See Cold Spring Granite Company recommendations for cleaning of stonework if it is necessary to clean with chemicals.

Method of Measurement: CURB AND GUTTER (SPECIAL) shall be measured as the actual number of linear feet of planter curb furnished and constructed in place, along the face of the curb.

Basis of Payment: This item of work shall be paid for at the contract unit price per linear foot, measured as specified, for CURB AND GUTTER (SPECIAL).

## **PLANTER CURB**

Description: This item shall consist of furnishing all labor, materials, tools and equipment required to construct natural stone granite planter curb, in accordance with the drawings and as herein specified. In addition to the stone curb, the work shall include, but is not limited to, the furnishing concrete base underlayment, mortar setting bed, stainless steel pins and all mounting and setting accessories.

Except as modified herein, the work shall be done in accordance with applicable articles of the Standard Specifications at locations as shown on the plans or as directed by the Engineer.

General Requirements:

Stone Quarrier: Company specializing in manufacturing products specified in this section with minimum five years documented experience.

Stone Masonry Company: Company specializing in performing Work of this section with minimum five years documented experience.

Design Requirements: Perform Work in accordance with ACI 530/ASCE 5/TMS 402 Building Code Requirements for Masonry Structures, ACI 530.1/ASCE 6/TMS 602 Specifications for Masonry Structures and the applicable Building Code.

Design foundations, supporting walls, anchorage, spans, fastening, and joints under direct supervision of Professional Engineer experienced in design of this Work and licensed at Project location.

Preconstruction Meetings: Convene a pre-installation meeting at the site including the Engineer, Contractor, stone masonry subcontractor at least one week prior to commencing work of this section. The purpose of the meeting shall be to review methods and sequence of all stone work, special details and conditions, standards of workmanship, testing and quality control requirements, and other topics related to the work of this section.

#### REFERENCES

ASTM A 580 - Standard Specification for Stainless Steel Wire.  
ASTM A 666 - Standard Specification for Austenitic Stainless Steel Sheet, Strip, Plate, Flat Bar.  
ASTM C 91 - Standard Specification for Masonry Cement.  
ASTM C 97 - Standard Specification for Absorption and Bulk Specific Gravity of Dimension Stone.  
ASTM C 99 - Standard Specification for Modulus of Rupture of Dimension Stone.  
ASTM C 144 - Aggregate for Masonry Mortar.  
ASTM C 150 - Standard Specification for Portland Cement.  
ASTM C 170 - Standard Specification for Compressive Strength of Dimension Stone.  
ASTM C 207 - Standard Specification for Hydrated Lime for Masonry Purposes.  
ASTM C 270 - Mortar for Unit Masonry.  
ASTM C 615 - Standard Specifications for Granite Dimension Stone.  
ASTM C 616 - Standard Specification for Quartz-Based Dimension Stone.  
ASTM C 780 - Preconstruction Evaluation of Mortar for Plain & Reinforced Masonry.  
ACI 530/ASCE 5/TMS 402 - Building Code Requirements for Masonry Structures.  
ACI 530.1/ASCE 6/TMS 602 - Specifications for Masonry Structures.  
National Concrete Masonry Association TEK 8-2A for masonry cleaning.

#### SUBMITTALS

Manufacturer's data sheets on each product to be used, including:

2. Preparation instructions and recommendations.
3. Storage and handling requirements and recommendations.
4. Installation methods.
5. Cleaning methods.
6. Mortar
7. Sealant

Shop Drawings: Show fabrication and installation details for stone curbing:

1. Include dimensions and profiles of stone units.
2. Show locations and details of joints.
3. Show locations and details of anchors.

Design Data: Submit design mix when Property specification of ASTM C270 is to be used, with required environmental conditions, and admixture limitations.

Stone Samples: Submit two full-size samples of stone curb of dimensions, color and finish indicated, minimum size 12 inches in length.

Samples: Submit samples of mortar representing actual mortar color and color range.

Quarrier's Certificate: Certify stone properties and mortar mix will conform to specified requirements.

Materials:

Stone Quarrier: Cold Spring, 17482 Granite West Road  
Cold Spring MN 56320, 1 (800) 328-5040 [www.coldspringusa.com](http://www.coldspringusa.com).

Stone Color: Shall be "Masabi Black" matching the existing stone curb used on Marion Street.

Other Anchors in Direct Contact with Stone: ASTM A 666, Type 304, stainless steel of sizes and configurations required for support of stone and applicable superimposed loads.

Setting Buttons and Shims: Lead or Plastic.

MORTAR:

Masonry Cement: Complying with ASTM C91:

1. Type M.
2. Submit samples to Engineer.

Mortar Aggregate: Complying with ASTM C144, standard masonry type.

Water: Clean and potable.

MIXES

Mortar Mixes:

1. Mortar for Structural Masonry: Complying with ASTM C270, using Proportion Specification.
  - a. Type M.
2. Mortar Mixing:
  - a. Mix mortar ingredients in accordance with ASTM C270. Mix only in quantities needed for immediate use.
3. Do not use anti-freeze compounds to lower freezing point of mortar.
4. Testing of Mortar Mix: In accordance with ASTM C780, Annex A4, for mortar aggregate ratio and ASTM C 780, Annex A5, for mortar water content.

Installation:

Do not begin installation until backing structure is plumb, bearing surfaces are level and substrates are clean and properly prepared.

Verify that built-in items are in proper location, and ready for roughing into stone masonry.

Notify Engineer of unsatisfactory preparation before proceeding.

Stone must be water saturated, surface-dry when placed. Water down the stone 24 hours prior to placement until saturated. Reapply water to keep stone saturated as required by weather conditions.

Coordinate placement of reinforcement, anchors and accessories, flashings and other moisture control products supplied by other sections.

Clean all built-in items of loose rust, ice, mud, or other foreign matter before incorporating into the wall. All ferrous metal built into the wall shall be primed or galvanized.

If required, provide temporary bracing during installation of masonry work. Maintain bracing in place until building structure provides permanent support.

Install veneer stone and mortar in accordance with ACI 530.1/ASCE 6/TMS 602 Specifications for Masonry Structures.

Maintain masonry courses to uniform dimension(s). Form vertical and horizontal joints of uniform thickness.

Pattern Bond:

1. Lay stone with the bedface, splitface or weather edge exposed. Take care to avoid a concentration of any one color to any one wall surface.
2. Maintain an approximate 1/2 inch (12.5 mm) joint, as stone allows.
3. Lay out work in advance and distribute color range of stone uniformly over total work area.

Anchoring: Anchor stone to concrete sub-base with stainless steel pins as shown on the Construction Documents and as recommended by supplier. As a minimum tie stone to sub-base as follows:

1. Provide minimum two stainless steel pins per section of stone.
2. Maximum spacing between pins shall be 4 feet o.c. horizontally.
3. Pins shall be imbedded in concrete sub-base and anchored with two-part epoxy to a minimum depth of 3 inches.

Joining Work: Where fresh masonry joints partially set masonry.

1. Remove loose stone and mortar.
2. Clean and lightly wet surface of set masonry.
3. To avoid a horizontal run of masonry rack back 1/2 (12.5 mm) the length of stone in each course.
4. Tothing is not permitted.

Joints:

1. Lay stone with an approximate 1/2 inch (12.5 mm) mortar joint, as stone allows.
2. Tool joints when "thumb-print" hard with a round jointer slightly larger than the width of the joint.
3. Trowel-point or concave tool exterior joints below grade.
4. Flush cut joints to be finished with a soft brush only.
5. Re-tempering or mortar is not permitted.
6. Use non-corrosive stone shims as required to maintain uniform joint thickness.

**Control and Expansion Joints:** Keep joints open and free of debris. Coordinate control joint in accordance sealant performance.

**Sealant Recesses:** Provide open joint 3/4 inch (19 mm) deep and 1/4 inch (6 mm) wide, where masonry meets doors, windows and other exterior openings. Coordinate sealant joints in accordance with sealant performance.

**Protection:**

1. Protect installed products until completion of project.
2. Cover the top of unfinished stone masonry work to protect it from the weather.
3. Touch-up, repair or replace damaged products before Substantial Completion.

**Cleaning:** Promptly remove excess wet mortar from the face of the stone as work progresses. Clean stone masonry with a stiff nylon brush and clean water only. See Cold Spring Granite Company recommendations for cleaning of stonework if it is necessary to clean with chemicals.

**Method of Measurement:** PLANTER CURB shall be measured as the actual number of linear feet of planter curb furnished and constructed in place, along the face of the curb.

**Basis of Payment:** This item of work shall be paid for at the contract unit price per linear foot, measured as specified, for PLANTER CURB.

## **TREE FRAME AND GRATES**

**Description:** Work under this item must consist of furnishing and installing the cast iron tree grates, grate frame, P.C.C thickened slab, and 2" depth crushed bluestone chips, as shown on the plans or as ordered by the Engineer, and specified herein, and must conform to the requirements of applicable portions of the Standard Specifications for Road and Bridge Construction.

### **General Requirements:**

#### **Material**

The material must be gray iron castings conforming to A.S.T.M. A48 or A-48-75, class 35 or 35B, and Article 1006.14 of the Standard Specifications. Concrete must be Class SI and conform to the requirements of Section 1020 of the Standard Specifications.

#### **Design**

Grate pattern must comply with ADA Guidelines for equal access. Tree grates will be 1" thick at edge with accompanying frame. Grate will consist of four sections with 11" minimum diameter opening for trees and expandable to 19". Grate openings must meet or exceed ADA Standard. Grate dimensions will be specified in plans or by the Engineer. Grate sections must be able to be bolted together with tamperproof bolts, and the grate must also be bolted to the frame with tamperproof bolts.

#### **Frame**

Frame must be steel frame coordinate coordinated with grate dimensions, surrounding the entire perimeter of the tree pit. Frame must be manufactured with anchor tabs for concrete installation.

**Finish (applies to all tree grates)**

1. Grey iron, ASTM A48

2. Surface Preparation :

The top surface must be cleaned in accordance with Section 506 of the Standard Specifications for Method 2 (power or hand tool cleaning) and must be free of all loose rust and loose mill scale.

3. Coating:

Before installation, in an effort to reduce the appearance of oxidation, all surfaces (top, bottom and edges) of the grates are to be coated and rubbed with two applications of a Type 1 Membrane Curing Compound meeting the requirements of Article 1022.01 of the Standard Specifications, or alternative compound as approved by the Engineer.

Surface preparation and coating will not be measured and paid for separately but will be included in the cost of all items listed herein.

**Shop Drawings**

Shop drawings of all items related to the manufacture and installation of the tree grate and frame must be submitted and approved by Engineer before fabrication.

**Manufacturer**

Tree grates can be supplied by the following manufacturer:

East Jordan Iron Works

And must match the following model: 8954-4 Plaza Assembly – 4' x 8'

**Fasteners**

Tree grate halves must be joined together with tamper resistant bolts and fastened to grate frame with tamper resistant bolt assembly packages as provided by the manufacturer.

**Inspection**

Installation assumes responsibility for performance.

**Surface conditions**

Examine frame, concrete ledge, or ground surface to receive grate. The seat for the grates must be cleaned prior to setting the grates. Correct conditions to comply with manufacturer's recommended installation procedures.

**Opening to receive grates**

Sub-base granular material Type B must be placed and compacted to 95% proctor prior to installation of frame. Frame will then be placed on top of compacted sub-base surface. Wood forms must be placed inside frame to prevent concrete seepage into pit area, and expansion joints place on the outside of the frame. Coordinate frame placement with bluestone paving detail and installation. The installation of Sub-base Granular Material Type B will not be paid for separately but will be incidental to the cost of these items.

If installing grate at back of curb, a C-channel must be installed at curb to accept tree grate frame. Hilti-type Anchoring system for C-channel must have a minimum shear capacity of 12 kips live wheel load. Detailed product information must be submitted for approval prior to installation.



**Join Grate Halves**

Bring tree grate halves together around tree at a level to allow easy access to underside. Join sections at preformed holes using temper-resistant bolt packages provided by manufacturer as suggested. Lower grate into place and bolt to frame with tamper-proof resistant bolts. If grate manufacturer cannot accomplish this, then the grates and frame must be tapped, field drilled, and bolted on site. The cost for this work and equipment will be incidental to these items.

**Warranty**

Manufacturer's written warranty must be handed over to Engineer prior to installation of grates.

**Material under Grate**

Mulch must be crushed bluestone chips ¼" to ½" dia., 2" in depth, free of foreign materials, as distributed by Robert Schwake Stone Co., INC. of Desplaines, Illinois as suggested. The cost of furnishing and installing mulch will be incidental to these items.

The Contractor must remove all litter and plant debris before mulching. The Contractor must repair grade by raking and adding Planter Soil Mix as needed, before mulching. Care must be taken not to bury leaves, stems, or vines under mulch material.

All finished mulch areas must be left smooth and level to maintain a uniform surface and appearance. All tree grate areas or work areas must be clean of debris and mulch, prior to leaving the site.

**Method of Measurement:** TREE FRAME AND GRATES will be measured for payment per each tree pit constructed, complete in place.

**Basis of Payment:** The work under this item will be paid for at the contract unit price per each as shown in the Schedule of Unit Prices for TREE FRAME AND GRATES which price will include; all necessary excavation, furnishing and placing the porous base, forms, reinforcement, concrete, and any other work needed to complete the construction of the tree grate supports. No separate measurement nor payment must be made for Class SI Concrete, castings, frames or other appurtenant work, the cost of which will included in the unit price each for TREE FRAME AND GRATES.

**BICYCLE RACKS TO BE MOVED**

**Description:** This item must consist of removal, storage, and disposal of existing bike racks and mounting hardware.

**General requirements:**

Contractor is responsible for carefully removing, and coordinating delivery and storage of existing bicycle rack with the Village of Oak Park. The Village of Oak Park will coordinate the determination of salvage potential of existing racks, as well as the determination of abandoned bicycles attached to existing racks. If existing bicycles are still attached to the rack, the contractor will remove remaining bicycles and will transport them to a location determined by the Village.

Removal and transportation of abandoned bicycles is incidental to the cost of BICYCLE RACKS TO BE MOVED.

**Method of Measurement:** BICYCLE RACKS TO BE MOVED will be measured per each bike rack.

**Basis of Payment:** BICYCLE RACKS TO BE MOVED will be paid for at the contract unit price for each bicycle rack and will include the cost of removal, storage and disposal of existing racks including mounting hardware, and the removal and transportation of abandoned bicycles.

## **BICYCLE RACKS**

**Description:** This work must consist of furnishing and installing a new bicycle racks at the locations specified in the Contract plans or as directed by the Engineer.

### **General requirements:**

Each bicycle rack will be placed at the location indicated in the plans. The locations will be field marked and verified for approval by the Engineer. Removal of existing racks and abandoned bicycles attached to existing racks will be addressed under the item BICYCLE RACKS TO BE MOVED.

### **Materials:**

Materials must be as specified in the plans and must be "BRUSHED STAINLESS STEEL" finish, stainless steel bicycle rack, by the following manufacturer:

Landscape Forms

Model shall be the Landscape Forms "RING".

FINISH- Finish must be brushed stainless steel finish

MOUNTING – shall be embedded installation as indicated in detail

### **Submittals**

Bicycle Rack- Shop drawings or catalog cut.  
Certifications -

1. Submit manufacturer's certification that the tubing and coatings meet the project specifications.
2. Prior to production, the manufacturer of the bicycle racks is to submit certification that the steel to be used is in compliance with the "Steel Products Procurement Act" as described in Article 112.11 of the Special Conditions.

**Installation:** Bicycle Racks must be located according to the plans and as designated by the Engineer. Fastening of the bicycle rack must be as indicated in embedded mounting detail. Locations of racks to be verified in the field.

**Method of Measurement:** BICYCLE RACKS will be measured per each bike rack.

**Basis of Payment:** BICYCLE RACKS will be paid for at the contract unit price for each bicycle rack, which will include furnishing and installing new racks with mounting hardware.

## BIKE SHELTER

Description: This item shall consist of furnishing and installing a bicycle shelter in accordance with manufacturer's instructions.

Materials: Shelter shall be "Oasis" model, 12' x 17', by Duo-Gard Industries, Inc., 40442 Koppernick Road, Canton, Michigan 48187. Phone (734) 207-9700

### GLAZING

Roof panels shall be sealed as required to provide a water-proof barrier in compliance with Fed. Spec. 11-S-001657 using ASTM C-920-79 sealants.

### STRUCTURAL FRAMING

- A. Steel members, unless otherwise noted:
  - 1. Plates, shapes, and bars: ASTM A36.
  - 2. Cold-Formed Tubing: ASTM A 500 Grade B. ASTM A 513 where required
  - 3. Pipe: ASTM A 53, Type E or S, Grade B.
  - 4. Black and hot-dipped zinc coated, for welded and seamless steel pipe for ordinary use: ASTM A120.
  - 5. Mild steel arc-welded electrodes: ASTM A 233.
- B. The shelter glazing trim and other components shall be fabricated using 6063-TS extruded aluminum members Fed. Spec. QQ-A-200/9C(1). 6061-T6 and 6005-T6 alloy/temper shall be used where required.
- C. Shelter shall be engineered to provide a framework of adequate structural integrity to satisfy the 2003 International Building Code (IBC), and to meet the requirements for snow, wind and seismic loading for the location(s) being considered.
- D. Fasteners:
  - 1. Roof framing, accessories, amenities, wall/ roof trim shall be stainless steel.
  - 2. High strength bolts and nuts: ASTM A 325 or A 490.
  - 3. Unfinished bolts and nuts: ASTM A 307 Grade A (to be unexposed in completed product, or finished in field).
- E. Shelter framing components, and the method of fastening them to the supporting foundations, shall be capable of withstanding lateral loads per ANSI A58.1 the IBC, or applicable local building codes, whichever is more stringent.
- F. Field Welding (if necessary) shall comply with AWS Code for procedures of manual shielded metal arc welding, appearance and quality of weld made, and methods in correcting welding work.

### MATERIALS

- A. Roof sheathing/glazing shall be shall be translucent polycarbonate structured sheet, standing seam metal,

1. Translucent polycarbonate structured sheet: Multi-wall polycarbonate sheet in 8 mm, 10 mm, 16 mm, 20 mm thickness, depending on project and system requirements.
  2. Edges and joints to be trimmed with extruded aluminum (or polycarbonate) glazing system, finished to match. Polycarbonate tint to be clear.
  3. Standing seam metal to be Stainless Steel.
- B. Joint Sealant:
1. Factory-Applied Sealant: Gunnable, non-hardening, elastomeric sealant. ASTM C920, Type S, Class 12, Grade NS. Fed Spec TT-S-1657, Type 1.n.
  2. Field-Applied Sealant: Approved by shelter manufacturer.
- C. Field Fasteners: Comply with shelter manufacturer's instructions for fastener types, quantities, and usage.
- D. Stainless Steel:
1. All stainless steel shall meet the requirements of ASTM A240 and shall be Type 316L.

#### COLOR AND FINISH

- A. Steel framework finish and extruded aluminum trim and accessories shall be Stainless Steel.

Installation: Ensure location to receive shelter is clean, flat, level, plumb, square, accurately aligned, and correctly located.

The manufacturer shall provide installation instructions complete with diagrams. Installation shall be performed by the manufacturer or his representative (option). The manufacturer shall guarantee the installation for a period of one (1) year from the date of acceptance.

Basis of Payment: This item shall be paid for at the contract unit price, each, for BIKE SHELTER, which shall be payment in full for the work.

#### PORTLAND CEMENT CONCRETE PAD (SPECIAL)

Description: This work shall consist of construction a reinforced Portland Cement Concrete Pad on a prepared subbase according to Section 423 of the Standard Specifications for the Illinois Department of Transportation. The concrete pad shall be constructed for both the BUS SHELTER and the BIKE SHELTER according to the dimensions shown on the plan and respective details. The concrete pad shall be a minimum thickness of 6 inches. The concrete pad shall include the #4 rebar per the spacing and pad dimensions shown on the details.

Materials: Portland Cement Concrete shall be according to Section 1020 of the Standard Specifications. Preformed Expansion Joint Fillers shall be according to Section 1051 of the Standard Specifications.

Method of Measurement: This work shall be measured for payment per square foot.

Basis of Payment: This item shall be paid for at the contract unit price per square foot for PORTLAND CEMENT CONCRETE PAD (SPECIAL).

## **BUS SHELTER**

Description. This work shall consist of furnishing and installing bus shelters at the locations shown on the Plans or as determined by the Engineer and in accordance with the Detail shown in the Plans and the manufacturer's recommendations.

Materials. Materials shall be according to the following:

- (a) Portland Cement Concrete shall be according to Article 1020. Bus shelter concrete pads shall be constructed of high early strength concrete (Class PP).
- (b) Anchor bolts shall be according to Article 1006.09 or as required by the manufacturer.
- (c) Mounting hardware shall be according to Article 1006.29 (d) or as required by the manufacturer.
- (d) Bus shelters shall include all framing, assembly hardware, bench materials, side panels, roof panels, lighting, electric advertising panel, and GPS on-time arrival messaging board.

## **CONSTRUCTION REQUIREMENTS**

Bus shelter assembly. The bus shelter shall be erected and assembled according the manufacturer's recommendations. The bus shelter shall be installed so that the front of the shelter faces the street and the front face of the shelter is roughly parallel to the curb line. The bench structure inside the shelter shall be installed per the manufacturer's recommendations. Method of Measurement. Bus shelters will measured for payment in place as each bus shelter installed, which will include all excavation, aggregate base, concrete pad, assembly of the bus shelter, hardware, and coordination with the manufacturer.

Basis of Payment. This work will be paid for at the contract unit price per each for BUS SHELTER.

## **BENCHES**

Description: This work must consist of furnishing and installing benches at the locations specified in the Contract plans or as directed by the Engineer.

General Requirements: Each bench will be placed at the location indicated in the plans. The locations will be field marked and verified for approval by the Engineer.

## **ASSEMBLY**

Anchor bolts must be located with assembled bench in place. Benches must be mounted as detailed in the plans. Anchor bolts must be drilled and grouted into the concrete base for pavers, concrete wearing surface or concrete sidewalk.

## **MATERIALS**

Materials must be as specified in the plans and must be "Gloss Black" in color without center armrest by the following manufacturer:

Victor Stanley, Inc.

The bench shall be Victor Stanley Model "CBF-12", 6' length.

FINISH- Finish must be powder coating or similar coating process.

#### SUBMITTALS

Submit manufacturer's technical data for each manufactured product, including certification that each product complies with the specified requirements. In accordance with the Standard Specifications, the Contractor must submit shop drawings for the Engineer's approval showing the bench completely assembled including shop drawings of its component parts.

**Method of Measurement:** BENCHES will be measured in place per each unit installed as indicated on the plans.

**Basis of Payment:** The work under this item will be paid for at the contract unit price per each for BENCHES as indicated on the plans which price will include labor, anchor bolts and bolt installation, equipment, materials and incidental work necessary to complete the installation as specified.

#### **BENCH WITH BACK**

**Description:** This work must consist of furnishing and installing benches at the locations specified in the Contract plans or as directed by the Engineer.

**General Requirements:** Each bench with back will be placed at the location indicated in the plans. The locations will be field marked and verified for approval by the Engineer.

#### ASSEMBLY

Anchor bolts must be located with assembled bench in place. Benches must be mounted as detailed in the plans. Anchor bolts must be drilled and grouted into the concrete base for pavers, concrete wearing surface or concrete sidewalk.

#### MATERIALS

Materials must be as specified in the plans and must be "Gloss Black" in color without center armrest by the following manufacturer:

Victor Stanley, Inc.,

BENCH WITH BACK shall be Victor Stanley Model "CBF-12 SPECIAL", 2' length.

FINISH- Finish must be powder coating or similar coating process.

#### SUBMITTALS

Submit manufacturer's technical data for each manufactured product, including certification that each product complies with the specified requirements. In accordance with the Standard Specifications, the Contractor must submit shop drawings for the Engineer's approval showing the bench completely assembled including shop drawings of its component parts.

**Method of Measurement:** BENCH WITH BACK will be measured in place per each unit installed as indicated on the plans.

**Basis of Payment:** The work under this item will be paid for at the contract unit price per each for BENCH WITH BACK as indicated on the plans which price will include labor, anchor bolts and bolt installation, equipment, materials and incidental work necessary to complete the installation as specified.

#### **TRASH RECEPTACLE, FURNISH & INSTALL**

**Description:** This work must consist of furnishing and installing a new trash receptacle with a plastic liner at the locations specified in the Contract plans or as directed by the Engineer.

**General Requirements:** Each trash receptacle will be placed at the location indicated in the plans. The locations will be field marked and verified for approval by the Engineer.

#### **ASSEMBLY**

Anchor bolts must be drilled and grouted into the concrete base for pavers, concrete wearing surface or concrete sidewalk only after the Trash Receptacle location has been finalized.

#### **MATERIALS**

Materials must be as specified in the plans and must be "Gloss Black" in color , steel trash receptacle, 45 gallon capacity with plastic liner by the following manufacturer:

Victor Stanley, Inc.

Model shall be Victor Stanley Model, T-45 with S-1 formed dome lid.

FINISH- Finish must be powder coating or similar coating process

#### **SUBMITTALS**

Submit manufacturer's technical data for each manufactured product, including certification that each product complies with specified requirements. Submit shop drawings showing complete information for fabrication. Include anchoring detail.

**Method of Measurement:** TRASH RECEPTACLE, FURNISH & INSTALL will be measured in place per each installed.

**Basis of Payment:** The work under this item will be paid for at the contract unit price per each as shown in the Schedule of Unit Prices for TRASH RECEPTACLE, FURNISH & INSTALL, which price will include all labor, anchor bolt and bolt installation, equipment, materials and incidental work necessary to complete the work as specified.

#### **PLANTER**

**Description:** This work must consist of furnishing and installing a new cast iron, free standing planter with planting soil at locations specified in the Contract plans or as directed by the Engineer.

**General Requirements:** Each planter will be placed at the location indicated in the plans. The locations will be field marked and verified for approval by the Engineer.

#### MATERIALS

Materials must be as specified in the plans and must be manufacturers Black finish to match existing Marion Street planters, cast iron 55 cm ht. (with base) and 115 cm dia., 200 cubic decimeters capacity by the following manufacturer:

NERI

Model shall be NERI Flower Tub UNI EN 1561 cast-iron.

Planting soil shall be included as part of the PLANTER installation.

FINISH- Manufacturers Black finish to match existing Marion Street planters

#### SUBMITTALS

Submit manufacturer's technical data for each manufactured product, including certification that each product complies with specified requirements. Submit shop drawings showing complete information for fabrication. Include anchoring detail.

**Method of Measurement:** PLANTER will be measured in place per each installed.

**Basis of Payment:** The work under this item will be paid for at the contract unit price per each as shown in the Schedule of Unit Prices for PLANTER, which price will include all labor, anchor bolt and bolt installation, planting soil backfill, equipment, materials and incidental work necessary to complete the work as specified.

#### REMOVE EXISTING DOUBLE HANDHOLE

**Description:** This item shall consist of removing concrete handhole(s) in conformance with the requirements of the plans and Section 895 of the Standard Specifications. The entire depth of all walls of the handhole shall be removed.

**Method of Measurement.** The removal of the existing double handhole will be measured for payment in units of each at the location designated on the plans.

**Basis of Payment:** This work will be paid for at the contract unit price each for REMOVE EXISTING DOUBLE HANDHOLE.

#### REMOVE EXISTING CONCRETE FOUNDATION

**Description:** This item shall consist of removing a concrete foundation(s) in conformance to the requirements of the plans and Section 895 of the Standard Specifications.

**Method of Measurement.** The removal of the existing concrete foundation will be measured for payment in units of each at the location designated on the plans.

**Basis of Payment:** This work will be paid for at the contract unit price each for REMOVE EXISTING CONCRETE FOUNDATION.



## **PROJECT SIGN**

**Description.** This work shall consist of furnishing the project identification signs and mounting frames or posts and setting-up the signs at both ends of the construction zone. The sign shall be constructed as it is shown on the plans and specified herein.

The aluminum sign plate shall be 48 inches square.

The sign shall be mounted on standard construction sign frames as per IDOT standards.

The sign shall contain three inches (3") and four inches (4") inch sized – black letters (RGB Values = 48, 52, 45) on a white background.

Text regarding work site description shall be specified by the Engineer prior to ordering signs. The sign shall have a reserved area of 10-1/2" x 16-1/2" at the left upper corner for the project logo.

Upon completion of the project the signs shall be removed and delivered to the Village of Oak Park Sign Shop. It will remain the property of the Village.

**If the mounting of the frame requires driving posts to the ground, the Contractor shall call J.U.L.I.E. first.**

### **Basis of Payment.**

This work will be paid for at the contract unit price per EACH for PROJECT SIGN, which price shall be payment in full for all materials, labor and equipment necessary to complete the work described herein and on the plans.

## **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.

## **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.

- (b) 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:

- (c) Upon construction of the temporary access, sixty percent of the contract unit price per each, of the type constructed, will be paid.
- (d) 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."

#### **STORM SEWER ADJACENT TO OR CROSSING WATER MAIN**

Effective: February 1, 1996

Revised: January 1, 2007

This work consists of constructing storm sewer adjacent to or crossing a water main, at the locations shown on the plans. The material and installation requirements shall be according to

the latest edition of the "Standard Specifications for Water and Sewer Main Construction in Illinois", and the applicable portions of Section 550 of the Standard Specifications; which may include concrete collars and encasing pipe with seals if required.

Pipe materials shall meet the requirements of Sections 40 and 41-2.01 of the "Standard Specifications for Water and Sewer Main Construction in Illinois", except PVC pipe will not be allowed. Ductile-Iron pipe shall meet the minimum requirements for Thickness Class 50.

Encasing of standard type storm sewer, according to the details for "Water and Sewer Separation Requirements (Vertical Separation)" in the "STANDARD DRAWINGS" Division of the "Standard Specifications for Water and Sewer Main Construction in Illinois", may be used for storm sewers crossing water mains.

Basis of Payment: This work will be paid according to Article 550.10 of the Standard Specifications, except the pay item shall be STORM SEWER (WATER MAIN REQUIREMENTS), of the diameter specified.

#### **CLEANING EXISTING DRAINAGE STRUCTURES**

Effective: September 30, 1985

Revised: December 1, 2011

All existing storm sewers, pipe culverts, manholes, catch basins and inlets shall be considered as drainage structures insofar as the interpretation of this Special Provision is concerned. When specified for payment, the location of drainage structures to be cleaned will be shown on the plans.

All existing drainage structures which are to be adjusted or reconstructed shall be cleaned according to Article 602.15 of the Standard Specifications. This work will be paid for according to accordance with Article 602.16 of the Standard Specifications.

All other existing drainage structures which are specified to be cleaned on the plans will be cleaned according to Article 602.15 of the Standard Specifications.

Basis of Payment. This work will be paid for at the contract unit price each for DRAINAGE STRUCTURES TO BE CLEANED, and at the contract unit price per foot (meter) for STORM SEWERS TO BE CLEANED, of the diameter specified.

#### **ADJUSTMENTS AND RECONSTRUCTIONS**

Effective: March 15, 2011

Revise the first paragraph of Article 602.04 to read:

**"602.04 Concrete.** Cast-in-place concrete for structures shall be constructed of Class SI concrete according to the applicable portions of Section 503. Cast-in-place concrete for pavement patching around adjustments and reconstructions shall be constructed of Class PP-1 concrete, unless otherwise noted in the plans, according to the applicable portions of Section 1020."

Revise the third, fourth and fifth sentences of the second paragraph of Article 602.11(c) to read:

"Castings shall be set to the finished pavement elevation so that no subsequent adjustment will be necessary, and the space around the casting shall be filled with Class PP-1 concrete, unless otherwise noted in the plans, to the elevation of the surface of the base course or binder course. HMA surface or binder course material shall not be allowed. The pavement may be opened to traffic according to Article 701.17(e)(3)b."

Revise Article 603.05 to read:

**"603.05 Replacement of Existing Flexible Pavement.** After the castings have been adjusted, the surrounding space shall be filled with Class PP-1 concrete, unless otherwise noted in the plans, to the elevation of the surface of the base course or binder course. HMA surface or binder course material shall not be allowed. The pavement may be opened to traffic according to Article 701.17(e)(3)b."

Revise Article 603.06 to read:

**"603.06 Replacement of Existing Rigid Pavement.** After the castings have been adjusted, the pavement and HMA that was removed, shall be replaced with Class PP-1 concrete, unless otherwise noted in the plans, not less than 9 in. (225 mm) thick. The pavement may be opened to traffic according to Article 701.17(e)(3)b.

The surface of the Class PP concrete shall be constructed flush with the adjacent surface."

Revise the first sentence of Article 603.07 to read:

**"603.07 Protection Under Traffic.** After the casting has been adjusted and the Class PP concrete has been placed, the work shall be protected by a barricade and two lights according to Article 701.17(e)(3)b."

#### **AGGREGATE SUBGRADE IMPROVEMENT (D-1)**

Effective: February 22, 2012

Revised: March 3, 2015

Add the following Section to the Standard Specifications:

#### **"SECTION 303. AGGREGATE SUBGRADE IMPROVEMENT**

**303.01 Description.** This work shall consist of constructing an aggregate subgrade improvement.

**303.02 Materials.** Materials shall be according to the following.

Item	Article/Section
(a) Coarse Aggregate .....	1004
(b) Reclaimed Asphalt Pavement (RAP) (Notes 1, 2 and 3) .....	1031

Note 1. Crushed RAP, from either full depth or single lift removal, may be mechanically blended with aggregate gradation CS 01 but shall not exceed 40 percent by weight of the total product. The top size of the Coarse RAP shall be less than 4 in. (100 mm) and well graded.

Note 2. RAP having 100 percent passing the 1 1/2 in (37.5 mm) sieve and being well graded, may be used as capping aggregate in the top 3 in. (75 mm) when aggregate gradation CS 01 is used in lower lifts. When RAP is blended with any of the coarse aggregates, the blending shall be done with mechanically calibrated feeders. The final product shall not contain more than 40 percent by weight of RAP.

Note 3. The RAP used for aggregate subgrade improvement shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications".

**303.03 Equipment.** The vibratory machine shall be according to Article 1101.01, or as approved by the Engineer. The calibration for the mechanical feeders shall have an accuracy of  $\pm 2.0$  percent of the actual quantity of material delivered.

**303.04 Soil Preparation.** The stability of the soil shall be according to the Department's Subgrade Stability Manual for the aggregate thickness specified.

**303.05 Placing Aggregate.** The maximum nominal lift thickness of aggregate gradation CS 01 shall be 24 in. (600 mm).

**303.06 Capping Aggregate.** The top surface of the aggregate subgrade shall consist of a minimum 3 in. (75 mm) of aggregate gradations CA 06 or CA 10. When Reclaimed Asphalt Pavement (RAP) is used, it shall be crushed and screened where 100 percent is passing the 1 1/2 in. (37.5 mm) sieve and being well graded. RAP that has been fractionated to size will not be permitted for use in capping. Capping aggregate will not be required when the aggregate subgrade improvement is used as a cubic yard pay item for undercut applications. When RAP is blended with any of the coarse aggregates, the blending shall be done with mechanically calibrated feeders.

**303.07 Compaction.** All aggregate lifts shall be compacted to the satisfaction of the Engineer. If the moisture content of the material is such that compaction cannot be obtained, sufficient water shall be added so that satisfactory compaction can be obtained.

**303.08 Finishing and Maintenance of Aggregate Subgrade Improvement.** The aggregate subgrade improvement shall be finished to the lines, grades, and cross sections shown on the plans, or as directed by the Engineer. The aggregate subgrade improvement shall be maintained in a smooth and compacted condition.

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

**303.10 Basis of Payment.** This work will be paid for at the contract unit price per cubic yard (cubic meter) for AGGREGATE SUBGRADE IMPROVEMENT or at the contract unit price per square yard (square meter) for AGGREGATE SUBGRADE IMPROVEMENT, of the thickness specified.

Add the following to Section 1004 of the Standard Specifications:

**"1004.06 Coarse Aggregate for Aggregate Subgrade Improvement.** The aggregate shall be according to Article 1004.01 and the following.

- (a) Description. The coarse aggregate shall be crushed gravel, crushed stone, or crushed concrete. The top 12 inches of the aggregate subgrade improvement shall be 3 inches of capping material and 9 inches of crushed gravel, crushed stone or crushed concrete. In applications where greater than 36 inches of subgrade material is required, rounded gravel, meeting the CS01 gradation, may be used beginning at a depth of 12 inches below the bottom of pavement.
- (b) Quality. The coarse aggregate shall consist of sound durable particles reasonably free of deleterious materials. Non-mechanically blended RAP may be allowed up to a maximum of 5.0 percent.
- (c) Gradation.
  - (1) The coarse aggregate gradation for total subgrade thicknesses of 12 in. (300 mm) or greater shall be CS 01.

COARSE AGGREGATE SUBGRADE GRADATIONS					
Grad No.	Sieve Size and Percent Passing				
	8"	6"	4"	2"	#4
CS 01	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20

COARSE AGGREGATE SUBGRADE GRADATIONS (Metric)					
Grad No.	Sieve Size and Percent Passing				
	200 mm	150 mm	100 mm	50 mm	4.75 mm
CS 01	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20

- (2) The 3 in. (75 mm) capping aggregate shall be gradation CA 6 or CA 10.

**CALCIUM ALUMINATE CEMENT (BMPR)**

Effective: July 1, 2013

Revise Article 1001.01(e) to read:

- "(e) Calcium Aluminate Cement. Calcium aluminate cement shall be used according to Article 1020.04 or when approved by the Engineer. The cement shall meet the standard physical requirements for Type I cement according to AASHTO M 85, except the time of setting shall not apply. The chemical requirements shall be determined according to AASHTO T 105 and shall be as follows: minimum 37 percent aluminum oxide (Al<sub>2</sub>O<sub>3</sub>), maximum 42 percent calcium oxide (CaO), maximum 1 percent magnesium oxide (MgO), maximum 0.4 percent sulfur trioxide (SO<sub>3</sub>), maximum 1.75 percent loss on ignition, and maximum 7 percent insoluble residue."

**CTA FLAGGING AND COORDINATION**

Effective: May 14, 1998

Revised: August 27, 2009

All work to be done by the Contractor on, over, or in close proximity of the CTA (Chicago Transit Authority) right-of-way shall be performed according to Article 107.12 of the Standard Specifications and the following additional CTA requirements:

1. The CTA's Representative for this project will be:

Mr. David Heard  
Manager, Construction Management Oversight  
(312) 681-3862

2. NOTIFICATION TO CTA

- A. After the letting of the contract and prior to performing any work, the CTA Representative shall be notified by the Department to attend the preconstruction meeting. In this meeting, the Contractor shall confer with the CTA's Representative regarding the CTA's requirements for the protection of clearances, operations and safety.
- B. Prior to the start of any work on or over the CTA's right-of-way, the Contractor shall meet with the CTA Representative to determine his requirements for flagmen and all other necessary items related to the work activities on, over and next to the CTA facilities and to receive CTA's approval for the Contractor's proposed operations.
- C. The Contractor shall notify the CTA Representative 72-hours in advance of the time he intends to enter upon the CTA right-of-way for the performance of any work.

3. PROTECTION OF THE CTA TRAFFIC:

- A. The CTA will be operating trains during the construction of this project. The rail yard operations are 24 hours per day, seven days per week.
- B. The Contractor shall, at all times, take special care to conduct his operations over, under, adjacent to, or adjoining the CTA facilities in such a manner as to prevent settlement, damage or displacement or damage to any CTA structures, equipment, tracks or portions thereof, and to prevent interruption of train service.
- C. Any damage to the tracks or other CTA facilities caused by the Contractor's operations shall be replaced or repaired by the CTA at the Contractor's expense. Repair costs paid by the Contractor will not be reimbursed.

4. REIMBURSEMENT OF COSTS:

- A. The cost of all flagmen, engineering inspection, switchmen, and other workmen furnished by the CTA and authorized by the Resident Engineer shall be paid for directly to the CTA by the contractor.

- B. The amount paid to the Contractor shall be the amount charged to the Contractor for all authorized CTA charges including CTA additive rates audited and accepted by the Department, according to Article 107.12 and Article 109.05 of the Standard Specifications.
  - C. Following approval of the CTA invoices by the Department, the Contractor shall pay all monies to the CTA as invoiced and shall submit to the Department certified and notarized evidence of the amount of payments. No overhead or profit will be allowed on these payments.
  - D. The Department will not be liable for any delays by the CTA in providing flagmen or other service required by this special provision.
5. Whenever any work, such as temporary shoring and erection procedures for spans over the CTA track, in the opinion of the CTA's inspector, may affect the safety of the trains and the continuity of the CTA's operations, the methods of performing such work shall first be submitted to the CTA for approval. If operations by the Contractor during construction are determined by the CTA's inspector to be hazardous to the CTA's operations, the Contractor shall suspend such work until reasonable remedial measures, and / or alternate methods, satisfactory to the CTA, are taken. Such remedial measures may include obtaining the services of the CTA personnel so that adequate protection may be provided.
6. CTA OPERATING REQUIREMENTS:  
Operating requirements of the CTA, while work on this project is in progress, are as follows:
- A. Work that is adjacent to or over the CTA operating tracks, requiring CTA flagmen, is to be done during the following hours:  
  
Monday through Saturday, inclusive – 7:00 p.m. to 5:00 a.m.  
Sunday 12:00 a.m. to Monday 5:00 a.m.
  - B. As much work as possible is to be done under normal CTA operating conditions (under traffic) without disruption of train movements. A maximum interruption of service to the CTA traffic of 15 minutes or as agreed upon with the CTA will be allowed.
  - C. In order to request for single track (taking one track out of service), the Contractor, through the Resident Engineer, shall notify the CTA Representative twenty eight (28) working days in advance of the proposed interruptions.
  - D. Interruptions will be provided solely at the CTA discretion, depending upon the transit service demands for special events and possible conflicts with prior commitments to other work scheduled on the same route.
  - E. No more than one service interruption will be allowed simultaneously on this CTA line.



- F. If the Contractor is unable to return the CTA track to normal operation on time, liquidated damages of at least \$100.00 per minute of delay shall be paid directly to the CTA by the Contractor.
7. Pedestrian traffic to the CTA facilities shall be maintained at all times.
  8. A notice of at least seventy two (72) hours shall be given to the CTA prior to any beam removal or replacement which will cause interruption to the CTA facilities and service.
  9. Simultaneous work on two piers that will require flagmen and affect the train operation shall not be allowed. Work, which will require flagmen, shall be limited to only one side of the track at a time.
  10. Two flagmen will be required for each direction of train traffic for any work within the CTA facilities.
  11. CTA shall have access to all storage tracks and unrestricted train operation over special holidays and events as indicated below:

One of the special holidays is the "Fourth of July". Please visit the City of Chicago web site at <http://cityofchicago.org> for complete information and times.

One of the special holidays is the "Taste of Chicago". Please visit the Taste of Chicago web site at <http://www.tasteofchicago.us> for complete information and times.

Dates for other special holidays and events such as conventions, auto shows, World Series, etc. if and when it happens, will be given to the Department whenever CTA finds out about it, during the preconstruction meeting or 30 days in advance of the construction, if possible, as requested by the Department.
  12. The Contractor will be required to take all precautions to avoid debris, concrete and other materials falling over the tracks.
  13. OTHER SPECIAL CONDITIONS:
    - A. The contractor is warned of the presence of an electrified third rail (600 volts DC) and moving trains on the CTA tracks and shall take all the necessary precautions to prevent damage to life or property through contact with the electrical or operating system.
    - B. The Contractor is also warned that any contact with the electrified third rail may result in a severe burn or death. Safety precautions such as insulating hoods or covers, approved by CTA, shall be provided by the Contractor to cover that section of the third live rail adjacent to the work.
    - C. Safety Training: All employees of the Contractor or his Subcontractors who are required to work upon or adjacent to the CTA's operating tracks shall be required to attend and provide evidence of completion of a right-of-way safety training course administered by the CTA.

- D. Arrangements for the safety training course shall be the Contractor's responsibility. Contact the CTA representative to arrange for the safety course.
- E. The cost of the course is \$200.00 per person, payable to the CTA prior to taking the course. The cost of this course and the employee's time for the course shall be considered incidental to the cost of the contract. The course is one day long, from 8:00 a.m. to 4:00 p.m.
- F. The Contractor, his Subcontractors, and all of his employees who are required to work on or around the CTA's operating tracks shall wear CTA type safety vest.

14. Rapid Transit Clearances:

The Contractor shall perform his work in a manner that provides adequate clearance to the CTA tracks. The clearances shall not be less than the following for safe passage of trains.

- 7'-2" (2.18 m) horizontal to the center line of the nearest track
- 6'-1" (1.85 m) horizontal to the center line of the nearest track for short distances.
- 14'-6" (4.42 m) vertical from the top of the high running rail.

15. Protective Shield

- A. The Contractor shall furnish, install, and later remove a protective shield to protect the CTA traffic from damage due to falling material and objects during construction.

The protective shield may be a platform, a net, or any other Department approved structure.

- B. A minimum vertical clearance of 14'-6" (4.42 m) above the high running rail the CTA tracks shall be provided at all times.
- C. Any protective shield required, as indicated on the plans and the supporting members shall be designed to sustain a load of 200 pounds per square foot in addition to its own weight.

Drawings and design calculations for the protective shield shall be stamped by an Illinois Licensed Structural Engineer and shall be submitted to the Department for approval. The protective shield shall be constructed only after the Department has approved the drawings and the design.

- 16. The contractor shall be required to provide a schedule for material removal, delivery of new material, crane operation over and around the tracks and a schedule for access of workmen to the construction site.

**DRAINAGE AND INLET PROTECTION UNDER TRAFFIC (DISTRICT 1)**

Effective: April 1, 2011

Revised: April 2, 2011

Add the following to Article 603.02 of the Standard Specifications:

- “(i) Temporary Hot-Mix Asphalt (HMA) Ramp (Note 1) .....1030
- “(j) Temporary Rubber Ramps (Note 2)

Note 1. The HMA shall have maximum aggregate size of 3/8 in. (95 mm).

Note 2. The rubber material shall be according to the following.

Property	Test Method	Requirement
Durometer Hardness, Shore A	ASTM D 2240	75 ±15
Tensile Strength, psi (kPa)	ASTM D 412	300 (2000) min
Elongation, percent	ASTM D 412	90 min
Specific Gravity	ASTM D 792	1.0 - 1.3
Brittleness, °F (°C)	ASTM D 746	-40 (-40)°

Revise Article 603.07 of the Standard Specifications to read:

“**603.07 Protection Under Traffic.** After the casting has been adjusted and the Class PP concrete has been placed, the work shall be protected by a barricade and two lights according to Article 701.17(e)(3)b.

When castings are under traffic before the final surfacing operation has been started, properly sized temporary ramps shall be placed around the drainage and/or utility castings according to the following methods.

- (a) Temporary Asphalt Ramps. Temporary hot-mix asphalt ramps shall be placed around the casting, flush with its surface and decreasing to a featheredge in a distance of 2 ft (600 mm) around the entire surface of the casting.
- (b) Temporary Rubber Ramps. Temporary rubber ramps shall only be used on roadways with permanent posted speeds of 40 mph or less and when the height of the casting to be protected meets the proper sizing requirements for the rubber ramps as shown below.

Dimension	Requirement
Inside Opening	Outside dimensions of casting + 1 in. (25 mm)
Thickness at inside edge	Height of casting ± 1/4 in. (6 mm)
Thickness at outside edge	1/4 in. (6 mm) max.
Width, measured from inside opening to outside edge	8 1/2 in. (215 mm) min

Placement shall be according to the manufacturer's specifications.

Temporary ramps for castings shall remain in place until surfacing operations are undertaken within the immediate area of the structure. Prior to placing the surface course, the temporary ramp shall be removed. Excess material shall be disposed of according to Article 202.03.”

**FRICITION AGGREGATE (D-1)**

Effective: January 1, 2011

Revised: July 24, 2015

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> <sup>5/</sup> : Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Crushed Concrete

Use	Mixture	Aggregates Allowed	
HMA Low ESAL	Stabilized Subbase or Shoulders	<u>Allowed Alone or in Combination</u> <sup>5/</sup> : Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag <sup>1/</sup> Crushed Concrete	
HMA High ESAL Low ESAL	Binder IL-19.0 or IL-19.0L  SMA Binder	<u>Allowed Alone or in Combination</u> <sup>5/</sup> : Crushed Gravel Carbonate Crushed Stone <sup>2/</sup> Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Concrete <sup>3/</sup>	
HMA High ESAL Low ESAL	C Surface and Leveling Binder IL-9.5 or IL-9.5L  SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination</u> <sup>5/</sup> : Crushed Gravel Carbonate Crushed Stone <sup>2/</sup> Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag <sup>4/</sup> Crushed Concrete <sup>3/</sup>	
HMA High ESAL	D Surface and Leveling Binder IL-9.5  SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination</u> <sup>5/</sup> : Crushed Gravel Carbonate Crushed Stone (other than Limestone) <sup>2/</sup> Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag <sup>4/</sup> Crushed Concrete <sup>3/</sup>	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		25% Limestone	Dolomite
50% Limestone	Any Mixture D aggregate other than Dolomite		

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

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

**GROUND TIRE RUBBER (GTR) MODIFIED ASPHALT BINDER (D-1)**

Effective: June 26, 2006

Revised: January 1, 2013

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

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

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

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

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

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

“A dedicated storage tank for the Ground Tire Rubber (GTR) modified asphalt binder shall be provided. This tank must be capable of providing continuous mechanical mixing throughout by continuous agitation and recirculation of the asphalt binder to provide a uniform mixture. The tank shall be heated and capable of maintaining the temperature of the asphalt binder at 300 °F to 350 °F (149 °C to 177 °C). The asphalt binder metering systems of dryer drum plants shall be calibrated with the actual GTR modified asphalt binder material with an accuracy of ± 0.40 percent.”

Revise 1030.02(c) of the Standard Specifications to read:

“(c) RAP Materials (Note 3) .....1031”

Add the following note to 1030.02 of the Standard Specifications:

Note 3. When using reclaimed asphalt pavement and/or reclaimed asphalt shingles, the maximum asphalt binder replacement percentage shall be according to the most recent special provision for recycled materials.

**HMA MIXTURE DESIGN REQUIREMENTS (D-1)**

Effective: January 1, 2013  
 Revised: November 1, 2014

**1) Design Composition and Volumetric Requirements**

Revise the last sentence of the first paragraph of Article 312.05 of the Standard Specifications to read:

“The minimum compacted thickness of each lift shall be according to Article 406.06(d).”

Delete the minimum compacted lift thickness table in Article 312.05 of the Standard Specifications.

Revise the second paragraph of Article 355.02 of the Standard Specifications to read:

“The mixture composition used shall be IL-19.0.”

Revise Article 355.05(a) of the Standard Specifications to read:

“(a) The top lift thickness shall be 2 1/4 in. (60 mm) for mixture composition IL-19.0.”



Revise the Leveling Binder table and second paragraph of Article 406.05(c) of the Standard Specifications to read:

"Leveling Binder	
Nominal, Compacted, Leveling Binder Thickness, in. (mm)	Mixture Composition
≤ 1 1/4 (32)	IL-4.75, IL-9.5, or IL-9.5L
> 1 1/4 to 2 (32 to 50)	IL-9.5 or IL-9.5L

The density requirements of Article 406.07(c) shall apply for leveling binder, machine method, when the nominal compacted thickness is: 3/4 in. (19 mm) or greater for IL-4.75 mixtures; and 1 1/4 in. (32 mm) or greater for IL-9.5 and IL-9.5L mixtures."

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

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

Revise the ninth paragraph of Article 406.14 of the Standard Specifications to read:

"Test strip mixture will be evaluated at the contract unit price according to the following."

Revise Article 406.14(a) of the Standard Specifications to read:

"(a) If the HMA placed during the initial test strip is determined to be acceptable the mixture will be paid for at the contract unit price."

Revise Article 406.14(b) of the Standard Specifications to read:

"(b) If the HMA placed during the initial test strip (1) is determined to be unacceptable to remain in place by the Engineer, and (2) was not produced within 2.0 to 6.0 percent air voids or within the individual control limits of the JMF according to the Department's test results, the mixture will not be paid for and shall be removed at the Contractor's expense. An additional test strip shall be constructed and the mixture will be paid for in full, if produced within 2.0 to 6.0 percent air voids and within the individual control limits of the JMF."

Revise Article 406.14(c) of the Standard Specifications to read:

"(c) If the HMA placed during the initial test strip (1) is determined to be unacceptable to remain in place by the Engineer, and (2) was produced within 2.0 to 6.0 percent air voids and within the individual control limits of the JMF according to the Department's test results, the mixture shall be removed. Removal will be paid according to Article 109.04. This initial mixture will be paid for at the contract unit price. An additional test strip shall be constructed and the mixture will be paid for in full, if produced within 2.0 to 6.0 percent air voids and within the individual control limits of the JMF."

Delete Article 406.14(d) of the Standard Specifications.

Delete Article 406.14(e) of the Standard Specifications.

Delete the last sentence of Article 407.06(c) of the Standard Specifications.

Revise Note 2. of Article 442.02 of the Standard Specifications to read:

“Note 2. The mixture composition of the HMA used shall be IL-19.0 binder, designed with the same Ndesign as that specified for the mainline pavement.”

Delete the second paragraph of Article 482.02 of the Standard Specifications.

Revise the first sentence of the sixth paragraph of Article 482.05 of the Standard Specifications to read:

“When the mainline HMA binder and surface course mixture option is used on resurfacing projects, shoulder resurfacing widths of 6 ft (1.8 m) or less may be placed simultaneously with the adjacent traffic lane for both the binder and surface courses.”

Revise the second sentence of the fourth paragraph of Article 601.04 of the Standard Specifications to read:

“The top 5 in. (125 mm) of the trench shall be backfilled with an IL-19.0L Low ESAL mixture meeting the requirements of Section 1030 and compacted to a density of not less than 90 percent of the theoretical density.”

Revise the second sentence of the fifth paragraph of Article 601.04 of the Standard Specifications to read:

“The top 8 in. (200 mm) of the trench shall be backfilled with an IL-19.0L Low ESAL mixture meeting the requirements of Section 1030 and compacted to a density of not less than 90 percent of the theoretical density.”

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

“(c) Gradation. The fine aggregate gradation for all HMA shall be FA 1, FA 2, FA 20, FA 21, or FA 22. The fine aggregate gradation for SMA shall be FA/FM 20.

For mixture IL-4.75 and surface mixtures with an Ndesign = 90, at least 50 percent of the required fine aggregate fraction shall consist of either stone sand, slag sand, or steel slag meeting the FA 20 gradation.

For mixture IL-19.0, Ndesign = 90 the fine aggregate fraction shall consist of at least 67 percent manufactured sand meeting FA 20 or FA 22 gradation. For mixture IL-19.0, Ndesign = 50 or 70 the fine aggregate fraction shall consist of at least 50 percent manufactured sand meeting FA 20 or FA 22 gradation. The manufactured sand shall be stone sand, slag sand, steel slag sand, or combinations thereof.

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

Delete the last sentence of the first paragraph of Article 1004.03(b) of the Standard Specifications.

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

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

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

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

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

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

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

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

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

1/ Uses 19.0L binder mix.

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

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

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

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

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

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

Note 3. A stabilizing additive such as cellulose or mineral fiber shall be added to the SMA mixture according to Illinois Modified AASHTO M 325. The stabilizing additive shall meet the Fiber Quality Requirements listed in Illinois Modified AASHTO M 325. Prior to approval and use of fibers, the Contractor shall submit a notarized certification by the producer of these materials stating they meet these requirements. Reclaimed Asphalt Shingles (RAS) may be used in Stone Matrix Asphalt (SMA) mixtures designed with an SBA polymer modifier as a fiber additive if the mix design with RAS included meets AASHTO T305 requirements. The RAS shall be from a certified source that produces either Type I or Type 2. Material shall meet requirements noted herein and the actual dosage rate will be determined by the Engineer.

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

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

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

High ESAL, MIXTURE COMPOSITION (% PASSING) <sup>1/</sup>										
Sieve Size	IL-19.0 mm		SMA <sup>4/</sup> IL-12.5 mm		SMA <sup>4/</sup> IL-9.5 mm		IL-9.5 mm		IL-4.75 mm	
	min	max	min	max	min	max	min	max	min	max
1 1/2 in (37.5 mm)										
1 in. (25 mm)		100								
3/4 in. (19 mm)	890	100		100						
1/2 in. (12.5 mm)	575	889	80	100		100		100		100
3/8 in. (9.5 mm)				65	90	100	90	100		100
#4 (4.75 mm)	240	560	20	30	36	50	334	69	90	100
#8 (2.36 mm)	20	342	16	24 <sup>5/</sup>	16	32 <sup>5/</sup>	34 <sup>6/</sup>	52 <sup>2/</sup>	70	90
#16 (1.18 mm)	115	230					10	32	50	65
#30 (600 μm)			12	16	12	18				
#50 (300 μm)	46	115					4	15	15	30
#100 (150 μm)	34	9					3	10	10	18
#200 (75 μm)	3	6	7.0	9.0 <sup>3/</sup>	7.5	9.5 <sup>3/</sup>	4	6	7	9 <sup>3/</sup>
Ratio Dust/Asphalt Binder		1.0		1.5		1.5		1.0		1.0

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

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

Delete Article 1030.04(a)(3) of the Standard Specifications.

Delete Article 1030.04(a)(4) of the Standard Specifications.

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

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

VOLUMETRIC REQUIREMENTS High ESAL				
	Voids in the Mineral Aggregate (VMA), % minimum			Voids Filled with Asphalt Binder (VFA), %
Ndesign	IL-19.0	IL-9.5	IL-4.75 <sup>1/</sup>	
50	1 13.5	1 15.0	18.5	65 – 78 <sup>2/</sup>
70				65 - 75
0105				

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

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

Revise the table in Article 1030.04(b)(2) of the Standard Specifications to read:

"VOLUMETRIC REQUIREMENTS Low ESAL				
Mixture Composition	Design Compactive Effort	Design Air Voids Target %	VMA (Voids in the Mineral Aggregate), % min.	VFA (Voids Filled with Asphalt Binder), %
IL-9.5L	N <sub>DES</sub> =30	4.0	15.0	65-78
IL-19.0L	N <sub>DES</sub> =30	4.0	13.5	N/A"

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

“(3) SMA Mixtures.

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

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

2/ Applies when specific gravity of coarse aggregate is  $\geq 2.760$ .

3/ Applies when specific gravity of coarse aggregate is  $< 2.760$ .

4/ Blending of different types of aggregate will not be permitted. For surface course, the coarse aggregate can be crushed steel slag, crystalline crushed stone or crushed sandstone. For binder course, coarse aggregate shall be crushed stone (dolomite), crushed gravel, crystalline crushed stone, or crushed sandstone.

Delete Article 1030.04(b)(4) of the Standard Specifications.

Delete Article 1030.04(b)(5) from the Supplemental Specifications.

Delete last sentence of the second paragraph of Article 1102.01(a) (13) a.

Add to second paragraph in Article 1102.01 (a) (13) a.:

“As an option, collected bag-house dust may be used in lieu of manufactured mineral filler, provided; 1) there is enough available for the production of the SMA mix for the entire project and 2) a mix design was prepared with collected bag-house dust.

”Revise the table in Article 1030.05(d)(2)a. of the Standard Specifications to read:

"Parameter	Frequency of Tests High ESAL Mixture Low ESAL Mixture	Test Method See Manual of Test Procedures for Materials
Aggregate Gradation  % passing sieves: 1/2 in. (12.5 mm), No. 4 (4.75 mm), No. 8 (2.36 mm), No. 30 (600 μm) No. 200 (75 μm)	1 washed ignition oven test on the mix per half day of production  Note 3.	Illinois Procedure
Asphalt Binder Content by Ignition Oven  Note 1.	1 per half day of production	Illinois-Modified AASHTO T 308
VMA  Note 2.	Day's production ≥ 1200 tons:  1 per half day of production  Day's production < 1200 tons:  1 per half day of production for first 2 days and 1 per day thereafter (first sample of the day)	Illinois-Modified AASHTO R 35
Air Voids  Bulk Specific Gravity of Gyratory Sample  Note 4.	Day's production ≥ 1200 tons:  1 per half day of production  Day's production < 1200 tons:  1 per half day of production for first 2 days and 1 per day thereafter (first sample of the day)	Illinois-Modified AASHTO T 312



"Parameter	Frequency of Tests	Test Method
	High ESAL Mixture Low ESAL Mixture	See Manual of Test Procedures for Materials
Maximum Specific Gravity of Mixture	Day's production ≥ 1200 tons:  1 per half day of production	Illinois-Modified AASHTO T 209
	Day's production < 1200 tons:  1 per half day of production for first 2 days and 1 per day thereafter (first sample of the day)	

Note 1. The Engineer may waive the ignition oven requirement for asphalt binder content if the aggregates to be used are known to have ignition asphalt binder content calibration factors which exceed 1.5 percent. If the ignition oven requirement is waived, other Department approved methods shall be used to determine the asphalt binder content.

Note 2. The  $G_{sb}$  used in the voids in the mineral aggregate (VMA) calculation shall be the same average  $G_{sb}$  value listed in the mix design.

Note 3. The Engineer reserves the right to require additional hot bin gradations for batch plants if control problems are evident.

Note 4. The WMA compaction temperature for mixture volumetric testing shall be  $270 \pm 5$  °F ( $132 \pm 3$  °C) for quality control testing. The WMA compaction temperature for quality assurance testing will be  $270 \pm 5$  °F ( $132 \pm 3$  °C) if the mixture is not allowed to cool to room temperature. If the mixture is allowed to cool to room temperature, it shall be reheated to standard HMA compaction temperatures."

Revise the table in Article 1030.05(d)(2)b. of the Standard Specifications to read:

"Parameter	High ESAL Mixture Low ESAL Mixture
Ratio Dust/Asphalt Binder	0.6 to 1.2
Moisture	0.3 %"

Revise the Article 1030.05(d)(4) of the Supplemental Specifications to read:

"(4) Control Limits. Target values shall be determined by applying adjustment factors to the AJMF where applicable. The target values shall be plotted on the control charts within the following control limits.

"CONTROL LIMITS						
Parameter	High ESAL		SMA		L-4.75	
	Individual Test	Moving Avg. of 4	Test	Moving Avg. of 4	Individual Test	Moving Avg. of 4
% Passing: <sup>1/</sup>						
1/2 in. (12.5 mm)	± 6 %	± 4 %	± 6 %	± 4 %		
3/8 in. (9.5mm)			± 4 %	± 3 %		
No. 4 (4.75 mm)	± 5 %	± 4 %	± 5 %	± 4 %		
No. 8 (2.36 mm)	± 5 %	± 3 %	± 4 %	± 2 %		
No. 16 (1.18 mm)			± 4 %	± 2 %	± 4 %	± 3 %
No. 30 (600 µm)	± 4 %	± 2.5 %	± 4 %	± 2.5 %		
Total Dust Content No. 200 (75 µm)	± 1.5 %	± 1.0 %	%		± 1.5 %	± 1.0 %
Asphalt Binder Content	± 0.3 %	± 0.2 %	± 0.2 %	± 0.1 %	± 0.3 %	± 0.2 %
Voids	± 1.2 %	± 1.0 %	± 1.2 %	± 1.0 %	± 1.2 %	± 1.0 %
VMA	-0.7 % <sup>2/</sup>	-0.5 % <sup>2/</sup>	-0.7 % <sup>2/</sup>	-0.5 % <sup>2/</sup>	-0.7 % <sup>2/</sup>	-0.5 % <sup>2/</sup>

1/ Based on washed ignition oven

2/ Allowable limit below minimum design VMA requirement

DENSITY CONTROL LIMITS		
Mixture Composition	Parameter	Individual Test
IL-4.75	Ndesign = 50	93.0 - 97.4 % <sup>1/</sup>
IL-9.5	Ndesign = 90	92.0 - 96.0 %
IL-9.5,IL-9.5L	Ndesign < 90	92.5 - 97.4 %
IL-19.0	Ndesign = 90	93.0 - 96.0 %
IL-19.0, IL-19.0L	Ndesign < 90	93.0 <sup>2/</sup> - 97.4 %
SMA	Ndesign = 80	93.5 - 97.4 %

1/ Density shall be determined by cores or by correlated, approved thin lift nuclear gauge.

2/ 92.0 % when placed as first lift on an unimproved subgrade."

Revise the table in Article 1030.05(d)(5) of the Supplemental Specifications to read:

"CONTROL CHART REQUIREMENTS	High ESAL, Low ESAL, SMA & IL-4.75
Gradation <sup>1/3/</sup>	% Passing Sieves: 1/2 in. (12.5 mm) <sup>2/</sup> No. 4 (4.75 mm) No. 8 (2.36 mm) No. 30 (600 µm)
Total Dust Content <sup>1/</sup>	No. 200 (75 µm)
	Asphalt Binder Content
	Bulk Specific Gravity
	Maximum Specific Gravity of Mixture
	Voids
	Density
	VMA

- 1/ Based on washed ignition oven.
- 2/ Does not apply to IL-4.75.
- 3/ SMA also requires the 3/8 in. (9.5 mm) sieve."

Delete Article 1030.05(d)(6)a.1.(b.) of the Standard Specifications.

Delete Article 1030.06(b) of the Standard Specifications.

Delete Article 1102.01(e) of the Standard Specifications.

**2) Design Verification and Production**

Description. The following states the requirements for Hamburg Wheel and Tensile Strength testing for High ESAL, IL-4.75, and Stone Matrix Asphalt (SMA) hot-mix asphalt (HMA) mixes during mix design verification and production.

Mix Design Testing. Add the following below the referenced AASHTO standards in Article 1030.04 of the Standard Specifications:

- AASHTO T 324      Hamburg Wheel Test
- AASHTO T 283      Tensile Strength Test

Add the following to Article 1030.04 of the Standard Specifications:

"(d) Verification Testing. High ESAL, IL-4.75, and SMA mix designs submitted for verification will be tested to ensure that the resulting mix designs will pass the required criteria for the Hamburg Wheel Test (IL mod AASHTO T-324) and the Tensile Strength Test (IL mod AASHTO T-283). The Department will perform a verification

test on gyratory specimens compacted by the Contractor. If the mix fails the Department's verification test, the Contractor shall make the necessary changes to the mix and resubmit compacted specimens to the Department for verification. If the mix fails again, the mix design will be rejected.

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

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

Illinois Modified AASHTO T 324 Requirements <sup>1/</sup>

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

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

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

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

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

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

Before start-up, target values shall be determined by applying gradation correction factors to the JMF when applicable. These correction factors shall be determined from previous experience. The target values, when approved by the Engineer, shall be used to control HMA production. Plant settings and control charts shall be set according to target values.

Before constructing the test strip, target values shall be determined by applying gradation correction factors to the JMF when applicable. After any JMF adjustment, the JMF shall become the Adjusted Job Mix Formula (AJMF). Upon completion of the first acceptable

test strip, the JMF shall become the AJMF regardless of whether or not the JMF has been adjusted. If an adjustment/plant change is made, the Engineer may require a new test strip to be constructed. If the HMA placed during the initial test strip is determined to be unacceptable to remain in place by the Engineer, it shall be removed and replaced.

The limitations between the JMF and AJMF are as follows.

Parameter	Adjustment
1/2 in. (12.5 mm)	± 5.0 %
No. 4 (4.75 mm)	± 4.0 %
No. 8 (2.36 mm)	± 3.0 %
No. 30 (600 µm)	*
No. 200 (75 µm)	*
Asphalt Binder Content	± 0.3 %

\* In no case shall the target for the amount passing be greater than the JMF.

Any adjustments outside the above limitations will require a new mix design.

Mixture sampled to represent the test strip shall include additional material sufficient for the Department to conduct Hamburg Wheel testing according to Illinois Modified AASHTO T324 (approximately 60 lb (27 kg) total).

The Contractor shall immediately cease production upon notification by the Engineer of failing Hamburg Wheel test. All prior produced material may be paved out provided all other mixture criteria is being met. No additional mixture shall be produced until the Engineer receives passing Hamburg Wheel tests.

The Department may conduct additional Hamburg Wheel tests on production material as determined by the Engineer.”

Revise the title of Article 1030.06(b) of the Standard Specifications to read:

“(b) Low ESAL Mixtures.”

Add the following to Article 1030.06 of the Standard Specifications:

“(c) Hamburg Wheel Test. All HMA mixtures shall be sampled within the first 500 tons (450 metric tons) on the first day of production or during start up with a split reserved for the Department. The mix sample shall be tested according to the Illinois Modified AASHTO T 324 and shall meet the requirements specified herein. Mix production shall not exceed 1500 tons (1350 metric tons) or one day’s production, whichever comes first, until the testing is completed and the mixture is found to be in conformance. The requirement to cease mix production may be waived if the plant produced mixture demonstrates conformance prior to start of mix production for a contract.

The Department may conduct additional Hamburg Wheel Tests on production material as determined by the Engineer. If the mixture fails to meet the Hamburg Wheel criteria, no

further mixture will be accepted until the Contractor takes such action as is necessary to furnish a mixture meeting the criteria”

The Contractor shall immediately cease production upon notification by the Engineer of failing Hamburg Wheel test. All prior produced material may be paved out provided all other mixture criteria are being met. No additional mixture shall be produced until the Engineer receives passing Hamburg Wheel tests.

Method of Measurement:

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

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

Basis of Payment.

Replace the seventh paragraph of Article 406.14 of the Standard Specifications with the following:  
“For all mixes designed and verified under the Hamburg Wheel criteria, the cost of furnishing and introducing anti-stripping additives in the HMA will not be paid for separately, but shall be considered as included in the contract unit price of the HMA item involved.

No additional compensation will be awarded to the Contractor because of reduced production rates associated with the addition of the anti-stripping additive.”

**PUBLIC CONVENIENCE AND SAFETY (DIST 1)**

Effective: May 1, 2012

Revised: July 15, 2012

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

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

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

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

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

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

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

Effective: November 1, 2012

Revise: July 24, 2015

Revise Section 1031 of the Standard Specifications to read:

### **"SECTION 1031. RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES**

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

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

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

- (a) RAP Stockpiles. The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. Additional processed RAP (FRAP) shall be stockpiled in a separate working pile, as designated in the QC Plan, and only added to the sealed stockpile when test results for the working pile are complete and are found to meet tolerances specified herein for the original sealed FRAP stockpile. Stockpiles shall be sufficiently separated to prevent intermingling at the base. All stockpiles (including unprocessed RAP and FRAP) shall be identified by signs indicating the type as listed below (i.e. "Non- Quality, FRAP -#4 or Type 2 RAS", etc...)
  - (1) Fractionated RAP (FRAP). FRAP shall consist of RAP from Class I, Superpave HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in FRAP shall be crushed aggregate and may represent more than one aggregate type and/or quality

but shall be at least C quality. All FRAP shall be processed prior to testing and sized into fractions with the separation occurring on or between the #4 (4.75 mm) and 1/2 in. (12.5 mm) sieves. Agglomerations shall be minimized such that 100 percent of the RAP in the coarse fraction shall pass the maximum sieve size specified for the mix the FRAP will be used in.

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

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

- (b) RAS Stockpiles. Type 1 and Type 2 RAS shall be stockpiled separately and shall be sufficiently separated to prevent intermingling at the base. Each stockpile shall be signed indicating what type of RAS is present.  
However, a RAS source may submit a written request to the Department for approval to blend mechanically a specified ratio of type 1 RAS with type 2 RAS. The source will not be permitted to change the ratio of the blend without the Department prior written approval. The Engineer's written approval will be required, to mechanically blend RAS with any fine aggregate produced under the AGCS, up to an equal weight of RAS, to improve workability. The fine aggregate shall be "B Quality" or better from an approved Aggregate Gradation Control System source. The fine aggregate shall be one that is approved for use in the HMA mixture and accounted for in the mix design and during HMA production.



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

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

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

- (1) During Stockpiling. For testing during stockpiling, washed extraction samples shall be run at the minimum frequency of one sample per 500 tons (450 metric tons) for the first 2000 tons (1800 metric tons) and one sample per 2000 tons (1800 metric tons) thereafter. A minimum of five tests shall be required for stockpiles less than 4000 tons (3600 metric tons).
- (2) Incoming Material. For testing as incoming material, washed extraction samples shall be run at a minimum frequency of one sample per 2000 tons (1800 metric tons) or once per week, whichever comes first.
- (3) After Stockpiling. For testing after stockpiling, the Contractor shall submit a plan for approval to the District proposing a satisfactory method of sampling and testing the RAP/FRAP pile either in-situ or by restockpiling. The sampling plan shall meet the minimum frequency required above and detail the procedure used to obtain representative samples throughout the pile for testing.

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

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

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

1000 tons (900 metric tons). The incoming material test results shall meet the tolerances specified herein.

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

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

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

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

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

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

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

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

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

- (b) Evaluation of RAS Test Results. All of the test results, with the exception of percent unacceptable materials, shall be compiled and averaged for asphalt binder content and gradation. A five test average of results from the original pile will be used in the mix

designs. Individual test results run thereafter, when compared to the average used for the mix design, will be accepted if within the tolerances listed below.

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

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

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

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

The Engineer will notify the Contractor of observed deficiencies.

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

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

1/ Based on washed extraction.

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

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

**1031.05 Quality Designation of Aggregate in RAP and FRAP.**

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

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

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

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

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

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

- (1) Coarse Aggregate Size (after extraction). The coarse aggregate in all FRAP shall be equal to or less than the nominal maximum size requirement for the HMA mixture to be produced.
- (2) Steel Slag Stockpiles. FRAP stockpiles containing steel slag or other expansive material, as determined by the Department, shall be homogeneous and will be approved for use in HMA (High ESAL and Low ESAL) mixtures regardless of lift or mix type.

- (3) Use in HMA Surface Mixtures (High and Low ESAL). FRAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall have coarse aggregate that is Class B quality or better. FRAP shall be considered equivalent to limestone for frictional considerations unless produced/screened to minus 3/8 inch.
  - (4) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. FRAP stockpiles for use in HMA binder mixtures (High and Low ESAL), HMA base course, and HMA base course widening shall be FRAP in which the coarse aggregate is Class C quality or better.
  - (5) Use in Shoulders and Subbase. FRAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be FRAP, Restricted FRAP, conglomerate, or conglomerate DQ.
- (b) RAS. RAS meeting Type 1 or Type 2 requirements will be permitted in all HMA applications as specified herein.
- (c) FRAP and/or RAS Usage Limits. Type 1 or Type 2 RAS may be used alone or in conjunction with FRAP in HMA mixtures up to a maximum of 5.0% by weight of the total mix.

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

Max Asphalt Binder Replacement for FRAP with RAS Combination

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

- 1/ For HMA "All Other" (shoulder and stabilized subbase) N-30, the percent asphalt binder replacement shall not exceed 50% of the total asphalt binder in the mixture.
- 2/ When the binder replacement exceeds 15 percent for all mixes, except for SMA and IL-4.75, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent binder replacement using a virgin asphalt binder grade of PG64-22 will be reduced to a PG58-28). When constructing full depth HMA and the ABR is less than 15 percent, the required virgin asphalt binder grade shall be PG64-28.

- 3/ When the ABR for SMA or IL-4.75 is 15 percent or less, the required virgin asphalt binder shall be SBS PG76-22 and the elastic recovery shall be a minimum of 80. When the ABR for SMA or IL-4.75 exceeds 15%, the virgin asphalt binder grade shall be SBS PG70-28 and the elastic recovery shall be a minimum of 80.
- 4/ When FRAP or RAS is used alone, the maximum percent asphalt binder replacement designated on the table shall be reduced by 10 percent.

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

- (a) FRAP and/or RAS. FRAP and /or RAS mix designs shall be submitted for verification. If additional FRAP or RAS stockpiles are tested and found to be within tolerance, as defined under "Evaluation of Tests" herein, and meet all requirements herein, the additional FRAP or RAS stockpiles may be used in the original design at the percent previously verified.
- (b) RAS. Type 1 and Type 2 RAS are not interchangeable in a mix design. A RAS stone bulk specific gravity (Gsb) of 2.300 shall be used for mix design purposes.

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

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

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

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

(1) Dryer Drum Plants.

- a. Date, month, year, and time to the nearest minute for each print.

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

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

**1031.09 RAP in Aggregate Surface Course and Aggregate Shoulders.** The use of RAP or FRAP in aggregate surface course and aggregate shoulders shall be as follows.

- (a) Stockpiles and Testing. RAP stockpiles may be any of those listed in Article 1031.02, except "Non-Quality" and "FRAP". The testing requirements of Article 1031.03 shall not apply. RAP used to construct aggregate surface course and aggregate shoulders shall be according to the current Bureau of Materials and Physical Research's Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications"
- (b) Gradation. The RAP material shall meet the gradation requirements for CA 6 in accordance with Art.1004.01 (c), except the requirements for the minus No. 200 (75µm) sieve will not apply. The sample for the RAP material shall be air dried to constant weight prior to being tested for gradation."

**SLIPFORM PAVING (D-1)**

Effective: November 1, 2014

Revise Article 1020.04 Table 1, Note (5) of Standard Specifications to read:

"The slump range for slipform construction shall be 1/2 to 1 1/2 in."

Revise Article 1020.04 Table 1 (metric), Note (5) of Standard Specifications to read:

"The slump range for slipform construction shall be 13 to 40 mm."

**UNDERGROUND RACEWAYS**

Effective: March 1, 2015

Revise Article 810.04 of the Standard Specifications to read:

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

Add the following to Article 810.04 of the Standard Specifications:

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

Add the following to Article 810.04 of the Standard Specifications:

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

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



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

## **GENERAL ELECTRICAL REQUIREMENTS**

Effective: January 1, 2012

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."

Add the following to the 1<sup>st</sup> paragraph of Article 801.05(a) of the Standard Specifications:

"Items from multiple disciplines shall not be combined on a single submittal and transmittal. Items for lighting, signals, surveillance and CCTV must be in separate submittals since they may be reviewed by various personnel in various locations."

Revise the second sentence of the 5<sup>th</sup> paragraph of Article 801.05(a) of the Standard Specifications to read:

"The Engineer will stamp the submittals indicating their status as 'Approved', 'Approved as Noted', 'Disapproved', or 'Information Only'.

Revise the 6<sup>th</sup> 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 is specified elsewhere and will be paid for separately

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 2<sup>nd</sup> 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:

Equipment Description	Equipment Designation	Latitude	Longitude
CCTV Camera pole	ST42	41.58049 3	-87.793378
FO mainline splice handhole	HHL-ST31	41.55853 2	-87.792571
Handhole	HH at STA 234+35	41.76553 2	-87.543571
Electric Service	Elec Srv	41.60224 8	-87.794053
Conduit crossing	SB IL83 to EB I290 ramp SIDE A	41.58459 3	-87.793378
Conduit crossing	SB IL83 to EB I290 ramp SIDE B	41.58460 0	-87.793432
Light Pole	DA03	41.55853 2	-87.792571
Lighting Controller	X	41.65184 8	-87.762053
Sign Structure	FGD	41.58049 3	-87.793378
Video Collection Point	VCP-IK	41.55853 2	-87.789771
Fiber splice connection	Toll Plaza34	41.60692 8	-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.”

## **MAINTENANCE OF LIGHTING SYSTEMS**

Effective: January 1, 2012

Replace Article 801.11 and 801.12 of the Standard Specifications with the following:

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

Before performing any excavation, removal, or installation work (electrical or otherwise) at the site, the Contractor shall initiate a request for a maintenance transfer and preconstruction inspection, as specified elsewhere herein, to be held in the presence of the Engineer and a representative of the party or parties responsible for maintenance of any lighting systems which may be affected by the work. The request for the maintenance preconstruction inspection shall be made no less than seven (7) calendar days prior to the desired inspection date.

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

### **Maintenance of Existing Lighting Systems**

**Existing lighting systems.** Existing lighting systems shall be defined as any lighting system or part of a lighting system in service at the time of contract Letting. The contract drawings indicate the general extent of any existing lighting, but whether indicated or not, it remains the Contractor's responsibility to ascertain the extent of effort required for compliance with these specifications and failure to do so will not be justification for extra payment or reduced responsibilities.

#### **Extent of Maintenance.**

**Partial Maintenance.** Unless otherwise indicated, if the number of circuits affected by the contract is equal to or less than 40% of the total number of circuits in a given controller and the controller is not part of the contract work, the Contractor needs only to maintain the affected circuits. The affected circuits shall be isolated by means of in-line waterproof fuse holders as specified elsewhere and as approved by the Engineer.

**Full Maintenance.** If the number of circuits affected by the contract is greater than 40% of the total number of circuits in a given controller, or if the controller is modified in any way under the contract work, the Contractor shall maintain the entire controller and all associated circuits.

### **Maintenance of Proposed Lighting Systems**

**Proposed Lighting Systems.** Proposed lighting systems shall be defined as any lighting system or part of a lighting system, temporary or permanent, which is to be constructed under this contract.

The Contractor shall be fully responsible for maintenance of all items installed under this contract. Maintenance shall include, but not be limited to, any equipment failures or malfunctions as well as equipment damage either by the motoring public, Contractor operations, vandalism, or other means. The potential cost of replacing or repairing any malfunctioning, damaged, or vandalized equipment shall be included in the bid price of this item and will not be paid for separately.

### **Lighting System Maintenance Operations**

The Contractor's responsibility shall include all applicable responsibilities of the Electrical Maintenance Contract, State of Illinois, Department of Transportation, Division of Highways, District One. These responsibilities shall include the maintenance of lighting units (including sign lighting), cable runs and lighting controls. In the case of a pole knockdown or sign light damage, the Contractor shall promptly clear the lighting unit and circuit discontinuity and restore the system to service. The equipment shall then be re-set by the contractor within the time limits specified herein.

If the equipment damaged by normal vehicular traffic, not contractor operations, is beyond repair and cannot be re-set, the contractor shall replace the equipment in kind with payment made for such equipment under Article 109.04. If the equipment damaged by any construction operations, not normal vehicular traffic, is beyond repair and cannot be re-set, the contractor shall replace the equipment in kind and the cost of the equipment shall be included in the cost of this pay item and shall not be paid for separately.

Responsibilities shall also include weekly night-time patrol of the lighting system, with patrol reports filed immediately with the Engineer and with deficiencies corrected within 24 hours of the patrol. Patrol reports shall be presented on standard forms as designated by the Engineer. Uncorrected deficiencies may be designated by the Engineer as necessitating emergency repairs as described elsewhere herein.

The following chart lists the maximum response, service restoration, and permanent repair time the Contractor will be allowed to perform corrective action on specific lighting system equipment.

INCIDENT OR PROBLEM	SERVICE RESPONSE TIME	SERVICE RESTORATION TIME	PERMANENT REPAIR TIME
Control cabinet out	1 hour	4 hours	7 Calendar days
Hanging mast arm	1 hour to clear	na	7 Calendar days
Radio problem	1 hour	4 hours	7 Calendar days
Motorist caused damage or leaning light pole 10 degrees or more	1 hour to clear	4 hours	7 Calendar days
Circuit out – Needs to reset breaker	1 hour	4 hours	na
Circuit out – Cable trouble	1 hour	24 hours	21 Calendar days
Outage of 3 or more successive lights	1 hour	4 hours	na
Outage of 75% of lights on one tower	1 hour	4 hours	na
Outage of light nearest RR crossing approach, Islands and gores	1 hour	4 hours	na
Outage (single or multiple) found on night outage survey or reported to EMC	na	na	7 Calendar days
Navigation light outage	na	na	24 hours

- **Service Response Time** -- amount of time from the initial notification to the Contractor until a patrolman physically arrives at the location.
- **Service Restoration Time** – amount of time from the initial notification to the Contractor until the time the system is fully operational again (In cases of motorist caused damage the undamaged portions of the system are operational.)
- **Permanent Repair Time** – amount of time from initial notification to the Contractor until the time permanent repairs are made if the Contractor was required to make temporary repairs to meet the service restoration requirement.

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 any monies owed to the Contractor. Repeated failures and/or a gross failure of maintenance shall result in the State’s Electrical Maintenance Contractor being directed to correct all deficiencies and the resulting costs deducted from any monies owed the contractor.

Damage caused by the Contractor's operations shall be repaired at no additional cost to the Contract.

**Operation of Lighting**

The lighting shall be operational every night, dusk to dawn. Duplicate lighting systems (such as temporary lighting and proposed new lighting) shall not be operated simultaneously. Lighting systems shall not be kept in operation during long daytime periods.

**Method of Measurement**

The contractor shall demonstrate to the satisfaction of the Engineer that the lighting system is fully operational prior to submitting a pay request. Failure to do so will be grounds for denying the pay request. Months in which the lighting systems are not maintained and not operational will not be paid for. Payment shall not be made retroactively for months in which lighting systems were not operational.

**Basis of Payment.** Maintenance of lighting systems shall be paid for at the contract unit price per calendar month for **MAINTENANCE OF LIGHTING SYSTEM**, which shall include all work as described herein.

**PROTECTION AND MAINTENANCE OF EXISTING UNDERPASS LUMINAIRES**

Effective: July 1, 2012

**Description:** This item shall consist of providing protection, temporary support, removal and reattachment as required, of the existing underpass lighting system. The system consists of, but not limited to, luminaires, junction boxes, raceways, support equipment and conductors. Any wiring required to maintain the operation of the underpass or other circuits feed through the underpass lighting system shall be included in this item.

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

Item	Article/Section
(a) Electric Raceway Material.....	1088
(b) Conductors.....	1066.02
(c) Insulation.....	1066.03

**CONSTRUCTION REQUIREMENTS**

**General.** Before performing any work, an inventory of all missing hardware of the existing lighting system shall be taken jointly by the Contractor and the Engineer.

**Protection During Deck Reconstruction:** Luminaires, junction boxes, and conduit hangers attached to the bridge deck shall be removed prior to the removal of the existing bridge deck. The luminaires, junction boxes and the conduits shall be temporarily supported during bridge deck reconstruction. The method of support shall be structurally equivalent to the existing system and shall be approved by the Engineer. Existing vertical clearances shall be maintained at all times.



The underpass luminaires and hardware shall be protected from overhead debris during the removal and reconstruction of the bridge deck. The underpass luminaire protection shall be coordinated with the protective shield as described elsewhere in these Special Provisions.

The underpass lighting system shall be protected from spills and over-spray during any painting operations. Spills and over-spray shall be removed by the Contractor at no additional expense to the State. If spills or over-spray occur on the luminaire lens, the luminaire lens shall be replaced with new lens from the luminaire manufacturer at no additional cost to the State.

Prior to bridge deck removal the Contractor shall measure and log the location of all existing conduit and luminaire hangers for reattachment purposes. Upon completion of the bridge deck reconstruction, the existing underpass lighting system shall be permanently reattached at these locations. New heavy duty expansion anchors, as approved by the Engineer, shall be used. New hangers may be installed at the option of the Contractor. The new hangers shall be equivalent to the existing hangers or as approved by the Engineer. The cost of the new expansion anchors and hangers shall be included in this pay item.

**Protection During concrete repair:** Luminaires, junction boxes, and conduit attached to any structural concrete walls and or bridge deck shall be temporarily supported during the concrete repair. The method of support shall be structurally equivalent to the existing system and shall be approved by the Engineer. Existing clearances shall be maintained at all times.

Prior to any equipment or raceway removal the Contractor shall measure and log the location of all existing equipment for reattachment purposes. Upon completion of the concrete repair, the existing equipment shall be permanently reattached at these locations. New heavy duty expansion anchors, as approved by the Engineer, shall be used. The new hangers shall be equivalent to the existing hangers or as approved by the Engineer. The cost of the new expansion anchors and hangers shall be included in this pay item.

**Damage to Underpass Lighting System:** Should the lighting system be damaged through the Contractor's operations, repairs shall be made by the Contractor at no additional cost to the State.

All repairs shall be performed expeditiously and shall be approved by the Engineer. The Contractor shall conduct his work in a manner as not to keep out of service any of the lighting between 4:00 PM and 8:00 AM. All lights shall be tested daily and any necessary repairs shall be made immediately without delay.

Damaged cable shall be replaced in complete spans, no underground splices will be allowed. Temporary aerial quadruplex cable may be used to maintain luminaires operational provided it does not interfere with traffic or other operations as determined by the Engineer.

**Grounding of Existing Lighting System:** As indicated on the plans, the Contractor shall furnish and install a grounding conductor for the underpass lighting system in all existing conduits, junction boxes and luminaires. The ground conductor shall be a 1/C #10 AWG EPR (Type-RHW) green insulated conductor. The new ground conductor shall be connected to the existing ground conductor in the main junction box. The cost of this work shall be included in this pay item.

The continuity and continued operation of the adjacent lighting system shall be the responsibility of the Contractor. Any temporary wiring required to comply with this requirement shall be included in this item.

**Basis of Payment:** This work shall be paid for at the contract lump sum price for **PROTECT AND MAINTAIN EXISTING UNDERPASS LUMINAIRE**, which shall be payment for the work as described herein and as indicated in the plans.

**EXPOSED RACEWAYS**

Effective: January 1, 2012

Revise the first paragraph of Article 811.03(a) of the Standard Specifications to read:

"General. Rigid metal conduit installation shall be according to Article 810.05(a). Conduits terminating in junction and pull boxes shall be terminated with insulated and gasketed watertight threaded NEMA 4X conduit hubs. The hubs shall be Listed under UL 514B. The insulated throat shall be rated up to 105° C. When PVC coated conduit is utilized, the aforementioned hubs shall also be PVC coated."

Add the following to Article 811.03(b) of the Standard Specifications:

"Where PVC coated conduit is utilized, all conduit fittings, couplings and clamps shall be PVC coated. All other mounting hardware and appurtenances shall be stainless steel."

"The personnel installing the PVC coated conduit must be trained and certified by the PVC coated conduit Manufacturer or Manufacturer's representative to install PVC coated conduit. Documentation demonstrating this requirement must be submitted for review and approval."

Add the following to Article 1088.01(a) of the Standard Specifications:

All iron and steel products, which are to be incorporated into the work, including conduit and all conduit fittings, shall be domestically manufactured or produced and fabricated as specified in Article 106."

Revise Article 1088.01(a)(3) of the Standard Specifications to read:

- a. PVC Coated Steel Conduit. The PVC coated rigid metal conduit shall be UL Listed (UL 6). The PVC coating must have been investigated by UL as providing the primary corrosion protection for the rigid metal conduit. Ferrous fittings for general service locations shall be UL Listed with PVC as the primary corrosion protection. Hazardous location fittings, prior to plastic coating shall be UL listed.
- b. The PVC coating shall have the following characteristics:

Hardness:	85+ Shore A Durometer
Dielectric Strength:	400V/mil @ 60 Hz
Aging:	1,000 Hours Atlas Weatherometer
Temperature	The PVC compound shall conform at 0° F. to Federal Specifications PL-406b, Method 2051, Amendment 1 of 25 September 1952 (ASTM D 746)
Elongation:	200%

- c. The exterior and interior galvanized conduit surface shall be chemically treated to enhance PVC coating adhesion and shall also be coated with a primer before the PVC coating to ensure a bond between the zinc substrate and the PVC coating. The bond strength created shall be greater than the tensile strength of the plastic coating.
- d. The nominal thickness of the PVC coating shall be 1 mm (40 mils). The PVC exterior and urethane interior coatings applied to the conduit shall afford sufficient flexibility to permit field bending without cracking or flaking at temperatures above -1°C (30°F).
- e. An interior urethane coating shall be uniformly and consistently applied to the interior of all conduit and fittings. This internal coating shall be a nominal 2 mil thickness. The interior coating shall be applied in a manner so there are no runs, drips, or pinholes at any point. The coating shall not peel, flake, or chip off after a cut is made in the conduit or a scratch is made in the coating.
- f. Conduit bodies shall have a tongue-in-groove gasket for maximum sealing capability. The design shall incorporate a positive placement feature to assure proper installation. Certified test results confirming seal performance at 15 psig (positive) and 25 in. of mercury (vacuum) for 72 hours shall be submitted for review when requested by the Engineer.
- g. The PVC conduit shall pass the following tests:

Exterior PVC Bond test RN1:

Two parallel cuts 13 mm (1/2 inch) apart and 40 mm (1 1/2 inches) in length shall be made with a sharp knife along the longitudinal axis. A third cut shall be made perpendicular to and crossing the longitudinal cuts at one end. The knife shall then be worked under the PVC coating for 13 mm (1/2 inch) to free the coating from the metal.

Using pliers, the freed PVC tab shall be pulled with a force applied vertically and away from the conduit. The PVC tab shall tear rather than cause any additional PVC coating to separate from the substrate.

Boil Test:

Acceptable conduit coating bonds (exterior and interior) shall be confirmed if there is no disbondment after a minimum average of 200 hours in boiling water or exposure to steam vapor at one atmosphere. Certified test results from a national recognized independent testing laboratory shall be submitted for review and approval. The RN1 Bond Test and the Standard Method for Measuring Adhesion by Tape Test shall be utilized.

Exterior Adhesion. In accordance with ASTM D870, a 6" length of conduit test specimen shall be placed in boiling water. The specimen shall be periodically removed, cooled to ambient temperature and immediately tested according to the bond test (RN1). When the PVC coating separates from the substrate, the boil time to failure in hours shall be recorded.

Interior Adhesion. In accordance with ASTM D3359, a 6" conduit test specimen shall be cut in half longitudinally and placed in boiling water or directly above boiling water with the urethane surface facing down. The specimen shall be periodically removed, cooled to ambient temperature and tested in accordance with the Standard Method of Adhesion by Tape Test (ASTM D3359). When the coating disbonds, the time to failure in hours shall be recorded.

Heat/Humidity Test:

Acceptable conduit coating bonds shall be confirmed by a minimum average of 30 days in the Heat and Humidity Test. The RN1 Bond Test and the Standard Method for Measuring Adhesion by Tape Test shall be utilized.

Exterior Adhesion. In accordance with ASTM D1151, D1735, D2247 and D4585, conduit specimens shall be placed in a heat and humidity environment where the temperature is maintained at 150°F (66°C) and 95% relative humidity. The specimens shall be periodically removed and a bond test (RN1) performed. When the PVC coating separates from the substrate, the exposure time to failure in days shall be recorded.

Interior Adhesion. In accordance with ASTM D3359, conduit specimens shall be placed in a heat and humidity environment where the temperature is maintained at 150°F (66°C) and 95% relative humidity. When the coating disbonds, the time to failure in hours shall be recorded.

Add the following to Article 1088.01(a)(4) of the Standard Specifications:

"All liquid tight flexible metal conduit fittings shall have an insulated throat to prevent abrasion of the conductors and shall have a captive sealing O-ring gasket. The fittings shall be Listed under UL 514B. The insulated throat shall be rated up to 105° C."

Revise the second paragraph of Article 811.04 of the Standard Specifications to read:

"Expansion fittings and LFNC will not be measured for payment."

Revise Article 811.05 of the Standard Specifications to read:

**"811.05 Basis of Payment.** This work will be paid for at the contract unit price per meter (foot) for **CONDUIT ATTACHED TO STRUCTURE**, of the diameter specified, **RIGID GALVANIZED STEEL** or **CONDUIT ATTACHED TO STRUCTURE**, of the diameter specified, **RIGID GALVANIZED STEEL, PVC COATED.**"

#### **ELECTRIC UTILITY SERVICE CONNECTION (COMED)**

Effective: January 1, 2012

**Description.** This item shall consist of payment for work performed by ComEd in providing or modifying electric service as indicated. THIS MAY INVOLVE WORK AT MORE THAN ONE ELECTRIC SERVICE. For summary of the Electrical Service Drop Locations see the schedule contained elsewhere herein.

#### **CONSTRUCTION REQUIREMENTS**

**General.** It shall be the Contractor's responsibility to contact ComEd. The Contractor shall coordinate his work fully with the ComEd both as to the work required and the timing of the installation. No additional compensation will be granted under this or any other item for extra work caused by failure to meet this requirement. **Please contact ComEd, New Business Center Call Center, at 866 NEW ELECTRIC (1-866-639-3532) to begin the service connection process. The Call Center Representatives will create a work order for the service connection. The representative will ask the requestor for information specific to the request. The representative will assign the request based upon the location of project.**

The Contractor should make particular note of the need for the earliest attention to arrangements with ComEd for service. In the event of delay by ComEd, no extension of time will be considered applicable for the delay unless the Contractor can produce written evidence of a request for electric service within 30 days of execution.

**Method Of Payment.** The Contractor will be reimbursed to the exact amount of money as billed by ComEd for its services. Work provided by the Contractor for electric service will be paid separately as described under ELECTRIC SERVICE INSTALLATION. No extra compensation shall be paid to the Contractor for any incidental materials and labor required to fulfill the requirements as shown on the plans and specified herein.

For bidding purposes, this item shall be estimated as \$7,000.00

**Basis Of Payment.** This work will be paid for at the contract lump sum price for **ELECTRIC UTILITY SERVICE CONNECTION** which shall be reimbursement in full for electric utility service charges.

#### **ELECTRIC SERVICE INSTALLATION**

Effective: January 1, 2012

**Description.** This item shall consist of all material and labor required to extend, connect or modify the electric services, as indicated or specified, which is over and above the work performed by the utility. Unless otherwise indicated, the cost for the utility work, if any, will be reimbursed to the Contractor separately under ELECTRIC UTILITY SERVICE CONNECTION. This item may apply to the work at more than one service location and each will be paid separately.

**Materials.** Materials shall be in accordance with the Standard Specifications.

### **CONSTRUCTION REQUIREMENTS**

**General.** The Contractor shall ascertain the work being provided by the electric utility and shall provide all additional material and work not included by other contract pay items required to complete the electric service work in complete compliance with the requirements of the utility.

No additional compensation will be allowed for work required for the electric service, even though not explicitly shown on the Drawings or specified herein

**Method Of Measurement.** Electric Service Installation shall be counted, each.

**Basis Of Payment.** This work will be paid for at the contract unit price each for **ELECTRIC SERVICE INSTALLATION** which shall be payment in full for the work specified herein.

### **UNIT DUCT**

Effective: January 1, 2012

Revise the first paragraph of Article 810.04 to read:

“The unit duct shall be installed at a minimum depth of 30-inches (760 mm) unless otherwise directed by the Engineer.”

Revise Article 1088.01(c) to read:

“(c) Coilable Nonmetallic Conduit.

General:

The duct shall be a plastic duct which is intended for underground use and which can be manufactured and coiled or reeled in continuous transportable lengths and uncoiled for further processing and/or installation without adversely affecting its properties of performance. The duct shall be a plastic duct which is intended for underground use and can be manufactured and coiled or reeled in continuous transportable lengths and uncoiled for further processing and/or installation without adversely affecting its properties of performance.

The duct shall be made of high density polyethylene which shall meet the requirements of ASTM D 2447, for schedule 40. The duct shall be composed of black high density polyethylene meeting the requirements of ASTM D 3350, Class C, Grade P33. The wall thickness shall be in accordance with Table 2 for ASTM D 2447.

The duct shall be UL Listed per 651-B for continuous length HDPE coiled conduit. The duct shall also comply with NEC Article 354.100 and 354.120.

Submittal information shall demonstrate compliance with the details of these requirements.

Dimensions:

Duct dimensions shall conform to the standards listed in ASTM D2447. Submittal information shall demonstrate compliance with these requirements.

Nominal Size		Nominal I.D.		Nominal O.D.		Minimum Wall	
mm	in	mm	in	mm	in	mm	in
31.75	1.25	35.05	1.380	42.16	1.660	3.556 +0.51	0.140 +0.020
38.1	1.50	40.89	1.610	48.26	1.900	3.683 +0.51	0.145 +0.020

Nominal Size		Pulled Tensile	
mm	in	N	lbs
31.75	1.25	3322	747
38.1	1.50	3972	893

Marking:

As specified in NEMA Standard Publication No. TC-7, the duct shall be clearly and durably marked at least every 3.05 meters (10 feet) with the material designation (HDPE for high density polyethylene), nominal size of the duct and the name and/or trademark of the manufacturer.

Performance Tests:

Polyethylene Duct testing procedures and test results shall meet the requirements of UL 651. Certified copies of the test report shall be submitted to the Engineer prior to the installation of the duct. Duct crush test results shall meet or exceed the following requirements:

Duct Diameter		Min. force required to deform sample 50%	
mm	in	N	lbs
35	1.25	4937	1110
41	1.5	4559	1025

**WIRE AND CABLE**

Effective: January 1, 2012

Add the following to the first paragraph of Article 1066.02(a):

“The cable shall be rated at a minimum of 90°C dry and 75°C wet and shall be suitable for installation in wet and dry locations, and shall be resistant to oils and chemicals.”

Revise the Aerial Electric Cable Properties table of Article 1066.03(a)(3) to read:

Aerial Electric Cable Properties

Phase Conductor		Messenger wire			
Size AWG	Stranding	Average Insulation Thickness		Minimum Size AWG	Stranding
		mm	mils		
6	7	1.1	(45)	6	6/1
4	7	1.1	(45)	4	6/1
2	7	1.1	(45)	2	6/1
1/0	19	1.5	(60)	1/0	6/1
2/0	19	1.5	(60)	2/0	6/1
3/0	19	1.5	(60)	3/0	6/1
4/0	19	1.5	(60)	4/0	6/1

Add the following to Article 1066.03(b) of the Standard Specifications:

“Cable sized No. 2 AWG and smaller shall be U.L. listed Type RHH/RHW and may be Type RHH/RHW/USE. Cable sized larger than No. 2 AWG shall be U.L. listed Type RHH/RHW/USE.”

Revise Article 1066.04 to read:

“Aerial Cable Assembly. The aerial cable shall be an assembly of insulated aluminum conductors according to Section 1066.02 and 1066.03. Unless otherwise indicated, the cable assembly shall be composed of three insulated conductors and a steel reinforced bare aluminum conductor (ACSR) to be used as the ground conductor. Unless otherwise indicated, the code word designation of this cable assembly is “Palomino”. The steel reinforced aluminum conductor shall conform to ASTM B-232. The cable shall be assembled according to ANSI/ICEA S-76-474.”

Revise the second paragraph of Article 1066.05 to read:

“The tape shall have reinforced metallic detection capabilities consisting of a woven reinforced polyethylene tape with a metallic core or backing.”

**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.

**KEEPING ARTERIAL ROADWAYS OPEN TO TRAFFIC (LANE CLOSURES ONLY)**

Effective: January 22, 2003

Revised: February 20, 2015

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

Arterial lane closures shall be in accordance with the Standard Specifications, Highway Standards, District Details, and the direction of the Engineer. The Contractor shall request and gain approval from the Illinois Department of Transportation's Arterial Traffic Control Supervisor at 847-705-4470 seventy-two (72) hours in advance of all long-term (24 hrs. or longer) lane closures. This advance notification is calculated based on a Monday through Friday workweek and shall not include weekends or state holidays.

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

Peak traffic volume hours are defined as weekdays (Monday through Friday) from **6:00 AM to 9:00 AM and 3:00 PM to 6:00 PM**.

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

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

One lane or ramp blocked = \$1,000.00

Two lanes blocked = \$ 2,500.00

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

**45 MIL HOT SPRAY THERMOPLASTIC PAVEMENT MARKING**

Effective: February 28, 1994

Revised: December 18, 2012

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

Ingredient Materials:

- (a) Binder. The binder shall consist of a mixture of synthetic resins, at least one of which is solid at room temperature. The total binder content of the thermoplastic compound shall be well distributed throughout the compound. The binder shall be free from all foreign objects or ingredients that would cause bleeding, staining or discoloration. The binder shall be 25 percent minimum by weight of the thermoplastic compound. The binder shall be characterized by an "IR Spectra". Future shipments of binder will be checked by an "IR Spectra" to verify that the binder has not been changed.
- (b) Pigment. The pigment used for the white thermoplastic compound shall be a highgrade pure (minimum 93 percent) titanium dioxide (TiO<sub>2</sub>). The white pigment content shall not be less than 10 percent by weight and shall be uniformly distributed throughout the thermoplastic compound.

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

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

(1) Scope:

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

Type A – uncoated

Type B - moisture resistant, silicone coated

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

(2) Properties:

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

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

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

- (b) Imperfections. The surface of the glass beads shall be free of pits and scratches. The glass beads shall be spherical in shape and shall contain not more than 20 percent by weight of irregular shapes when tested by the standard method using a vibratile inclined glass plate as adopted by the Department.
- (c) Index of Refraction. The index of refraction of the glass beads shall be not less than 1.50 when tested by the immersion method at 77 °F (25 °C).
- (d) Silica Content. The glass beads shall contain not less than 65 percent silica (SiO<sub>2</sub>).
- (e) Chemical Stability. Glass beads which show a tendency toward decomposition, including surface etching, when exposed to paint or thermoplastic constituents will be rejected. The glass beads shall be tested by Federal Specification TT-B-1325B, Section 4.3.9 (water resistance) and evaluated for compliance with Section 3.2.9, with the following exceptions:

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

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

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

The drop-on beads shall have a silicone, moisture resistant coating and pass the following test: One hundred grams of beads are placed in a 600 ml beaker and an equivalent volume of distilled water shall be added to the beaker. The beaker will then stand for 5 minutes, at the end of which time the water shall be carefully poured off and the beads transferred to a clean dry beaker and allowed to stand for 5 minutes. The beads will then be poured slowly into a

standard glass funnel (Corning 6120), 127 mm diameter, 102 mm stem length and 11 mm stem inside diameter.

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

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

Thermoplastic Compound:

(a) Characteristic Requirements:

- (1) In the plastic state, the material shall not give off fumes that are toxic or otherwise injurious to persons or property. The manufacturer shall provide material safety data sheets for the product.
- (2) The temperature versus viscosity characteristic of the plastic material shall remain constant and the material shall not deteriorate in any manner during reheating processes.
- (3) There shall be no obvious change in color of the material as a result of repeated heating or from batch to batch. The maximum elapsed time after application after which normal traffic will leave no impression or imprint on the new stripe shall be 30 seconds when the air and road surface temperature is approximately  $70 \pm 3$  °F ( $21 \pm 2$  °C). After application and proper drying, the material shall show no appreciable deformation or discoloration, shall remain free from tack, and shall not lift from the pavement under normal traffic conditions within a road temperature range of -20 to 150 °F (-28.9 to 65.6 °C). The stripe shall maintain its original dimensions and placement.

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

- (4) The material shall provide a stripe that has a uniform thickness throughout its cross section and has the density and character to provide a sharp edge of the line.
- (5) The thermoplastic compound after heating for 4 hours  $\pm$  5 min. at  $375 \pm 3$  °F ( $190.6 \pm 2$  °C) and cooled at 77 °F (25 °C) shall meet the following requirements for daylight reflectance and color, when tested, using a color spectrophotometer with 45° circumferential / 0° geometry, illuminant C, and 2° observer angle. The color instrument shall measure the visible spectrum from 380 to 720 nm with a wavelength measurement interval and spectral bandpass of 10 nm.

White: Daylight Reflectance, 75 percent minimum

\*Yellow: Daylight Reflectance, 45 percent minimum

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

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

(b) Identification

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

(c) Packaging

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

(d) Storage Life

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

Sampling and Testing:

- (a) Unless otherwise provided, all materials shall be sampled and tested in accordance with the latest published standard methods of the American Society for Testing and Materials, and revisions thereof, in effect on the date of invitation for bids, where such standard methods exist. In case there are no ASTM Standards which apply, applicable standard methods of the American Association of State Highway Transportation Officials, or the Federal Government, or of other recognized standardizing agencies shall be used.
- (b) The right is reserved to inspect the material either at the place of manufacture or at the destination or at both places. If inspected at the place of manufacture, the manufacturer shall furnish such facilities as may be required for collecting and forwarding samples, and shall also furnish facilities for testing the material during the process of manufacture, if required. Tests will be made by and at the expense of the Department. All material samples for acceptance tests shall be taken or witnessed by a representative of the Bureau of Materials and Physical Research. All material samples shall be submitted to the Engineer of Materials and Physical Research, 126 East Ash Street, Springfield, Illinois 62704-4766 at least 30 days in advance of the pavement marking operations. Random check samples may be taken at the job site at the discretion of the Engineer.
- (c) The Engineer will test and approve the basic ingredients.
- (d) The sample(s) shall be labeled with the lot number, date, quantity and any other pertinent information. Samples shall be submitted in the following manner:
  - (1) Ingredient Materials:
    - (a) Glass beads: At least three randomly selected bags or containers shall be obtained from each lot or shipment of glass beads. The content of each bag or container shall be passed through a large Riffle Sampler, thus splitting the material down until a representative 1-quart (1-liter) sample is obtained. The sample from each container shall be submitted for testing.
    - (b) Binder: One pint (0.5 liter).
    - (c) Pigments: One pint (0.5 liter).
    - (d) Filler: One pint (0.5 liter).
  - (2) Thermoplastic:

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

Manufacturer's Responsibility:

- (a) The manufacturer shall perform tests on a minimum of one sample per 10,000 pounds (4,500 kg) of thermoplastic produced. Minimum tests required shall be a softening point

determination and color. Manufacturer's test results shall be submitted along with the thermoplastic sample to the Bureau of Materials and Physical Research.

- (b) The manufacturer shall retain the test sample for a minimum period of 18 months.
- (c) The manufacturer shall furnish the Bureau of Materials and Physical Research with copies of bills of lading for all material inspected. Bills of lading shall indicate the consignee and destination, date of shipment, lot numbers, quantity, type of material, name and location of source.

Material Acceptance:

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

- (a) Compliance of ingredient materials with the specifications.
- (b) Compliance of thermoplastic material with the specifications.
- (c) Manufacturer's test results for each lot of thermoplastic have been received.
- (d) Identification requirements are satisfactory.

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

Installation Requirements:

- (a) Before applying thermoplastic, the crack sealant shall be fully cured and hardened and the Contractor shall remove any dirt, glaze, grease, or any other material that would reduce the adhesion of the thermoplastic to the pavement.
- (b) This thermoplastic material shall be readily renewable by placing an overlay of new material directly over old markings of the same material. Such new material shall bond itself to the old markings in such a manner that no splitting or separation takes place. The contractor shall remove all existing material that might cause premature failure of the new material.
- (c) The thermoplastic material shall be installed in a molten state by the spray method at a minimum temperature of 350 °F (177 °C) and a maximum temperature of 400 °F (204 °C). Scorching or discoloration of material shall be cause for rejection by the Engineer. The machinery shall be constructed so that all mixing and conveying parts, up to and including the spray gun maintain the material in the molten state.
- (d) Thermoplastic pavement marking materials shall not be applied by the spray method when air and pavement surface temperatures are below 50 °F (10 °C) or when the surface of the pavement contains any evidence of moisture.
- (e) Unless directed by the Engineer, lines shall not be laid directly over a longitudinal crack or joint. The edge of the center line or lane line shall be offset a minimum distance of 2



inches (50 mm) from a longitudinal crack or joint. Edge lines shall be approximately 2 inches (50 mm) from the edge of pavement. The finished center and lane lines shall be straight, with the lateral deviation of any 10 foot (3 meter) line not to exceed 1 inch (25 mm).

- (f) A primer sealer of the type recommended by the manufacturer of the thermoplastic material shall be applied on all Portland concrete pavement surfaces, and if recommended by the manufacturer, on other types of pavement surface, prior to the installation of the thermoplastic material. The primer shall be free of solvent and water prior to the thermoplastic application.
- (g) The thermoplastic material shall be applied at a thickness of not less than 0.045 inch (1.143 mm), but in no case shall it exceed a thickness of 0.050 inch (1.27 mm). Finished lines shall be within a 1/4 inch (6.35 mm) of the width specified in the plans.
- (h) The Contractor shall place the thermoplastic markings with adequate drop on glass in accordance with the above requirements, uniformly applied to assure nighttime reflectivity. It shall be the Contractor's responsibility to use compatible combination of thermoplastic material and beads to preclude the surface beads from sinking deeply into the thermoplastic.
- (i) The thickness of the markings will be measured above the pavement surface at such random points as the Engineer selects to determine conformance to these specifications. If the measurements show less than 0.045 inch (1.143 mm), the Engineer will "chip" the edges of the markings at random points and measure the thickness of the chips to determine if the overall thickness of the markings is at least 0.045 inch (1.143 mm). If the overall thickness or the thickness above the pavement surface is substantially in conformance with the thickness requirements, payment will be made at 100 percent of the contract unit prices involved. When the thickness at a given location is less than 0.045 inch (1.143 mm), additional measurements will be taken on each side of such location at such intervals as the Engineer may select to determine the extent of the deficient portion of the marking. The Contractor shall then apply additional thermoplastic material and beads to bring the thickness of the markings to at least 0.045 inch (1.143 mm).

Equipment Requirements:

- (a) The application equipment used for placing lane and edge line on freeways shall be permanently mounted on a truck of sufficient size and stability to insure smooth, straight application. The truck shall be equipped to carry a minimum of 4,000 pounds (1800 kilograms) of molten thermoplastic. The equipment shall have the capability of automatically placing intermittent and continuous lines. The equipment shall be so constructed as to provide the various widths of pavement marking lines specified. The mounting shall be such as to allow the spray equipment to accurately follow road irregularities and produce lines of uniform dimensions.
- (b) The equipment used to install hot applied thermoplastic material shall provide continuous uniform heating to temperatures exceeding 400 °F (204 °C), mixing and agitation of the material. Conveying parts of the equipment between the main material reservoir and the dispensing device shall prevent accumulation and clogging. All parts of the equipment, which comes in contact with the material, shall be constructed for easy accessibility and

exposure for cleaning and maintenance. The equipment shall operate so that all mixing and conveying parts including the line dispensing device, maintains the material at the plastic temperature. The use of pans, aprons, or similar devices to prevent die overruns will not be permitted.

- (c) Glass beads applied to the surface of the completed marking shall be applied by an automatic bead dispenser attached to the marking machine so that the beads are dispensed closely behind the installed marking. The glass bead dispenser shall be equipped with an automatic cut-off control synchronized with the cut-off of the thermoplastic material.
- (d) A special kettle shall be provided for uniformly melting and heating the thermoplastic material. The kettle must be equipped with an automatic thermostat control device and material thermometer for positive temperature control and to prevent overheating or under-heating of the material. The heating kettle and application equipment shall meet the requirements of the National Fire Underwriters and the National Fire Protection Association.
- (e) The Contractor shall provide an accurate temperature measuring device which shall be capable of measuring the pavement temperature prior to installation of the thermoplastic and the temperature of the molten thermoplastic material immediately after it is applied.

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

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

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

#### **TRAFFIC SIGNAL GENERAL REQUIREMENTS**

Effective: May 22, 2002

Revised: July 1, 2015

800.01TS

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

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

Definitions of Terms.

Add the following to Section 101 of the Standard Specifications:

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

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

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

Submittals.

Revise Article 801.05 of the Standard Specifications to read:

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

1. All material approval requests shall be made prior to or no later than the date of the preconstruction meeting. A list of major traffic signal items can be found in Article 801.05. Material or equipment which is similar or identical shall be the product of the same manufacturer, unless necessary for system continuity. Traffic signal materials and equipment shall bear the U.L. label whenever such labeling is available.
2. Product data and shop drawings shall be assembled by pay item. Only the top sheet of each pay item submittal will be stamped by the Department with the review status, except shop drawings for mast arm pole assemblies and the like will be stamped with the review status on each sheet.
3. Original manufacturer published product data and shop drawing sheets with legible dimensions and details shall be submitted for review.
4. When hard copy submittals are necessary, four complete copies of the manufacturer's descriptive literatures and technical data for the traffic signal materials shall be submitted. For hard copy or electronic submittals, the descriptive literature and technical data shall be adequate for determining whether the materials meet the requirements of the plans and specifications. If the literature contains more than one item, the Contractor shall indicate which item or items will be furnished.
5. When hard copy submittals are necessary for structural elements, four complete copies of the shop drawings for the mast arm assemblies and poles, and the combination mast arm assemblies and poles showing, in detail, the fabrication thereof and the certified mill analyses of the materials used in the fabrication, anchor rods, and reinforcing materials shall be submitted.
6. Partial or incomplete submittals will be returned without review.
7. Certain non-standard mast arm poles and special structural elements will require additional review from IDOT's Central Office. Examples include ornamental/decorative,

- non-standard length mast arm pole assemblies and monotube structures. The Contractor shall account for the additional review time in his schedule.
8. The contract number or permit number, project location/limits and corresponding pay code number must be on each sheet of correspondence, catalog cuts and mast arm poles and assemblies drawings.
  9. Where certifications and/or warranties are specified, the information submitted for approval shall include certifications and warranties. Certifications involving inspections, and/or tests of material shall be complete with all test data, dates, and times.
  10. After the Engineer reviews the submittals for conformance with the design concept of the project, the Engineer will stamp the drawings indicating their status as 'Approved', 'Approved-As-Noted', 'Disapproved', or 'Incomplete'. Since the Engineer's review is for conformance with the design concept only, it is the Contractor's responsibility to coordinate the various items into a working system as specified. The Contractor shall not be relieved from responsibility for errors or omissions in the shop, working, layout drawings, or other documents by the Department's approval thereof. The Contractor must still be in full compliance with contract and specification requirements.
  11. The Contractor shall secure approved materials in a timely manner to assure construction schedules are not delayed.
  12. All submitted items reviewed and marked 'APPROVED AS NOTED', 'DISAPPROVED', or 'INCOMPLETE' are to be resubmitted in their entirety, unless otherwise indicated within the submittal comments, with a disposition of previous comments to verify contract compliance at no additional cost to the contract.
  13. Exceptions to and deviations from the requirements of the Contract Documents will not be allowed. It is the Contractor's responsibility to note any deviations from Contract requirements at the time of submittal and to make any requests for deviations in writing to the Engineer. In general, substitutions will not be acceptable. Requests for substitutions must demonstrate that the proposed substitution is superior to the material or equipment required by the Contract Documents. No exceptions, deviations or substitutions will be permitted without the approval of the Engineer.
  14. Contractor shall not order major equipment such as mast arm assemblies prior to Engineer approval of the Contractor marked proposed traffic signal equipment locations to assure proper placement of contract required traffic signal displays, push buttons and other facilities. Field adjustments may require changes in proposed mast arm length and other coordination.

Marking Proposed Locations.

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

Add the following to Article 801.09 of the Standard Specifications:

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

Inspection of Electrical Systems.

Add the following to Article 801.10 of the Standard Specifications:

- (c) All cabinets including temporary traffic signal cabinets shall be assembled by an approved equipment supplier in District One. The Department reserves the right to request any

controller and cabinet to be tested at the equipment supplier's facility prior to field installation, at no extra cost to this contract.

Maintenance and Responsibility.

Revise Article 801.11 of the Standard Specifications to read:

- a. Existing traffic signal installations and/or any electrical facilities at all or various locations may be altered or reconstructed totally or partially as part of the work on this Contract. The Contractor is hereby advised that all traffic control equipment, presently installed at these locations, may be the property of the State of Illinois, Department of Transportation, Division of Highways, County, Private Developer, Municipality or Transit Agency in which they are located. Once the Contractor has begun any work on any portion of the project, all traffic signals within the limits of this contract or those which have the item "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation," shall become the full responsibility of the Contractor. The Contractor shall supply the Engineer, Area Traffic Signal Maintenance and Operations Engineer, IDOT ComCenter and the Department's Electrical Maintenance Contractor with two 24-hour emergency contact names and telephone numbers.
- b. Automatic Traffic Enforcement equipment such as red lighting running and railroad crossing camera systems are owned and operated by others and the Contractor shall not be responsible for maintaining this equipment.
- c. Regional transit, County and other agencies may also have equipment connected to existing traffic signal or peripheral equipment such as PTZ cameras, switches, transit signal priority (TSP and BRT) servers and other devices that shall be included with traffic signal maintenance at no additional cost to the contract.
- d. When the project has a pay item for "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation," the Contractor must notify both the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 and the Department's Electrical Maintenance Contractor, of their intent to begin any physical construction work on the Contract or any portion thereof. This notification must be made a minimum of seven (7) working days prior to the start of construction to allow sufficient time for inspection of the existing traffic signal installation(s) and transfer of maintenance to the Contractor. If work is started prior to an inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection. The Contractor will become responsible for repairing or replacing all equipment that is not operating properly or is damaged at no cost to the owner of the traffic signal. Final repairs or replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted.
- e. The Contractor is advised that the existing and/or temporary traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval

to shut down the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.

- f. The Contractor shall be fully responsible for the safe and efficient operation of the traffic signals and other equipment noted herein. Any inquiry, complaint or request by the Department, the Department's Electrical Maintenance Contractor or the public, shall be investigated and repairs begun within one hour. Failure to provide this service will result in liquidated damages of \$1000 per day per occurrence. In addition, the Department reserves the right to assign any work not completed within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these costs to the Electrical Maintenance Contractor within one month after the incident will result in additional liquidated damages of \$1000 per month per occurrence. Unpaid bills will be deducted from the cost of the Contract. The Department may inspect any signaling device on the Department's highway system at any time without notification.
- g. Any proposed activity in the vicinity of a highway-rail grade crossing must adhere to the guidelines set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions, flagging, or other operations shall not create conditions where vehicles can be queued across the railroad tracks. If the queuing of vehicles across the tracks cannot be avoided, a uniformed law enforcement officer or flagger shall be provided at the crossing to prevent vehicles from stopping on the tracks, even if automatic warning devices are in place.
- h. The Contractor shall be responsible to clear snow, ice, dirt, debris or other condition that obstructs visibility of any traffic signal display or access to traffic signal equipment.
- i. The Contractor shall maintain the traffic signal in normal operation during short or long term loss of utility or battery back-up power at critical locations designated by the Engineer. Critical locations may include traffic signals interconnected to railroad warning devices, expressway ramps, intersection with an SRA route, critical corridors or other locations identified by the Engineer. Temporary power to the traffic signal must meet applicable NEC and OSHA guidelines and may include portable generators and/or replacement batteries. Temporary power to critical locations shall not be for separately but shall be included in the contract.

Damage to Traffic Signal System.

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

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

installation will not be accepted. Cable splices are only allowed at the bases of post and mast arms.

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

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

Traffic Signal Inspection (TURN-ON).

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

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

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

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

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

Upon demonstration that the signals are operating and all work is completed in accordance with the Contract and to the satisfaction of the Engineer, the Engineer will then allow the signals to be placed in continuous operation. The Agency that is responsible for the maintenance of each traffic signal installation will assume the maintenance upon successful completion of this inspection.

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

Final Project Documentation:

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

Acceptance of the traffic signal equipment by the Department shall be based upon inspection results at the traffic signal "turn on", completeness of the required documentation and successful operation during a minimum 72 hour "burn-in" period following activation of the traffic signal. If approved, traffic signal acceptance shall be verbal at the "turn on" inspection followed by written



correspondence from the Engineer. The Contractor shall be responsible for all traffic signal equipment and associated maintenance thereof until Departmental acceptance is granted.

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

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

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

#### Record Drawings.

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

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

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

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

Add the following to Article 801.16 of the Standard Specifications:

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

- All Mast Arm Poles and Posts
- Traffic Signal Wood Poles
- Rail Road Bungalow
- UPS
- Handholes

- Conduit roadway crossings
- Controller Cabinets
- Communication Cabinets
- Electric Service Disconnect locations
- CCTV Camera installations
- Fiber Optic Splice Locations
- Conduit Crossings

Datum to be used shall be North American 1983.

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

- File shall be named: TSXXX-YY-MM-DD (i.e. TS22157\_15-01-01)
- Each intersection shall have its own file
- Row 1 should have the location name (i.e. IL 31 @ Klausen)
- Row 2 is blank
- Row 3 is the headers for the columns
- Row 4 starts the data
- Column A (Date) – should be in the following format: MM/DD/YYYY
- Column B (Item) – as shown in the table below
- Column C (Description) – as shown in the table below
- Column D and E (GPS Data) – should be in decimal form, per the IDOT special provisions

Examples:

Date	Item	Description	Latitude	Longitude
01/01/2015	MP (Mast Arm Pole)	NEQ, NB, Dual, Combination Pole	41.580493	-87.793378
01/01/2015	HH (Handhole)	Heavy Duty, Fiber, Intersection, Double	41.558532	-87.792571
01/01/2015	ES (Electrical Service)	Ground mount, Pole mount	41.765532	-87.543571
01/01/2015	CC (Controller Cabinet)		41.602248	-87.794053
01/01/2015	RSC (Rigid Steel Crossing)	IL 31 east side crossing south leg to center HH at Klausen	41.611111	-87.790222
01/01/2015	PTZ (PTZ)	NEQ extension pole	41.593434	-87.769876
01/01/2015	POST (Post)		41.651848	-87.762053
01/01/2015	MCC (Master Controller Cabinet)		41.584593	-87.793378
01/01/2015	COMC (Communication Cabinet)		41.584600	-87.793432
01/01/2015	BBS (Battery Backup System)		41.558532	-87.792571
01/01/2015	CNCR (Conduit Crossing)	4-inch IL 31 n/o of Klausen	41.588888	-87.794440

Prior to the collection of data, the contractor shall provide a sample data collection of at least six data points of known locations to be reviewed and verified by the

Engineer to be accurate within 1 foot. Upon verification, data collection can begin. Data collection can be made as construction progresses, or can be collected after all items are installed. If the data is unacceptable the contractor shall make corrections to the data collection equipment and or process and submit the data for review and approval as specified.

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

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

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

Delete the last sentence of the 3<sup>rd</sup> paragraph of Article 801.16.

Locating Underground Facilities.

Revise Section 803 to the Standard Specifications to read:

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

The exact location of all utilities shall be field verified by the Contractor before the installation of any components of the traffic signal system. For locations of utilities, locally owned equipment, and leased enforcement camera system facilities, the local Counties or Municipalities may need to be contacted: in the City of Chicago contact Digger at (312) 744-7000 and for all other locations contact J.U.L.I.E. at 1-800-892-0123 or 811.

Restoration of Work Area.

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

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

Bagging Signal Heads.

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

**RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM**

Effective: May 22, 2002

Revised: July 1, 2015

800.03TS

Description.

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

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

LEVEL II applies when improvements are made to an existing signalized intersection within an existing closed loop traffic signal system and detailed analysis of the intersection operation is desired by the engineer, or when a new signalized or existing signalized intersection is being added to an existing system, but optimization of the entire system is not required. The purpose of this work is to optimize the subject intersection, while integrating it into the existing signal system with limited impact to the system operations. This item also includes an evaluation of the overall system operation, including the traffic responsive program.

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

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

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

flows in the vicinity of the system, in which case, the Consultant may be instructed to wait until the conditions return to normal or to follow specific instructions regarding the optimization.

(a) LEVEL I Re-Optimization

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

(b) LEVEL II Re-Optimization

1. In addition to the requirements described in the LEVEL I Re-Optimization above, the following tasks are associated with LEVEL II Re-Optimization.
  - a. Traffic counts shall be taken at the subject intersection(s) after the traffic signals are approved for operation by the Area Traffic Signal Operations Engineer. Manual turning movement counts shall be conducted from 6:30 a.m. to 9:30 a.m., 11:00 a.m. to 1:00 p.m., and 3:30 p.m. to 6:30 p.m. on a typical weekday from midday Monday to midday Friday and on a Saturday and/or Sunday, as directed by the Engineer, to account for special traffic generators such as shopping centers, educational institutes and special event facilities. The turning movement counts shall identify cars, and single-unit, multi-unit heavy vehicles, and transit buses.
  - b. As necessary, the intersection(s) shall be re-addressed and all system detectors reassigned in the master controller according to the current standard of District One.
  - c. Traffic responsive program operation shall be evaluated to verify proper pattern selection and lack of oscillation and a report of the operation shall be provided to IDOT.
2. The following deliverables shall be provided for LEVEL II Re-Optimization.
  - a. Consultant shall furnish to IDOT one (1) copy of a technical memorandum for the optimized system. The technical memorandum shall include the following elements:
    - (1) Brief description of the project
    - (2) Printed copies of the analysis output from Synchro (or other appropriate, approved optimization software file)
    - (3) Printed copies of the traffic counts conducted at the subject intersection
  - b. Consultant shall furnish to IDOT two (2) CDs for the optimized system. The CDs shall include the following elements:
    - (1) Electronic copy of the technical memorandum in PDF format

- (2) Revised Synchro files (or other appropriate, approved optimization software file) including the new signal and the rest of the signals in the closed loop system
- (3) Traffic counts conducted at the subject intersection(s)
- (4) New or updated intersection(s) graphic display file for the subject intersection(s)
- (5) The CD shall be labeled with the IDOT system number and master location, as well as the submittal date and the consultant logo. The CD case shall include a clearly readable label displaying the same information securely affixed to the side and front.

Basis of Payment.

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

**GROUNDING OF TRAFFIC SIGNAL SYSTEMS**

Effective: May 22, 2002

Revised: July 1, 2015

806.01TS

Revise Section 806 of the Standard Specifications to read:

General.

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

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

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

- (a) The grounded conductor (neutral conductor) shall be white color coded. This conductor shall be bonded to the equipment grounding conductor only at the Electric Service Installation. All power cables shall include one neutral conductor of the same size.
- (b) The equipment grounding conductor shall be green color coded. The following is in addition to Article 801.04 of the Standard Specifications.
  1. Equipment grounding conductors shall be bonded to the grounded conductor (neutral conductor) only at the Electric Service Installation. The equipment grounding conductor is paid for separately and shall be continuous. The Earth shall not be used as the equipment grounding conductor.

2. Equipment grounding conductors shall be bonded, using a UL Listed grounding connector, to all traffic signal mast arm poles, traffic signal posts, pedestrian posts, pull boxes, handhole frames and covers, conduits, and other metallic enclosures throughout the traffic signal wiring system, except where noted herein. Bonding shall be made with a splice and pigtail connection, using a sized compression type copper sleeve, sealant tape, and heat-shrinkable cap. A UL listed electrical joint compound shall be applied to all conductors' terminations, connector threads and contact points. Conduit grounding bushings shall be installed at all conduit terminations including spare or empty conduits.
  3. All metallic and non-metallic raceways shall have a continuous equipment grounding conductor, except raceways containing only detector loop lead-in circuits, circuits under 50 volts and/or fiber optic cable will not be required to include an equipment grounding conductor.
  4. Individual conductor splices in handholes shall be soldered and sealed with heat shrink. When necessary to maintain effective equipment grounding, a full cable heat shrink shall be provided over individual conductor heat shrinks.
- (c) The grounding electrode conductor shall be similar to the equipment grounding conductor in color coding (green) and size. The grounding electrode conductor is used to connect the ground rod to the equipment grounding conductor and is bonded to ground rods via exothermic welding, UL listed pressure connectors, and UL listed clamps.

#### **COILABLE NON-METALLIC CONDUIT**

Effective: May 22, 2002

Revised: July 1, 2015

810.01TS

##### Description.

This work shall consist of furnishing and installing empty coilable non-metallic conduit (CNC).

##### 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.

## **UNDERGROUND RACEWAYS**

Effective: May 22, 2002

Revised: July 1, 2015

810.02TS

Revise Article 810.04 of the Standard Specifications to read:

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

Add the following to Article 810.04 of the Standard Specifications:

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

Add the following to Article 810.04 of the Standard Specifications:

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

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

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

## **ROD AND CLEAN EXISTING CONDUIT**

Effective: January 1, 2015

Revised: July 1, 2015

810.03TS

### Description.

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

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



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

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

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

Basis of Payment.

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

**HANDHOLES**

Effective: January 01, 2002

Revised: July 1, 2015

814.01TS

Description.

Add the following to Section 814 of the Standard Specifications:

All conduits shall enter the handhole at a depth of 30 inches (762 mm) 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 (13 mm) diameter with two 90 degree bends and extend into the handhole at least 6 inches (152 mm). Hooks shall be placed a minimum of 12 inches (305 mm) below the lid or lower if additional space is required.

Precast round handholes shall not be used unless called out on the plans.

The cover of the handhole frame shall be labeled "Traffic Signals" with legible raised letters.

Revise the third paragraph of Article 814.03 of the Standard Specifications to read:

"Handholes shall be constructed as shown on the plans and shall be cast-in-place, or precast concrete units. Heavy duty handholes shall be either cast-in-place or precast concrete units."

Add the following to Article 814.03 of the Standard Specifications:

"(c) Precast Concrete. Precast concrete handholes shall be fabricated according to Article 1042.17. Where a handhole is contiguous to a sidewalk, preformed joint filler of 1/2 inch (13 mm) thickness shall be placed between the handhole and the sidewalk."

Cast-In-Place Handholes.

All cast-in-place handholes shall be concrete, with inside dimensions of 21-1/2 inches (546 mm) minimum. Frames and lid openings shall match this dimension.

For grounding purposes the handhole frame shall have provisions for a 7/16 inch (11 mm) diameter stainless steel 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 (305mm).

Precast Round Handholes.

All precast handholes shall be concrete, with inside dimensions of 30 inches (762mm) diameter. Frames and covers shall have a minimum opening of 26 inches (660mm) and no larger than the inside diameter of the handhole.

For grounding purposes the handhole frame shall have provisions for a 7/16 inch (11 mm) diameter stainless steel bolt cast into the frame. For the purpose of attaching the grounding conductor to the handhole cover, the covers shall either have a 7/16 inch (11 mm) diameter stainless steel bolt cast into the cover or a stainless steel threaded stint extended from an eye hook assembly. A hole may be drilled for the bolt if one cannot be cast into the frame or cover. The head of the bolt shall be flush or lower than the top surface of the cover.

The minimum wall thickness for precast heavy duty hand holes shall be 6 inches (152 mm).

Precast round handholes shall be only produced by an approved precast vendor.

Materials.

Add the following to Section 1042 of the Standard Specifications:

"1042.17 Precast Concrete Handholes. Precast concrete handholes shall be according to Articles 1042.03(a)(c)(d)(e)."

**GROUNDING CABLE**

Effective: May 22, 2002

Revised: July 1, 2015

817.01TS

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 UL Listed grounding connector 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, EQUIPMENT GROUNDING CONDUCTOR, 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.

**MAINTENANCE OF EXISTING TRAFFIC SIGNAL AND FLASHING BEACON  
INSTALLATION**

Effective: May 22, 2002

Revised: July 1, 2015

850.01TS

General.

1. Full maintenance responsibility shall start as soon as the Contractor begins any physical work on the Contract or any portion thereof. If Contract work is started prior to a traffic signal inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection.
2. The Contractor shall have electricians with IMSA Level II certification on staff to provide signal maintenance. A copy of the certification shall be immediately available upon request of the Engineer.
3. This item shall include maintenance of all traffic signal equipment and other connected and related equipment such as flashing beacons, emergency vehicle pre-emption equipment, master controllers, uninterruptable power supply (UPS and batteries), PTZ cameras, vehicle detection, handholes, lighted signs, telephone service installations, communication cables, conduits to adjacent intersections, and other traffic signal equipment.
4. Regional transit, County and other agencies may also have equipment connected to existing traffic signal or peripheral equipment such as PTZ cameras, switches, transit signal priority (TSP and BRT) servers, radios and other devices that shall be included with traffic signal maintenance at no additional cost to the contract.

5. Maintenance shall not include Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, or peripheral equipment. This equipment is operated and maintained by the local municipality and should be de-activated while on contractor maintenance.
6. The energy charges for the operation of the traffic signal installation shall be paid for by the Contractor.

Maintenance.

1. The Contractor shall check all controllers every two (2) weeks, which will include visually inspecting all timing intervals, relays, detectors, and pre-emption equipment to ensure that they are functioning properly. The Contractor shall check signal system communications and phone lines to assure proper operation. This item includes, as routine maintenance, all portions of emergency vehicle pre-emption equipment. The Contractor shall maintain in stock at all times a sufficient amount of materials and equipment to provide effective temporary and permanent repairs. Prior to the traffic signal maintenance transfer, the contractor shall supply a detailed maintenance schedule that includes dates, locations, names of electricians providing the required checks and inspections along with any other information requested by the Engineer.
2. The Contractor is advised that the existing and/or span wire traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shut down the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.
3. The Contractor shall provide immediate corrective action when any part or parts of the system fail to function properly. Two far side heads facing each approach shall be considered the minimum acceptable signal operation pending permanent repairs. When repairs at a signalized intersection require that the controller be disconnected or otherwise removed from normal operation, and power is available, the Contractor shall place the traffic signal installation on flashing operation. The signals shall flash RED for all directions unless a different indication has been specified by the Engineer. The Contractor shall be required to place stop signs (R1-1-36) at each approach of the intersection as a temporary means of regulating traffic. When the signals operate in flash, the Contractor shall furnish and equip all their vehicles assigned to the maintenance of traffic signal installations with a sufficient number of stop signs as specified herein. The Contractor shall maintain a sufficient number of spare stop signs in stock at all times to replace stop signs which may be damaged or stolen.
4. The Contractor shall provide the Engineer with 2 (two) 24 hour telephone numbers for the maintenance of the traffic signal installation and for emergency calls by the Engineer.
5. Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of the Standard Specifications and these special provisions.

6. The Contractor shall respond to all emergency calls from the Department or others within one (1) hour after notification and provide immediate corrective action. When equipment has been damaged or becomes faulty beyond repair, the Contractor shall replace it with new and identical equipment. The cost of furnishing and installing the replaced equipment shall be borne by the Contractor at no additional charge to the contract. The Contractor may institute action to recover damages from a responsible third party. If at any time the Contractor fails to perform all work as specified herein to keep the traffic signal installation in proper operating condition or if the Engineer cannot contact the Contractor's designated personnel, the Engineer shall have the State's Electrical Maintenance Contractor perform the maintenance work. The Contractor shall be responsible for all of the State's Electrical Maintenance Contractor's costs and liquidated damages of \$1000 per day per occurrence. The State's Electrical Maintenance Contractor shall bill the Contractor for the total cost of the work. The Contractor shall pay this bill within thirty (30) days of the date of receipt of the invoice or the cost of such work will be deducted from the amount due the Contractor. The Contractor shall allow the Electrical Maintenance Contractor to make reviews of the Existing Traffic Signal Installation that has been transferred to the Contractor for Maintenance.
7. Any proposed activity in the vicinity of a highway-rail grade crossing must adhere to the guidelines set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions, flagging, or other operations shall not create conditions where vehicles can be queued across the railroad tracks. If the queuing of vehicles across the tracks cannot be avoided, a uniformed law enforcement officer or flagger shall be provided at the crossing to prevent vehicles from stopping on the tracks, even if automatic warning devices are in place.
8. Equipment included in this item that is damaged or not operating properly from any cause shall be replaced with new equipment meeting current District One traffic signal specifications and provided by the Contractor at no additional cost to the Contract and/or owner of the traffic signal system, all as approved by the Engineer. Final replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted. Cable splices outside the controller cabinet shall not be allowed.
9. Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, and peripheral equipment, damaged or not operating properly from any cause, shall be the responsibility of the municipality or the Automatic Traffic Enforcement Company per Permit agreement.
10. The Contractor shall be responsible to clear snow, ice, dirt, debris or other condition that obstructs visibility of any traffic signal display or access to traffic signal equipment.
11. The Contractor shall maintain the traffic signal in normal operation during short or long term loss of utility or battery back-up power at critical locations designated by the Engineer. Critical locations may include traffic signals interconnected to railroad warning devices, expressway ramps, intersection with an SRA route, critical corridors or other locations identified by the Engineer. Temporary power to the traffic signal must meet applicable NEC and OSHA guidelines and may include portable generators and/or replacement

batteries. Temporary power to critical locations shall not be paid for separately but shall be included in the contract.

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

Basis of Payment.

This work will be paid for at the contract unit price per each for MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION. Each intersection will be paid for separately. Maintenance of a standalone and or not connected flashing beacon shall be paid for at the contract unit price for MAINTENANCE OF EXISTING FLASHING BEACON INSTALLATION. Each flashing beacon will be paid for separately.

**ELECTRIC CABLE**

Effective: May 22, 2002

Revised: July 1, 2015

873.01TS

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

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

Service cable may be single or multiple conductor cable.

**GROUNDING EXISTING HANDHOLE FRAME AND COVER**

Effective: May 22, 2002

Revised: July 1, 2015

873.02TS

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 District One Traffic Signal Special Provisions 806.01TS GROUNDING OF TRAFFIC SIGNAL SYSTEMS and 817.01TS GROUNDING CABLE.

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 UL listed grounding compression terminal. 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.

**EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C**

Effective: January 1, 2013

Revised: July 1, 2015

873.03TS

This work shall consist of furnishing and installing lead-in cable for light detectors installed at existing and/or proposed traffic signal installations as part of an emergency vehicle priority system. The work includes installation of the lead-in cables in existing and/or new conduit. The electric cable shall be shielded and have (3) stranded conductors, colored blue, orange, and yellow with a stranded tinned copper drain wire. The cable shall meet the requirements of the vendor of the Emergency Vehicle Priority System Equipment.

Basis of Payment.

This work will be paid for at the contract unit price per foot for EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C, which price shall be payment in full for furnishing, installing and making all electrical connections necessary for proper operations

**TRAFFIC SIGNAL POST**

Effective: May 22, 2002

Revised: July 01, 2015

875.01TS

Add the following to Article 1077.01 (c) of the Standard Specifications:

Washers for post bases shall be the same size or larger than the nut.

Revise the first sentence of Article 1077.01 (d) of the Standard Specifications to read:

All posts and bases shall be steel and hot dipped galvanized according to AASHTO M 111. If the Department approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with 851.01TS TRAFFIC SIGNAL PAINTING Special Provisions.

**PEDESTRIAN PUSH-BUTTON POST**

Effective: May 22, 2002

Revised: July 01, 2015

876.01TS

Revise the first sentence of Article 1077.02 (a) of the Standard Specifications to read:

The steel post shall be according to Article 1077.01. Washers for post bases shall be the same size or larger than the nut.

Revise the first sentence of Article 1077.02 (a) of the Standard Specifications to read:

All posts and bases shall be steel and hot dipped galvanized according to AASHTO M 111. If the Department approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with 851.01TS TRAFFIC SIGNAL PAINTING Special Provisions.

**MAST ARM ASSEMBLY AND POLE**

Effective: May 22, 2002

Revised: July 01, 2015

877.01TS

Revise the second sentence of Article 1077.03 (a)(3) of the Standard Specifications to read:

Traffic signal mast arms shall be one piece construction, unless otherwise approved by the Engineer.

Add the following to Article 1077.03 (a)(3) of the Standard Specifications:

If the Department approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with 851.01TS TRAFFIC SIGNAL PAINTING Special Provisions.

**CONCRETE FOUNDATIONS**

Effective: May 22, 2002

Revised: July 01, 2015

878.01TS

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) at the threaded end.

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.

Add the following to the first paragraph of Article 878.05 of the Standard Specifications:



The price shall include a concrete apron in front of the cabinet and UPS as shown in the plans or as directed by the engineer.

**LIGHT EMITTING DIODE (LED) SIGNAL HEAD AND OPTICALLY PROGRAMMED LED  
SIGNAL HEAD**

Effective: May 22, 2002

Revised: July 1, 2015

880.01TS

Materials.

Add the following to Section 1078 of the Standard Specifications:

1. LED modules proposed for use and not previously approved by IDOT District One will require independent testing for compliance to current VTCSH-ITE standards for the product and be Intertek ETL Verified. This would include modules from new vendors and new models from IDOT District One approved vendors.
2. The proposed independent testing facility shall be approved by IDOT District One. Independent testing must include a minimum of two (2) randomly selected modules of each type of module (i.e. ball, arrow, pedestrian, etc.) used in the District and include as a minimum Luminous Intensity and Chromaticity tests. However, complete module performance verification testing may be required by the Engineer to assure the accuracy of the vendor's published data and previous test results. An IDOT representative will select sample modules from the local warehouse and mark the modules for testing. Independent test results shall meet current ITE standards and vendor's published data. Any module failures shall require retesting of the module type. All costs associated with the selection of sample modules, testing, reporting, and retesting, if applicable, shall be the responsibility of the LED module vendor and not be a cost to this contract.
3. All signal 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 signals 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.
4. 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 7 years from the date of traffic signal TURN-ON. 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 7 years of the date of traffic signal TURN-ON shall be replaced or repaired. The vendor's written warranty for the LED signal modules shall be dated, signed by a vendor's representative and included in the product submittal to the State.

(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
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.
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

4. The LEDs utilized in the modules shall be AllnGaP technology for red and InGaN for green and amber 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. LED arrows 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
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.

Basis of Payment.

Add the following to the first paragraph of Article 880.04 of the Standard Specifications:

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

Revise the second paragraph of Article 880.04 of the Standard Specifications to read:

If the work consists of retrofitting an existing polycarbonate traffic signal head with light emitting diodes (LEDs), it will be paid for as a SIGNAL HEAD, LED, RETROFIT, of the type specified, and of the particular kind of material, when specified. Price shall be payment in full for removal of the existing module, 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 signal faces, the number of signal sections in each signal face and the method of mounting.

### **TRAFFIC SIGNAL BACKPLATE**

Effective: May 22, 2002

Revised: July 1, 2015

882.01TS

Delete 1<sup>st</sup> sentence of Article 1078.03 of the Standard Specifications and add "All backplates shall be louvered, formed ABS plastic".

Add the following to the third paragraph of Article 1078.03 of the Standard Specifications. The retroreflective backplate shall not contain louvers.

Delete second sentence of the fourth paragraph of Article 1078.03 the Standard Specifications.

Add the following to the fourth paragraph of Article 1078.03 of the Standard Specifications:

When retro reflective sheeting is specified, it shall be Type ZZ sheeting according to Article 1091.03 and applied in preferred orientation for the maximum angularity according to the vendor's recommendations. The retroreflective sheeting shall be installed under a controlled environment at the vendor/equipment supplier before shipment to the contractor. The formed plastic backplate shall be prepared and cleaned, following recommendations of the retroreflective sheeting manufacturer.

### **DETECTOR LOOP**

Effective: May 22, 2002

Revised: July 1, 2015

886.01TS

#### Procedure.

A minimum of seven (7) working days prior to the Contractor cutting loops, the Contractor shall mark the proposed loop locations 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.

Revise Article 886.04 of the Standard Specifications to read:

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 water proof tag, from an approved vender, 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 cable.
- (b) Loop sealant shall be two-component thixotropic chemically cured polyurethane from an approved vender. The sealant shall be installed 1/8 inch (3 mm) below the pavement surface. If installed above the surface the excess shall be removed immediately.
- (c) Preformed. This work shall consist of furnishing and installing a rubberized or cross linked polyethylene heat resistant preformed traffic signal loop in accordance with the Standard Specifications, except for the following:
  - (d) 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.
  - (e) Handholes shall be placed next to the shoulder or back of curb when preformed detector loops enter the handhole. CNC, included in this pay item, shall be used to protect the preformed lead-ins from back of curb to the handhole.
  - (f) Preformed detector loops shall be factory assembled with ends capped and sealed against moisture and other contaminants. 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 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.

Add the following to Article 886.05 of the Standard Specifications:

Preformed detector loops will be measured along the detector loop embedded in the pavement, rather than the actual length of the wire. Detector loop measurements shall include the saw cut and the length of the detector loop wire to the edge of pavement. The detector loop 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.

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.

**RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT**

Effective: January 1, 2002

Revised: July 1, 2015

887.02TS

This item shall consist of relocating the existing emergency vehicle priority system, detector unit (single channel or dual channel) from its existing location to a new traffic signal post or mast arm assembly and pole, and connecting it to an emergency vehicle priority system, phasing unit. If the existing Emergency Vehicle Priority System, Detector Unit Assembly includes a Confirmation Beacon, the Confirmation Beacon shall also be relocated and connected to the Emergency Vehicle Priority System, Detector Unit and shall be included at no cost in this item.

The emergency vehicle system is not to be inoperative for more than 8 hours and the Contractor must notify the Municipality or Fire Protection District 72 hours prior to the disconnection of the equipment.

Basis of Payment.

This item will be paid for at the contract unit price each for RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT.

**PEDESTRIAN PUSH-BUTTON**

Effective: May 22, 2002

Revised: July 1, 2015

888.01TS

Description.

Revise Article 888.01 of the Standard Specifications to read:

This work shall consist of furnishing and installing a latching (single call) or non-latching (dual call) pedestrian push-button and a regulatory pedestrian instruction sign according to MUTCD, sign series R10-3e 9" x 15" sign with arrow(s) for a count-down pedestrian signal. The pedestrian station sign size without count-down pedestrian signals shall accommodate a MUTCD sign series R10-3b or R10-3d 9" x 12" sign with arrow(s).

Installation.

Add the following to Article 888.03 of the Standard Specifications:

A mounting bracket and/or extension shall be used to assure proper orientation when two pedestrian push buttons are required for one post. The price of the bracket and/or extension shall be included in the cost of the pedestrian push button. The contractor is not allowed to install a push-button assembly with the sign below the push-button in order to meet mounting requirements.

Materials.

Revise Article 1074.02(a) of the Standard Specifications to read:

The pedestrian push-button housing shall be constructed of aluminum alloy according to ASTM B 308 6061-T6 and powder coated yellow, unless otherwise noted on the plans. The housing shall be furnished with suitable mounting hardware.

Revise Article 1074.02(e) of the Standard Specifications to read:

Stations shall be designed to be mounted to a post, mast arm pole or wood pole. The station shall be aluminum and shall accept a 3 inch (75mm) round push-button assembly and a regulatory pedestrian instruction sign according to MUTCD, sign series R10-3e 9" x 15" sign with arrow(s) for a count-down pedestrian signal. The pedestrian station size without count-down pedestrian signals shall accommodate a MUTCD sign series R10-3b or R10-3d 9" x 12" sign with arrow(s).

Add the following to Article 1074.02 of the Standard Specifications:

- (f) Location. Pedestrian push-buttons (f) and stations shall be mounted to a post, mast arm pole or wood pole as shown on the plans and shall be fully ADA accessible from a paved or concrete surface. See the District's Detail sheets for orientation and mounting details.

Basis of Payment.

Revise Article 888.04 of the Standard Specifications to read:

This work will be paid for at the contract unit price per each for PEDESTRIAN PUSH-BUTTON or PEDESTRIAN PUSH-BUTTON, NON-LATCHING.

**TEMPORARY TRAFFIC SIGNAL INSTALLATION**

Effective: May 22, 2002

Revised: July 1, 2015

890.01TS

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, uninterruptable 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 controller equipment supplier will be allowed to assemble temporary traffic signal and railroad traffic signal cabinet. Traffic signal inspection and TURN-ON shall be according to 800.01TS TRAFFIC SIGNAL GENERAL REQUIREMENTS special provision.

Construction Requirements.

(a) Controllers.

1. Only controllers supplied by one of the District approved closed loop equipment supplier 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 and as modified herein.
2. Only control equipment, including controller cabinet and peripheral equipment, supplied by one of the District approved closed loop equipment suppliers will be approved for use at temporary traffic signal locations. 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 the latest version software installed at the time of the signal TURN-ON.

(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



806 of the Standard Specifications and shall meet the requirements of the 806.01TS GROUNDING OF TRAFFIC SIGNAL SYSTEMS special provision.

- (d) Traffic Signal Heads. All traffic signal sections shall be 12 inches (300 mm). Pedestrian signal sections shall be 16 inch (406mm) x 18 inch (457mm). Traffic signal sections shall be LED with expandable view, unless otherwise approved by the Engineer. Pedestrian signal heads shall be Light Emitting Diode (LED) Pedestrian Countdown Signal Heads except when a temporary traffic signal is installed at an intersection interconnected with a railroad grade crossing. When a temporary traffic signal is installed at an intersection interconnected with a railroad grade crossing, Light Emitting Diode (LED) Pedestrian Signal Heads shall be furnished. The temporary traffic signal heads shall be placed as indicated on the temporary traffic signal plan or as directed by the Engineer. If no traffic staging is in place or will not be staged on the day of the turn on, the temporary traffic signal shall have the signal head displays, signal head placements and controller phasing match the existing traffic signal or shall be 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, including any required fiber splices and terminations, 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 cost of 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. Any temporary signal within an existing closed loop traffic signal system shall be interconnected to that system using similar brand control equipment at no additional cost to the contract.

3. Temporary wireless interconnect. The radio interconnect system shall be compatible with Eagle or Econolite controller closed loop systems. This work shall include all temporary wireless interconnect components, at the adjacent existing traffic signal(s) to provide a completely operational closed loop system. This work 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 the cost of TEMPORARY TRAFFIC SIGNAL INSTALLATION.

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 or existing 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 vendors recommendations.

- (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 at all approaches of the intersection and as directed by the Engineer. Pedestrian push buttons shall be provided for all pedestrian signal heads/phases 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. An equipment supplier 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) Uninterruptable Power Supply. All temporary traffic signal installations shall have Uninterruptable Power Supply (UPS). The UPS cabinet shall be mounted to the temporary traffic signal cabinet and shall be according to the applicable portions of Section 862 of the Standard Specifications and as modified in 862.01TS UNINTERRUPTABLE POWER SUPPLY, SPECIAL Special Provision.
- (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. Any intersection regulatory signs that are required for the temporary traffic signal shall be provided as shown on the plans or as directed by the Engineer. Relocation, removing, bagging and installing the regulatory signs for the various construction stages shall be provided as shown on the plans or as directed by the Engineer. If Illuminated Street Name Signs exist they shall be taken down and stored by the contractor and reflecting street name signs shall be installed on the temporary traffic signal installation.
- (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 850.01TS MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION Special Provisions. 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, Special Provisions 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 aurally 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 at no cost to the contract.
  2. The controller and LED signal displays shall meet the applicable Standard Specifications and all other requirements in this TEMPORARY TRAFFIC SIGNAL INSTALLATION special provision.
  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, the temporary wireless interconnect system, temporary fiber optic interconnect system, all material required, the installation and complete removal of the temporary traffic signal, and any changes required by the Engineer. Each intersection will be paid for separately.

**TEMPORARY TRAFFIC SIGNAL TIMING**

Effective: May 22, 2002

Revised: July 1, 2015

890.02TS

Description.

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

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

The following tasks are associated with TEMPORARY TRAFFIC SIGNAL TIMING.

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

Basis of Payment.

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

**MODIFY EXISTING CONTROLLER CABINET**

Effective: May 22, 2002

Revised: July 1, 2015

895.01TS

The work shall consist of modifying an existing controller cabinet as follows:

- (a) Uninterruptable Power Supply (UPS). The addition of uninterruptable power supply (UPS) to an existing controller cabinet could require the relocation of the existing controller cabinet items to allow for the installation of the uninterruptable power supply (UPS) components inside the existing controller cabinet as outlined under Sections 862 and 1074.04 of the Standard Specifications and the wiring of UPS alarms.
- (b) Light Emitting Diode (LED) Signal Heads, Light Emitting Diode (LED) Optically Programmed Signal Heads and Light Emitting Diode (LED) Pedestrian Signal Heads. The contractor shall verify that the existing load switches meet the requirements of Section 1074.03(b)(2) of the Standard Specifications and the recommended load requirements of the light emitting diode (LED) signal heads that are being installed at the existing traffic signal. If any of the existing load switches do not meet these requirements, they shall be replaced, as directed by the Engineer.

- (c) Light Emitting Diode (LED), Signal Head, Retrofit. The contractor shall verify that the existing load switches meet the requirements of Section 1074.03(b)(2) of the Standard Specifications and the recommended load requirements of light emitting diode (LED) traffic signal modules, pedestrian signal modules, and pedestrian countdown signal modules as specified in the plans. If any of the existing load switches do not meet these requirements, they shall be replaced, as directed by the Engineer.
- (d) This item shall include the upgrade of all non-railroad controller software to the latest version available at the time of the signal TURN-ON.

Basis of Payment.

Modifying an existing controller cabinet will be paid for at the contract unit price per each for MODIFY EXISTING CONTROLLER CABINET. This shall include all material and labor required to complete the work as described above, the removal and disposal of all items removed from the controller cabinet, as directed by the Engineer. The equipment for the Uninterruptable Power Supply (UPS) and labor to install it in the existing controller cabinet shall be included in the pay item Uninterruptable Power Supply, Special or Uninterruptable Power Supply, Ground Mounted.

**REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT**

Effective: May 22, 2002

Revised: July 1, 2015

895.02TS

Add the following to Article 895.05 of the Standard Specifications:

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

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

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

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



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

Effective: August 1, 2012

Revised: February 1, 2014

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

It is the policy of IDOT to fund IDOT pre-apprenticeship training programs throughout Illinois to provide training and skill-improvement opportunities to assure the increased participation of minority groups, disadvantaged persons and women in all phases of the highway construction industry. The intent of this IDOT Training Program Graduate (TPG) Special Provision is to place certified graduates of these IDOT funded pre-apprentice training programs on IDOT project sites when feasible, and provide the graduates with meaningful on-the-job training intended to lead to journey-level employment. IDOT and its sub-recipients, in carrying out the responsibilities of a state contract, shall determine which construction contracts shall include "Training Program Graduate Special Provisions." To benefit from the incentives to encourage the participation in the additional on-the-job training under this Training Program Graduate Special Provision, the Contractor shall make every reasonable effort to employ certified graduates of IDOT funded Pre-apprenticeship Training Programs to the extent such persons are available within a reasonable recruitment area.

Participation pursuant to IDOT's requirements by the Contractor or subcontractor in this Training Program Graduate (TPG) Special Provision entitles the Contractor or subcontractor to be reimbursed at \$15.00 per hour for training given a certified TPG on this contract. As approved by the Department, reimbursement will be made for training persons as specified herein. This reimbursement will be made even though the Contractor or subcontractor may receive additional training program funds from other sources for other trainees, provided such other source does not specifically prohibit the Contractor or subcontractor from receiving other reimbursement. For purposes of this Special Provision the Contractor is not relieved of requirements under applicable federal law, the Illinois Prevailing Wage Act, and is not eligible for other training fund reimbursements in addition to the Training Program Graduate (TPG) Special Provision reimbursement.

No payment shall be made to the Contractor if the Contractor or subcontractor fails to provide the required training. It is normally expected that a TPG will begin training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project through completion of the contract, so long as training opportunities exist in his work classification or until he has completed his training program. Should the TPG's employment end in advance of the completion of the contract, the Contractor shall promptly notify the designated IDOT staff member under this Special Provision that the TPG's involvement in the contract has ended and supply a written report of the reason for the end of the involvement, the hours completed by the TPG under the Contract and the number of hours for which the incentive payment provided under this Special Provision will be or has been claimed for the TPG.

The Contractor will provide for the maintenance of records and furnish periodic reports documenting its performance under this Special Provision.

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

**BASIS OF PAYMENT:** This work will be paid for at the contract unit price of \$15.00 per hour for certified TRAINEES TRAINING PROGRAM GRADUATE. The estimated total number of hours, unit price and total price have been included in the schedule of prices.

The Contractor shall provide training opportunities aimed at developing full journey worker in the type of trade or job classification involved. The initial number of TPGs for which the incentive is available under this contract is 1. During the course of performance of the Contract the Contractor may seek approval from the Department for additional incentive eligible TPGs. In the event the Contractor subcontracts a portion of the contract work, it shall determine how many, if any, of the TPGs are to be trained by the subcontractor, provided however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this Special Provision. The Contractor shall also insure that this Training Program Graduate Special Provision is made applicable to such subcontract if the TPGs are to be trained by a subcontractor and that the incentive payment is passed on to each subcontractor.

For the Contractor to meet the obligations for participation in this TPG incentive program under this Special Provision, the Department has contracted with several entities to provide screening, tutoring and pre-training to individuals interested in working in the applicable construction classification and has certified those students who have successfully completed the program and are eligible to be TPGs. A designated IDOT staff member, the Director of the Office of Business and Workforce Diversity (OBWD), will be responsible for providing assistance and referrals to the Contractor for the applicable TPGs. For this contract, the Director of OBWD is designated as the responsible IDOT staff member to provide the assistance and referral services related to the placement for this Special Provision. For purposes of this Contract, contacting the Director of OBWD and interviewing each candidate he/she recommends constitutes reasonable recruitment.

Prior to commencing construction, the Contractor shall submit to the Department for approval the TPGs to be trained in each selected classification. Furthermore, the Contractor shall specify the starting time for training in each of the classifications. No employee shall be employed as a TPG in any classification in which he/she has successfully completed a training course leading to journeyman status or in which he/she has been employed as a journeyman. Notwithstanding the on-the-job training purpose of this TPG Special Provision, some offsite training is permissible as long as the offsite training is an integral part of the work of the contract and does not comprise a significant part of the overall training.

Training and upgrading of TPGs of IDOT pre-apprentice training programs is intended to move said TPGs toward journeyman status and is the primary objective of this Training Program Graduate Special Provision. Accordingly, the Contractor shall make every effort to enroll TPGs by recruitment through the IDOT funded TPG programs to the extent such persons are available within a reasonable area of recruitment. The Contractor will be responsible for demonstrating the steps that it has taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance and entitled to the Training Program Graduate Special Provision \$15.00 an hour incentive.

The Contractor or subcontractor shall provide each TPG with a certificate showing the type and length of training satisfactorily completed.

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

SPECIAL PROVISION  
FOR  
INSURANCE

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

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

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

Village of Oak Park, Illinois

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

## COARSE AGGREGATE QUALITY (BDE)

Effective: July 1, 2015

Revise Article 1004.01(b) of the Standard Specifications to read:

“(b) Quality. The coarse aggregate shall be according to the quality standards listed in the following table.

COARSE AGGREGATE QUALITY				
QUALITY TEST	CLASS			
	A	B	C	D
Na <sub>2</sub> SO <sub>4</sub> Soundness 5 Cycle, ITP 104 <sup>1/</sup> , % Loss max.	15	15	20	25 <sup>2/</sup>
Los Angeles Abrasion, ITP 96 <sup>11/</sup> , % Loss max.	40 <sup>3/</sup>	40 <sup>4/</sup>	40 <sup>5/</sup>	45
Minus No. 200 (75 µm) Sieve Material, ITP 11	1.0 <sup>6/</sup>	---	2.5 <sup>7/</sup>	---
Deleterious Materials <sup>10/</sup>				
Shale, % max.	1.0	2.0	4.0 <sup>8/</sup>	---
Clay Lumps, % max.	0.25	0.5	0.5 <sup>8/</sup>	---
Coal & Lignite, % max.	0.25	---	---	---
Soft & Unsound Fragments, % max.	4.0	6.0	8.0 <sup>8/</sup>	---
Other Deleterious, % max.	4.0 <sup>9/</sup>	2.0	2.0 <sup>8/</sup>	---
Total Deleterious, % max.	5.0	6.0	10.0 <sup>8/</sup>	---
Oil-Stained Aggregate <sup>10/</sup> , % max	5.0	---	---	---

1/ Does not apply to crushed concrete.

2/ For aggregate surface course and aggregate shoulders, the maximum percent loss shall be 30.

3/ For portland cement concrete, the maximum percent loss shall be 45.

4/ Does not apply to crushed slag or crushed steel slag.

5/ For hot-mix asphalt (HMA) binder mixtures, except when used as surface course, the maximum percent loss shall be 45.

6/ For crushed aggregate, if the material finer than the No. 200 (75 µm) sieve consists of the dust from fracture, essentially free from clay or silt, this percentage may be increased to 2.5.

7/ Does not apply to aggregates for HMA binder mixtures.

8/ Does not apply to Class A seal and cover coats.

9/ Includes deleterious chert. In gravel and crushed gravel aggregate, deleterious chert shall be the lightweight fraction separated in a 2.35 heavy media separation. In crushed stone aggregate, deleterious chert shall be the lightweight fraction separated in a 2.55 heavy media separation. Tests shall be run according to ITP 113.

10/ Test shall be run according to ITP 203.

11/ Does not apply to crushed slag.

All varieties of chert contained in gravel coarse aggregate for portland cement concrete, whether crushed or uncrushed, pure or impure, and irrespective of color, will be classed as chert and shall not be present in the total aggregate in excess of 25 percent by weight (mass).

Aggregates used in Class BS concrete (except when poured on subgrade), Class PS concrete, and Class PC concrete (bridge superstructure products only, excluding the approach slab) shall contain no more than two percent by weight (mass) of deleterious materials. Deleterious materials shall include substances whose disintegration is accompanied by an increase in volume which may cause spalling of the concrete."

## COATED GALVANIZED STEEL CONDUIT (BDE)

Effective: January 1, 2013

Revised: January 1, 2015

Revise Article 811.03(b) of the Standard Specifications to read:

"(b) Coated Galvanized Steel Conduit. In addition to the methods described in Article 810.05(a) the following methods shall be observed when installing coated conduit.

Coated conduit pipe vise jaw adapters shall be used when the conduit is being clamped to avoid damaging the coating.

Coated conduit shall be cut with a roller cutter or by other means approved by the conduit manufacturer.

After any cutting or threading operations are completed, the bare steel shall be touched up with the conduit manufacturer's touch up compound."

## **COILABLE NONMETALLIC CONDUIT (BDE)**

Effective: August 1, 2014

Revised: January 1, 2015

Revise Article 1088.01(c) of the Standard Specifications to read:

“(c) Coilable Nonmetallic Conduit. The conduit shall be a high density polyethylene duct which is intended for underground use can be manufactured and coiled or reeled in continuous transportable lengths and uncoiled for further processing and/or installation without adversely affecting its properties or performance. The conduit and its manufacture shall be according to UL 651A for Schedule 40 conduit, except Schedule 80 shall be used under pavement, stabilized shoulder, paved median, paved driveway, curb and/or gutter and sidewalk.

Performance Tests. Testing procedures and test results shall meet the requirements of UL 651A. Certified copies of the test report shall be submitted to the Engineer prior to the installation of the conduit.”

**CONCRETE GUTTER, CURB, MEDIAN, AND PAVED DITCH (BDE)**

Effective: April 1, 2014

Revised: August 1, 2014

Add the following to Article 606.02 of the Standard Specifications:

“(i) Polyurethane Joint Sealant .....1050.04”

Revise the fifth paragraph of Article 606.07 of the Standard Specifications to read:

“Transverse contraction and longitudinal construction joints shall be sealed according to Article 420.12, except transverse joints in concrete curb and gutter shall be sealed with polysulfide or polyurethane joint sealant.”

Add the following to Section 1050 of the Standard Specifications:

“**1050.04 Polyurethane Joint Sealant.** The joint sealant shall be a polyurethane sealant, Type S, Grade NS, Class 25 or better, Use T (T<sub>1</sub> or T<sub>2</sub>), according to ASTM C 920.”



## CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE)

Effective: June 1, 2010

Revised: November 1, 2014

The reduction of emissions of particulate matter (PM) for off-road equipment shall be accomplished by installing retrofit emission control devices. The term "equipment" refers to diesel fuel powered devices rated at 50 hp and above, to be used on the jobsite in excess of seven calendar days over the course of the construction period on the jobsite (including rental equipment).

Contractor and subcontractor diesel powered off-road equipment assigned to the contract shall be retrofitted using the phased in approach shown below. Equipment that is of a model year older than the year given for that equipment's respective horsepower range shall be retrofitted:

Effective Dates	Horsepower Range	Model Year
June 1, 2010 <sup>1/</sup>	600-749	2002
	750 and up	2006
June 1, 2011 <sup>2/</sup>	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006
June 1, 2012 <sup>2/</sup>	50-99	2004
	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006

1/ Effective dates apply to Contractor diesel powered off-road equipment assigned to the contract.

2/ Effective dates apply to Contractor and subcontractor diesel powered off-road equipment assigned to the contract.

The retrofit emission control devices shall achieve a minimum PM emission reduction of 50 percent and shall be:

- a) Included on the U.S. Environmental Protection Agency (USEPA) *Verified Retrofit Technology List* (<http://www.epa.gov/cleandiesel/verification/verif-list.htm>), or verified by the California Air Resources Board (CARB) (<http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>); or
- b) Retrofitted with a non-verified diesel retrofit emission control device if verified retrofit emission control devices are not available for equipment proposed to be used on the project, and if the Contractor has obtained a performance certification from the retrofit device manufacturer that the emission control device provides a minimum PM emission reduction of 50 percent.

Note: Large cranes (Crawler mounted cranes) which are responsible for critical lift operations are exempt from installing retrofit emission control devices if such devices adversely affect equipment operation.

Diesel powered off-road equipment with engine ratings of 50 hp and above, which are unable to be retrofitted with verified emission control devices or if performance certifications are not available which will achieve a minimum 50 percent PM reduction, may be granted a waiver by the Department if documentation is provided showing good faith efforts were made by the Contractor to retrofit the equipment.

Construction shall not proceed until the Contractor submits a certified list of the diesel powered off-road equipment that will be used, and as necessary, retrofitted with emission control devices. The list(s) shall include (1) the equipment number, type, make, Contractor/rental company name; and (2) the emission control devices make, model, USEPA or CARB verification number, or performance certification from the retrofit device manufacturer. Equipment reported as fitted with emissions control devices shall be made available to the Engineer for visual inspection of the device installation, prior to being used on the jobsite.

The Contractor shall submit an updated list of retrofitted off-road construction equipment as retrofitted equipment changes or comes on to the jobsite. The addition or deletion of any diesel powered equipment shall be included on the updated list.

If any diesel powered off-road equipment is found to be in non-compliance with any portion of this special provision, the Engineer will issue the Contractor a diesel retrofit deficiency deduction.

Any costs associated with retrofitting any diesel powered off-road equipment with emission control devices shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed. The Contractor's compliance with this notice and any associated regulations shall not be grounds for a claim.

#### **Diesel Retrofit Deficiency Deduction**

When the Engineer determines that a diesel retrofit deficiency exists, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency continues to exist. The calendar day(s) will begin when the time period for correction is exceeded and end with the Engineer's written acceptance of the correction. The daily monetary deduction will be \$1,000.00 for each deficiency identified.

The deficiency will be based on lack of diesel retrofit emissions control.

If a Contractor accumulates three diesel retrofit deficiency deductions for the same piece of equipment in a contract period, the Contractor will be shutdown until the deficiency is corrected. Such a shutdown will not be grounds for any extension of the contract time, waiver of penalties, or be grounds for any claim.

## CONTRACT CLAIMS (BDE)

Effective: April 1, 2014

Revise the first paragraph of Article 109.09(a) of the Standard Specifications to read:

“(a) Submission of Claim. All claims filed by the Contractor shall be in writing and in sufficient detail to enable the Department to ascertain the basis and amount of the claim. As a minimum, the following information must accompany each claim submitted.”

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

“(e) Procedure. The Department provides two administrative levels for claims review.

Level I Engineer of Construction

Level II Chief Engineer/Director of Highways or Designee

- (1) Level I. All claims shall first be submitted at Level I. Two copies each of the claim and supporting documentation shall be submitted simultaneously to the District and the Engineer of Construction. The Engineer of Construction, in consultation with the District, will consider all information submitted with the claim and render a decision on the claim within 90 days after receipt by the Engineer of Construction. Claims not conforming to this Article will be returned without consideration. The Engineer of Construction may schedule a claim presentation meeting if in the Engineer of Construction's judgment such a meeting would aid in resolution of the claim, otherwise a decision will be made based on the claim documentation submitted. If a Level I decision is not rendered within 90 days of receipt of the claim, or if the Contractor disputes the decision, an appeal to Level II may be made by the Contractor.
- (2) Level II. An appeal to Level II shall be made in writing to the Engineer of Construction within 45 days after the date of the Level I decision. Review of the claim at Level II shall be conducted as a full evaluation of the claim. A claim presentation meeting may be scheduled if the Chief Engineer/Director of Highways determines that such a meeting would aid in resolution of the claim, otherwise a decision will be made based on the claim documentation submitted. A Level II final decision will be rendered within 90 days of receipt of the written request for appeal.

Full compliance by the Contractor with the provisions specified in this Article is a contractual condition precedent to the Contractor's right to seek relief in the Court of Claims. The Director's written decision shall be the final administrative action of the Department. Unless the Contractor files a claim for adjudication by the Court of Claims within 60 days after the date of the written decision, the failure to file shall constitute a release and waiver of the claim.”

## DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (DBE)

Effective: September 1, 2000

Revised: November 2, 2015

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, which may include, but is not limited to:

- (a) Withholding progress payments;
- (b) Assessing sanctions;
- (c) Liquidated damages; and/or
- (d) Disqualifying the Contractor from future bidding as non-responsible.

OVERALL GOAL SET FOR THE DEPARTMENT. As a requirement of compliance with 49 CFR Part 26, the Department has set an overall goal for DBE participation in its federally assisted contracts. That goal applies to all federal-aid funds the Department will expend in its federally assisted contracts for the subject reporting fiscal year. The Department is required to make a

good faith effort to achieve the overall goal. The dollar amount paid to all approved DBE companies performing work called for in this contract is eligible to be credited toward fulfillment of the Department's overall goal.

CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR. This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined that the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. The determination is based on an assessment of the type of work, the location of the work, and the availability of DBE companies to do a part of the work. The assessment indicates that, in the absence of unlawful discrimination, and in an arena of fair and open competition, DBE companies can be expected to perform 16.00 % of the work. This percentage is set as the DBE participation goal for this contract. Consequently, in addition to the other award criteria established for this contract, the Department will only award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in the performance of the work. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set for in this Special Provision:

- (a) The bidder documents 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 shall consult the IL UCP DBE Directory as a reference source for DBE-certified companies. In addition, the Department maintains a letting and item specific DBE locator information system whereby DBE companies can register their interest in providing quotes on particular bid items advertised for letting. Information concerning DBE companies willing to quote work for particular contracts may be obtained by contacting the Department's Bureau of Small Business Enterprises at telephone number (217) 785-4611, or by visiting the Department's website at:

<http://www.idot.illinois.gov/doing-business/certifications/disadvantaged-business-enterprise-certification/il-ucp-directory/index>.

BIDDING PROCEDURES. Compliance with this Special Provision is required prior to the award of the contract and the failure of the low bidder to comply will render the bid not responsive.

In order to assure the timely award of the contract, the low bidder shall submit:

- (a) The bidder shall submit a Disadvantaged Business Utilization Plan on completed Department forms SBE 2025 and 2026.
  - (1) The final Utilization Plan must be submitted within five calendar days after the date of the letting.

- (2) To meet the five day requirement, the bidder may send the Utilization Plan electronically by scanning and sending to [DOT.DBE.UP@illinois.gov](mailto:DOT.DBE.UP@illinois.gov) or faxing to (217) 785-1524. The subject line must include the bid Item Number and the Letting date. The Utilization Plan should be sent as one .pdf file, rather than multiple files and emails for the same Item Number. It is the responsibility of the bidder to obtain confirmation of email or fax delivery.

Alternatively, the Utilization Plan may be sent by certified mail or delivery service within the five business day period. If a question arises concerning the mailing date of a Utilization Plan, the mailing date will be established by the U.S. Postal Service postmark on the original certified mail receipt from the U.S. Postal Service or the receipt issued by a delivery service. It is the responsibility of the bidder to ensure the postmark or receipt date is affixed within the five days if the bidder intends to rely upon mailing or delivery to satisfy the submission day requirement. The Utilization Plan is to be submitted to:

Illinois Department of Transportation  
Bureau of Small Business Enterprises  
Contract Compliance Section  
2300 South Dirksen Parkway, Room 319  
Springfield, Illinois 62764

The Department will not accept a Utilization Plan if it does not meet the five day submittal requirement and the bid will be declared not responsive. In the event the bid is declared not responsive due to a failure to submit a Utilization Plan or failure to comply with the bidding procedures set forth herein, the Department may elect to cause the forfeiture of the penal sum of the bidder's proposal guaranty, and may deny authorization to bid the project if re-advertised for bids. The Department reserves the right to invite any other bidder to submit a Utilization Plan at any time for award consideration or to extend the time for award.

- (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 Utilization 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 scanned or 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 Utilization 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; the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor is selected over a DBE for work on the contract.

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 that enough DBE participation has been obtained or document that good faith efforts of the bidder, in the event enough DBE participation has not been obtained, before the Department will commit to the performance of the contract by the bidder. The Utilization Plan will be approved by the Department if the Utilization Plan documents sufficient commercially useful DBE work to meet the contract goal or the bidder submits sufficient documentation of a good faith effort to meet the contract goal pursuant to 49 CFR Part 26, Appendix A. The Utilization Plan will not be approved by the Department if the Utilization Plan does not document 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. In accordance with subsection (c)(6) of the above Bidding Procedures, the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.



- (5) Not rejecting DBE companies as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.
  - (6) Making efforts to assist interested DBE companies in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.
  - (7) Making efforts to assist interested DBE companies in obtaining necessary equipment, supplies, materials, or related assistance or services.
  - (8) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBE companies.
- (b) If the Department determines 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 or that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan that the bid is not responsive. The notification shall include a statement of reasons for the determination. If the Utilization Plan is not approved because it is deficient as a technical matter, unless waived by the Department, the bidder will be notified and will be allowed no more than a five calendar day period in order to cure the deficiency.
- (c) The bidder may request administrative reconsideration of a determination adverse to the bidder within the five working days after the 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 or argument concerning the issues raised in the determination statement of reasons, provided the documentation and arguments address efforts made prior to submitting the bid. The request will be 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 documentation and whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will be sent a written decision within ten working days after receipt of the request for consideration, 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 is receives as a result of the lease arrangement.
- (e) DBE as a material supplier:

- (1) 60 percent goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.
- (2) 100 percent goal credit for the cost of materials of supplies obtained from a DBE manufacturer.
- (3) 100 percent credit for the value of reasonable fees and commissions for the procurement of materials and supplies if not a DBE regular dealer or DBE manufacturer.

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

- (a) NO AMENDMENT. No amendment to the Utilization Plan may be made without prior written approval from the Department's Bureau of Small Business Enterprises. All requests for amendment to the Utilization Plan shall be 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) CHANGES TO WORK. Any deviation from the DBE condition-of-award or contract plans, specifications, or special provisions must be approved, in writing, by the Department as provided elsewhere in the Contract. The Contractor shall notify affected DBEs in writing of any changes in the scope of work which result in a reduction in the dollar amount condition-of-award to the contract. Where the revision includes work committed to a new DBE subcontractor, not previously involved in the project, then a Request for Approval of Subcontractor, Department form BC 260A or AER 260A, must be signed and submitted. If the commitment of work is in the form of additional tasks assigned to an existing subcontract, then 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.

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

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

(1) 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 reasonable competitive price. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so.

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

As stated above, the Contractor shall not terminate or replace a DBE subcontractor listed in the approved Utilization Plan without prior written consent. This includes, but is not limited to, instances in which the Contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm. Written consent will be granted only if the Bureau of Small Business Enterprises agrees, for reasons stated in its concurrence document, that the Contractor has good cause to terminate or replace the DBE firm. Before transmitting to the Bureau of Small Business Enterprises any request to terminate and/or substitute a DBE subcontractor, the Contractor shall give notice in writing to the DBE subcontractor,

with a copy to the Bureau, of its intent to request to terminate and/or substitute, and the reason for the request. The Contractor shall give the DBE five days to respond to the Contractor's notice. The DBE so notified shall advise the Bureau and the Contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the Bureau should not approve the Contractor's action. If required in a particular case as a matter of public necessity, the Bureau may provide a response period shorter than five days.

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

- (1) The listed DBE subcontractor fails or refuses to execute a written contract;
- (2) The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the prime contractor;
- (3) The listed DBE subcontractor fails or refuses to meet the prime Contractor's reasonable, nondiscriminatory bond requirements;
- (4) The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
- (5) The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1200 or applicable state law.
- (6) You have determined that the listed DBE subcontractor is not a responsible contractor;
- (7) The listed DBE subcontractor voluntarily withdraws from the projects and provides to you written notice of its withdrawal;
- (8) The listed DBE is ineligible to receive DBE credit for the type of work required;
- (9) A DBE owner dies or becomes disabled with the result that the listed DBE contractor is unable to complete its work on the contract;
- (10) Other documented good cause that compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the prime Contractor seeks to terminate a DBE it relied upon to obtain the contract so that the prime Contractor can self-perform the work for which the DBE contractor was engaged or so that the prime Contractor can substitute another DBE or non-DBE contractor after contract award.

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

- (f) PAYMENT RECORDS. 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 Resident Engineer. If full and final payment has not been made to the DBE, the DBE Payment Agreement shall indicate whether a disagreement as to the payment required exists between the Contractor and the DBE or if the Contractor believes 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 (h) of this part.
- (g) ENFORCEMENT. The Department reserves the right to withhold payment to the Contractor to enforce the provisions of this Special Provision. Final payment shall not be made on the contract until such time as the Contractor submits sufficient documentation demonstrating achievement of the goal in accordance with this Special Provision or after liquidated damages have been determined and collected.
- (h) RECONSIDERATION. Notwithstanding any other provision of the contract, including but not limited to Article 109.09 of the Standard Specifications, the Contractor may request administrative reconsideration of a decision to deduct the amount of the goal not achieved as liquidated damages. A request to reconsider shall be delivered to the Contract Compliance Section and shall be handled and considered in the same manner as set forth in paragraph (c) of "Good Faith Effort Procedures" of this Special Provision, except a final decision that a good faith effort was not made during contract performance to achieve the goal agreed to in the Utilization Plan shall be the final administrative decision of the Department. The result of the reconsideration process is not administratively appealable to the U.S. Department of Transportation.

## EQUAL EMPLOYMENT OPPORTUNITY (BDE)

Effective: April 1, 2015

FEDERAL AID CONTRACTS. Revise the following section of Check Sheet #1 of the Recurring Special Provisions to read:

### "EQUAL EMPLOYMENT OPPORTUNITY

In the event of the Contractor's noncompliance with the provisions of this Equal Employment Opportunity Clause, the Illinois Human Rights Act, or the Illinois Department of Human Rights Rules and Regulations, the Contractor may be declared ineligible for future contracts or subcontracts with the State of Illinois or any of its political sub-divisions or municipal corporations, and the contract may be cancelled or voided in whole or in part, and such other sanctions or penalties may be imposed or remedies invoked as provided by statute or regulation.

During the performance of this Contract, the Contractor agrees as follows:

- (1) That it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, marital status, order of protection status, national origin or ancestry, citizenship status, age, physical or mental disability unrelated to ability, military status, or an unfavorable discharge from military service; and further that it will examine all job classifications to determine if minority persons or women are underutilized and will take appropriate affirmative action to rectify any such underutilization.
- (2) That, if it hires additional employees in order to perform this contract or any portion hereof, it will determine the availability (according to the Illinois Department of Human Rights Rules and Regulations) of minorities and women in the area(s) from which it may reasonably recruit and it will hire for each job classification for which employees are hired in such a way that minorities and women are not underutilized.
- (3) That, in all solicitations or advertisements for employees placed by it or on its behalf, it will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, sexual orientation, marital status, order of protection status, national origin or ancestry, citizenship status, age, physical or mental disability unrelated to ability, military status or an unfavorable discharge from military service.
- (4) That it will send to each labor organization or representative of workers with which it has or is bound by a collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the Contractor's obligations under the Illinois Human Rights Act and the Illinois Department of Human Rights Rules and Regulations. If any labor organization or representative fails or refuses to cooperate with the Contractor in its efforts to comply with such Act and Rules and Regulations, the Contractor will promptly so notify the Illinois Department of Human Rights and IDOT and will recruit employees from other sources when necessary to fulfill its obligations thereunder.
- (5) That it will submit reports as required by the Illinois Department of Human Rights Rules and Regulations, furnish all relevant information as may from time to time be requested by the Illinois Department of Human Rights or IDOT, and in all respects comply with the

Illinois Human Rights Act and the Illinois Department of Human Rights Rules and Regulations.

- (6) That it will permit access to all relevant books, records, accounts, and work sites by personnel of IDOT and the Illinois Department of Human Rights for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and the Illinois Department of Human Rights Rules and Regulations.
- (7) That it will include verbatim or by reference the provisions of this clause in every subcontract it awards under which any portion of the contract obligations are undertaken or assumed, so that the provisions will be binding upon the subcontractor. In the same manner as with other provisions of this contract, the Contractor will be liable for compliance with applicable provisions of this clause by subcontractors; and further it will promptly notify IDOT and the Illinois Department of Human Rights in the event any subcontractor fails or refuses to comply with these provisions. In addition, the Contractor will not utilize any subcontractor declared by the Illinois Human Rights Commission to be ineligible for contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations."

STATE CONTRACTS. Revise Section II of Check Sheet #5 of the Recurring Special Provisions to read:

## "II. EQUAL EMPLOYMENT OPPORTUNITY

In the event of the Contractor's noncompliance with the provisions of this Equal Employment Opportunity Clause, the Illinois Human Rights Act or the Illinois Department of Human Rights Rules and Regulations, the Contractor may be declared ineligible for future contracts or subcontracts with the State of Illinois or any of its political sub-divisions or municipal corporations, and the contract may be cancelled or voided in whole or in part, and such other sanctions or penalties may be imposed or remedies invoked as provided by statute or regulation.

During the performance of this Contract, the Contractor agrees as follows:

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



national origin or ancestry, citizenship status, age, physical or mental disability unrelated to ability, military status, or an unfavorable discharge from military service.

4. That it will send to each labor organization or representative of workers with which it has or is bound by a collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the Contractor's obligations under the Illinois Human Rights Act and the Illinois Department of Human Rights Rules and Regulations. If any labor organization or representative fails or refuses to cooperate with the Contractor in its efforts to comply with such Act and Rules and Regulations, the Contractor will promptly so notify the Illinois Department of Human Rights and IDOT and will recruit employees from other sources when necessary to fulfill its obligations thereunder.
5. That it will submit reports as required by the Illinois Department of Human Rights Rules and Regulations, furnish all relevant information as may from time to time be requested by the Illinois Department of Human Rights or IDOT, and in all respects comply with the Illinois Human Rights Act and the Illinois Department of Human Rights Rules and Regulations.
6. That it will permit access to all relevant books, records, accounts and work sites by personnel of IDOT and the Illinois Department of Human Rights for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and the Illinois Department of Human Rights Rules and Regulations.
7. That it will include verbatim or by reference the provisions of this clause in every subcontract it awards under which any portion of the contract obligations are undertaken or assumed, so that the provisions will be binding upon the subcontractor. In the same manner as with other provisions of this contract, the Contractor will be liable for compliance with applicable provisions of this clause by subcontractors; and further it will promptly notify IDOT and the Illinois Department of Human Rights in the event any subcontractor fails or refuses to comply with these provisions. In addition, the Contractor will not utilize any subcontractor declared by the Illinois Human Rights Commission to be ineligible for contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations."

**HOT MIX ASPHALT – PRIME COAT (BDE)**

Effective: November 1, 2014

Revise Note 1 of Article 406.02 of the Standard Specifications to read:

“Note 1. The bituminous material used for prime coat shall be one of the types listed in the following table.

When emulsified asphalts are used, any dilution with water shall be performed by the emulsion producer. The emulsified asphalt shall be thoroughly agitated within 24 hours of application and show no separation of water and emulsion.

Application	Bituminous Material Types
Prime Coat on Brick, Concrete, or HMA Bases	SS-1, SS-1h, SS-1hP, SS-1vh, RS-1, RS-2, CSS-1, CSS-1h, CSS-1hp, CRS-1, CRS-2, HFE-90, RC-70
Prime Coat on Aggregate Bases	MC-30, PEP”

Add the following to Article 406.03 of the Standard Specifications.

- “(i) Vacuum Sweeper ..... 1101.19
- “(j) Spray Paver ..... 1102.06”

Revise Article 406.05(b) of the Standard Specifications to read:

“(b) Prime Coat. The bituminous material shall be prepared according to Article 403.05 and applied according to Article 403.10. The use of RC-70 shall be limited to air temperatures less than 60 °F (15 °C).

- (1) Brick, Concrete or HMA Bases. The base shall be cleaned of all dust, debris and any substance that will prevent the prime coat from adhering to the base. Cleaning shall be accomplished by sweeping to remove all large particles and air blasting to remove dust. As an alternative to air blasting, a vacuum sweeper may be used to accomplish the dust removal. The base shall be free of standing water at the time of application. The prime coat shall be applied uniformly and at a rate that will provide a residual asphalt rate on the prepared surface as specified in the following table.

Type of Surface to be Primed	Residual Asphalt Rate lb/sq ft (kg/sq m)
Milled HMA, Aged Non-Milled HMA, Milled Concrete, Non-Milled Concrete & Tined Concrete	0.05 (0.244)
Fog Coat between HMA Lifts, IL-4.75 & Brick	0.025 (0.122)

The bituminous material for the prime coat shall be placed one lane at a time. If a spray paver is not used, the primed lane shall remain closed until the prime coat is fully cured and does not pickup under traffic. When placing prime coat through an intersection where it is not possible to keep the lane closed, the prime coat may be covered immediately following its application with fine aggregate mechanically spread at a uniform rate of 2 to 4 lb/sq yd (1 to 2 kg/sq m).

- (2) Aggregate Bases. The prime coat shall be applied uniformly and at a rate that will provide a residual asphalt rate on the prepared surface of 0.25 lb/sq ft ± 0.01 (1.21 kg/sq m ±0.05).

The prime coat shall be permitted to cure until the penetration has been approved by the Engineer, but at no time shall the curing period be less than 24 hours for MC-30 or four hours for PEP. Pools of prime occurring in the depressions shall be broomed or squeegeed over the surrounding surface the same day the prime coat is applied.

The base shall be primed 1/2 width at a time. The prime coat on the second half/width shall not be applied until the prime coat on the first half/width has cured so that it will not pickup under traffic.

The residual asphalt rate will be verified a minimum of once per type of surface to be primed as specified herein for which at least 2000 tons (1800 metric tons) of HMA will be placed. The test will be according to the "Determination of Residual Asphalt in Prime and Tack Coat Materials" test procedure.

Prime coat shall be fully cured prior to placement of HMA to prevent pickup by haul trucks or paving equipment. If pickup occurs, paving shall cease in order to provide additional cure time, and all areas where the pickup occurred shall be repaired.

If after five days, loss of prime coat is evident prior to covering with HMA, additional prime coat shall be placed as determined by the Engineer at no additional cost to the Department."

Revise the last sentence of the first paragraph of Article 406.13(b) of the Standard Specifications to read:

"Water added to emulsified asphalt, as allowed in Article 406.02, will not be included in the quantities measured for payment."

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

"Aggregate for covering prime coat will not be measured for payment."

Revise the first paragraph of Article 406.14 of the Standard Specifications to read:

**"406.14 Basis of Payment.** Prime Coat will be paid for at the contract unit price per pound (kilogram) of residual asphalt applied for BITUMINOUS MATERIALS (PRIME COAT), or POLYMERIZED BITUMINOUS MATERIALS (PRIME COAT)."

Revise Article 407.02 of the Standard Specifications to read:

**"407.02 Materials.** Materials shall be according to Article 406.02, except as follows.

Item	Article/Section
(a) Packaged Rapid Hardening Mortar or Concrete .....	1018"

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

“(b) A bituminous prime coat shall be applied between each lift of HMA according to Article 406.05(b).”

Delete the second paragraph of Article 407.12 of the Standard Specifications.

Revise the first paragraph of Article 408.04 of the Standard Specifications to read:

“**408.04 Method of Measurement.** Bituminous priming material will be measured for payment according to Article 406.13.”

Revise the first paragraph of Article 408.05 of the Standard Specifications to read:

“**408.05 Basis of Payment.** This work will be paid for at the contract unit price per pound (kilogram) of residual asphalt applied for BITUMINOUS MATERIALS (PRIME COAT) or POLYMERIZED BITUMINOUS MATERIALS (PRIME COAT) and at the contract unit price per ton (metric ton) for INCIDENTAL HOT-MIX ASPHALT SURFACING.”

Revise Article 1032.02 of the Standard Specifications to read:

“**1032.02 Measurement.** Asphalt binders, emulsified asphalts, rapid curing liquid asphalt, medium curing liquid asphalts, slow curing liquid asphalts, asphalt fillers, and road oils will be measured by weight.

A weight ticket for each truck load shall be furnished to the inspector. The truck shall be weighed at a location approved by the Engineer. The ticket shall show the weight of the empty truck (the truck being weighed each time before it is loaded), the weight of the loaded truck, and the net weight of the bituminous material.

When an emulsion or cutback is used for prime coat, the percentage of asphalt residue of the actual certified product shall be shown on the producer’s bill of lading or attached certificate of analysis. If the producer adds extra water to an emulsion at the request of the purchaser, the amount of water shall also be shown on the bill of lading.

Payment will not be made for bituminous materials in excess of 105 percent of the amount specified by the Engineer.”

Add the following to the table in Article 1032.04 of the Standard Specifications.

“SS-1vh	160-180	70-80
RS-1, CRS-1	75-130	25-55”

Add the following to Article 1032.06 of the Standard Specifications.

“(g) Non Tracking Emulsified Asphalt SS-1vh shall be according to the following.

Requirements for SS-1vh			
Test		SPEC	AASHTO Test Method
Saybolt Viscosity @ 25C,	SFS	20-200	T 72

Storage Stability, 24hr.,	%	1 max.	T 59
Residue by Evaporation,	%	50 min.	T 59
Sieve Test,	%	0.3 max.	T 59
Tests on Residue from Evaporation			
Penetration @25°C, 100g., 5 sec., dmm		20 max.	T 49
Softening Point,	°C	65 min.	T 53
Solubility,	%	97.5 min.	T 44
Orig. DSR @ 82°C,	kPa	1.00 min.	T 315"

Revise the last table in Article 1032.06(f)(2)d. of the Standard Specifications to read:

Grade	Use
SS-1, SS-1h, RS-1, RS-2, CSS-1, CRS-1, CRS-2, CSS-1h, HFE-90, SS-1hP, CSS-1hP, SS-1vh	Prime or fog seal
PEP	Bituminous surface treatment prime
RS-2, HFE-90, HFE-150, HFE- 300, CRSP, HFP, CRS-2, HFRS-2	Bituminous surface treatment
CSS-1h Latex Modified	Microsurfacing"

Add the following to Article 1101 of the Standard Specifications.

**1101.19 Vacuum Sweeper.** The vacuum sweeper shall have a minimum sweeping path of 52 in. (1.3 m) and a minimum blower rating of 20,000 cu ft per minute (566 cu m per minute)."

Add the following to Article 1102 of the Standard Specifications:

**1102.06 Spray Paver.** The spreading and finishing machine shall be capable of spraying a rapid setting emulsion tack coat, paving a layer of HMA, and providing a smooth HMA mat in one pass. The HMA shall be spread over the tack coat in less than five seconds after the application of the tack coat during normal paving speeds. No wheel or other part of the paving machine shall come into contact with the tack coat before the HMA is applied. In addition to meeting the requirements of Article 1102.03, the spray paver shall also meet the requirements of Article 1102.05 for the tank, heating system, pump, thermometer, tachometer or synchronizer, and calibration. The spray bar shall be equipped with properly sized and spaced nozzles to apply a uniform application of tack coat at the specified rate for the full width of the mat being placed."

**MECHANICAL SIDE TIE BAR INSERTER (BDE)**

Effective: August 1, 2014  
Revised: January 1, 2015

Add the following to Article 420.03 of the Standard Specifications:

“(k) Mechanical Side Tie Bar Inserters ..... 1103.18”

Revise Article 420.05(b) of the Standard Specifications to read:

“(b) Longitudinal Construction Joint. The tie bars shall be installed using one of the following methods.

(1) Preformed or Drilled Holes. The tie bars shall be installed with an approved nonshrink grout or chemical adhesive providing a minimum pull-out strength as follows.

Bar Size	Minimum Pull-Out Strength
No. 6 (No. 19)	11,000 lb (49 kN)
No. 8 (No. 25)	19,750 lb (88 kN)

Holes shall be blown clean and dry prior to placing the grout or adhesive. If compressed air is used, the pneumatic tool lubricator shall be bypassed and a filter installed on the discharge valve to keep water and oil out of the lines. The installation shall be with methods and tools conforming to the grout or adhesive manufacturer’s recommendations.

The Contractor shall load test five percent of the first 500 tie bars installed. No further installation will be allowed until the initial five percent testing has been completed and approval to continue installation has been given by the Engineer. Testing will be required for 0.5 percent of the bars installed after the initial 500. For each bar that fails to pass the minimum requirements, two more bars selected by the Engineer shall be tested. Each bar that fails to meet the minimum load requirement shall be reinstalled and retested. The equipment and method used for testing shall meet the requirements of ASTM E 488. All tests shall be performed within 72 hours of installation. The tie bars shall be installed and approved before concrete is placed in the adjacent lane.”

(2) Inserted. The tie bars shall be installed with the use of a mechanical side tie bar inserter. The inserter shall insert the tie bars with vibration while still within the extrusion process, after the concrete has been struck off and consolidated without deformation of the slab. The inserter shall remain stationary relative to the pavement when inserting tie bars, while the formless paver continues to move in the direction of paving.

A void greater than 1/8 in. (3 mm) at any location around the tie bar shall require immediate adjustment of the paving operation. A void greater than 1/2 in.(13 mm) shall be repaired with a nonshrink grout or chemical adhesive after the concrete has hardened. If at the end of the day of paving more than 20 percent of the tie bars show a void larger than 1/8 in. (3 mm) at any point around the bar, the use of the side tie bar inserter shall be discontinued.

(3) Formed in Place. The tie bar shall be formed in place as shown on the plans.

The sealant reservoir shall be formed either by sawing after the concrete has set according to Article 420.05(a) or by hand tools when the concrete is in a plastic state.”

Add the following to Section 1103 of the Standard Specifications:

**“1103.18 Mechanical Side Bar Inserters.** The mechanical side tie bar inserter shall be self-contained and supported on the formless paver with the ability to move independently from the formless paver. The insertion apparatus shall vibrate within a frequency of 2000 to 6000 vpm. A vibrating reed tachometer, hand type, shall be provided according to Article 1103.12.”

## **PAVEMENT PATCHING (BDE)**

Effective: January 1, 2010

Revise the first sentence of the second paragraph of Article 701.17(e)(1) of the Standard Specifications to read:

“In addition to the traffic control and protection shown elsewhere in the contract for pavement, two devices shall be placed immediately in front of each open patch, open hole, and broken pavement where temporary concrete barriers are not used to separate traffic from the work area.”



## PAVEMENT STRIPING - SYMBOLS (BDE)

Effective: January 1, 2015

Revise the Symbol Table of Article 780.14 of the Supplemental Specifications to read:

### "SYMBOLS

Symbol	Large Size sq ft (sq m)	Small Size sq ft (sq m)
Through Arrow	11.5 (1.07)	6.5 (0.60)
Left or Right Arrow	15.6 (1.47)	8.8 (0.82)
2 Arrow Combination Left (or Right) and Through	26.0 (2.42)	14.7 (1.37)
3 Arrow Combination Left, Right, and Through	38.4 (3.56)	20.9 (1.94)
Lane Drop Arrow	41.5 (3.86)	--
Wrong Way Arrow	24.3 (2.26)	--
Railroad "R" 6 ft (1.8 m)	3.6 (0.33)	--
Railroad "X" 20 ft (6.1 m)	54.0 (5.02)	--
International Symbol of Accessibility	3.1 (0.29)	--
Bike Symbol	4.7 (0.44)	--
Shared Lane Symbol	8.0 (0.74)	--"

## **PRECAST CONCRETE HANDHOLE (BDE)**

Effective: August 1, 2014

Revise the third paragraph of Article 814.03 of the Standard Specifications to read:

“Handholes shall be constructed as shown on the plans and shall be cast-in-place, composite concrete, or precast units. Heavy duty handholes shall be either cast-in-place or precast units.”

Add the following to Article 814.03 of the Standard Specifications:

“(c) Precast Concrete. Precast concrete handholes shall be fabricated according to Article 1042.17. Where a handhole is contiguous to a sidewalk, preformed joint filler of 1/2 inch (13 mm) thickness shall be placed between the handhole and the sidewalk.”

Add the following to Section 1042 of the Standard Specifications:

“**1042.17 Precast Concrete Handholes.** Precast concrete handholes shall be according to Articles 1042.03(a)(c)(d)(e).”

## **PROGRESS PAYMENTS (BDE)**

Effective: November 2, 2013

Revise Article 109.07(a) of the Standard Specifications to read:

“(a) Progress Payments. At least once each month, the Engineer will make a written estimate of the quantity of work performed in accordance with the contract, and the value thereof at the contract unit prices. The amount of the estimate approved as due for payment will be vouchered by the Department and presented to the State Comptroller for payment. No amount less than \$1000.00 will be approved for payment other than the final payment.

Progress payments may be reduced by liens filed pursuant to Section 23(c) of the Mechanics’ Lien Act, 770 ILCS 60/23(c).

If a Contractor or subcontractor has defaulted on a loan issued under the Department’s Disadvantaged Business Revolving Loan Program (20 ILCS 2705/2705-610), progress payments may be reduced pursuant to the terms of that loan agreement. In such cases, the amount of the estimate related to the work performed by the Contractor or subcontractor, in default of the loan agreement, will be offset, in whole or in part, and vouchered by the Department to the Working Capital Revolving Fund or designated escrow account. Payment for the work shall be considered as issued and received by the Contractor or subcontractor on the date of the offset voucher. Further, the amount of the offset voucher shall be a credit against the Department’s obligation to pay the Contractor, the Contractor’s obligation to pay the subcontractor, and the Contractor’s or subcontractor’s total loan indebtedness to the Department. The offset shall continue until such time as the entire loan indebtedness is satisfied. The Department will notify the Contractor and Fund Control Agent in a timely manner of such offset. The Contractor or subcontractor shall not be entitled to additional payment in consideration of the offset.

The failure to perform any requirement, obligation, or term of the contract by the Contractor shall be reason for withholding any progress payments until the Department determines that compliance has been achieved.”

**RAILROAD PROTECTIVE LIABILITY INSURANCE (BDE)**

Effective: December 1, 1986

Revised: January 1, 2006

Description. Railroad Protective Liability and Property Damage Liability Insurance shall be carried according to Article 107.11 of the Standard Specifications. A separate policy is required for each railroad unless otherwise noted.

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NAMED INSURED & ADDRESS	NUMBER & SPEED OF PASSENGER TRAINS	NUMBER & SPEED OF FREIGHT TRAINS
Chicago Transit Authority CTA Headquarters 567 W. Lake Street Chicago, IL 60661	116 trains @ 60 mph (on elevated structure)	
DOT/AAR No.: 173985X	RR Mile Post: 8.66	
RR Division: Harlem-Lake Green Line	RR Sub-Division: Harlem Ave & Marion St Stations	
For Passenger Information Contact: Catherine Hosinski	Phone: 312-681-2808	
For Insurance Information Contact: Tamika Press	Phone: 312-681-3134	

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Approval of Insurance. The original and one certified copy of each required policy shall be submitted to the following address for approval:

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

The Contractor will be advised when the Department has received approval of the insurance from the railroad(s). Before any work begins on railroad right-of-way, the Contractor shall submit to the Engineer evidence that the required insurance has been approved by the railroad(s). The Contractor shall also provide the Engineer with the expiration date of each required policy.

Basis of Payment. Providing Railroad Protective Liability and Property Damage Liability Insurance will be paid for at the contract unit price per Lump Sum for RAILROAD PROTECTIVE LIABILITY INSURANCE.

3426I

**RAILROAD PROTECTIVE LIABILITY INSURANCE (5 AND 10) (BDE)**

Effective: January 1, 2006

Description. Railroad Protective Liability and Property Damage Liability Insurance shall be carried according to Article 107.11 of the Standard Specifications, except the limits shall be a minimum of \$5,000,000 combined single limit per occurrence for bodily injury liability and property damage liability with an aggregate limit of \$10,000,000 over the life of the policy. A separate policy is required for each railroad unless otherwise noted.

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NAMED INSURED & ADDRESS	NUMBER & SPEED OF PASSENGER TRAINS	NUMBER & SPEED OF FREIGHT TRAINS
Union Pacific Railroad Co 1400 Douglas Street Omaha, NE 68179	N/A	32 Trains @ 45 mph (on elevated structure)
DOT/AAR No.: 173985X RR Division: Suburban	RR Mile Post: 8.66 RR Sub-Division: Geneva	
For Freight Information Contact: For Insurance Information Contact:	Patrick G. Jennings Patrick G. Jennings	Phone: m (573) 301-8269 Phone: o (312) 496-4775

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"The Commuter Rail Division of the Regional Transportation Authority, a division of an Illinois municipal corporation, and its affiliated separate public corporation known as the Northeast Illinois Regional Commuter Railroad Corporation, both operating under the service mark Metra, as now exists or may hereafter be constituted or acquired, and the Regional transportation Authority, an Illinois municipal corporation."

METRA 547 W. Jackson Boulevard Chicago, IL 60661	58 Trains @ 70 mph (on elevated structure)	
DOT/AAR No.: 173985X RR Division: Suburban (UPRR)	RR Mile Post: 8.66 RR Sub-Division: Geneva (West Line)	
For Passenger Information Contact: For Insurance Information Contact:	Peter J. Zwolfer Marilyn Schlismann	Phone: (312) 322-8921 Phone: (312) 322-7093

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Approval of Insurance. The original and one certified copy of each required policy shall be submitted to the following address for approval:

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

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The Contractor will be advised when the Department has received approval of the insurance from the railroad(s). Before any work begins on railroad right-of-way, the Contractor shall submit to the Engineer evidence that the required insurance has been approved by the railroad(s). The Contractor shall also provide the Engineer with the expiration date of each required policy.

Basis of Payment. Providing Railroad Protective Liability and Property Damage Liability Insurance will be paid for at the contract unit price per Lump Sum for RAILROAD PROTECTIVE LIABILITY INSURANCE.

**RETROREFLECTIVE SHEETING FOR HIGHWAY SIGNS (BDE)**

Effective: November 1, 2014

Revise the first sentence of the first paragraph of Article 1091.03(a)(3) of the Standard Specifications to read:

“When tested according to ASTM E 810, with averaging, the sheeting shall have a minimum coefficient of retroreflection as show in the following tables.”

Replace the Tables for Type AA sheeting, Type AP sheeting, Type AZ sheeting and Type ZZ sheeting in Article 1091.03(a)(3) with the following.

**Type AA Sheeting**

Minimum Coefficient of Retroreflection

Candelas/foot candle/sq ft (candelas/lux/sq m) of material

**Type AA (Average of 0 and 90 degree rotation)**

Observation Angle (deg.)	Entrance Angle (deg.)	White	Yellow	Red	Green	Blue	FO
0.2	-4	800	600	120	80	40	200
0.2	+30	400	300	60	35	20	100
0.5	-4	200	150	30	20	10	75
0.5	+30	100	75	15	10	5	35

**Type AA (45 degree rotation)**

Observation Angle (deg.)	Entrance Angle (deg.)	Yellow	FO
0.2	-4	500	165
0.2	+30	115	40
0.5	-4	140	65
0.5	+30	60	30

**Type AP Sheeting**

Minimum Coefficient of Retroreflection

Candelas/foot candle/sq ft (candelas/lux/sq m) of material

**Type AP (Average of 0 and 90 degree rotation)**

Observation Angle (deg.)	Entrance Angle (deg.)	White	Yellow	Red	Green	Blue	Brown	FO
0.2	-4	500	380	75	55	35	25	150
0.2	+30	180	135	30	20	15	10	55
0.5	-4	300	225	50	30	20	15	90
0.5	+30	90	70	15	10	7.5	5	30



Type AZ Sheeting

Minimum Coefficient of Retroreflection

Candelas/foot candle/sq ft (candelas/lux/sq m) of material

Type AZ (Average of 0 and 90 degree rotation)

Observation Angle (deg.)	Entrance Angle (deg.)	White	Yellow	Red	Green	Blue	FYG	FY
0.2	-4	375	280	75	45	25	300	230
0.2	+30	235	170	40	25	15	190	150
0.5	-4	245	180	50	30	20	200	155
0.5	+30	135	100	25	15	10	100	75
1.0	-4	50	37.5	8.5	5	2	45	25
1.0	+30	22.5	20	5	3	1	25	12.5

Type ZZ Sheeting

Minimum Coefficient of Retroreflection

Candelas/foot candle/sq ft (candelas/lux/sq m) of material

Type ZZ (Average of 0 and 90 degree rotation)

Observation Angle (deg.)	Entrance Angle (deg.)	White	Yellow	Red	Green	Blue	FYG	FY	FO
0.2	-4	570	425	90	60	30	460	340	170
0.2	+30	190	140	35	20	10	150	110	65
0.5	-4	400	300	60	40	20	320	240	120
0.5	+30	130	95	20	15	7	100	80	45
1.0	-4	115	90	17	12	5	95	70	35
1.0	+30	45	35	7	5	2	35	25	15

## REINFORCEMENT BARS (BDE)

Effective: November 1, 2013

Revise the first and second paragraphs of Article 508.05 of the Standard Specifications to read:

**“508.05 Placing and Securing.** All reinforcement bars shall be placed and tied securely at the locations and in the configuration shown on the plans prior to the placement of concrete. Manual welding of reinforcement may only be permitted on precast concrete products as indicated in the current Bureau of Materials and Physical Research Policy Memorandum “Quality Control / Quality Assurance Program for Precast Concrete Products”, and for precast prestressed concrete products as indicated in the Department’s current “Manual for Fabrication of Precast Prestressed Concrete Products”. Reinforcement bars shall not be placed by sticking or floating into place or immediately after placement of the concrete.

Bars shall be tied at all intersections, except where the center to center dimension is less than 1 ft (300 mm) in each direction, in which case alternate intersections shall be tied. Molded plastic clips may be used in lieu of wire to secure bar intersections, but shall not be permitted in horizontal bar mats subject to construction foot traffic or to secure longitudinal bar laps. Plastic clips shall adequately secure the reinforcement bars, and shall permit the concrete to flow through and fully encase the reinforcement. Plastic clips may be recycled plastic, and shall meet the approval of the Engineer. The number of ties as specified shall be doubled for lap splices at the stage construction line of concrete bridge decks when traffic is allowed on the first completed stage during the pouring of the second stage.”

Revise the fifth paragraph of Article 508.05 of the Standard Specifications to read:

“Supports for reinforcement in bridge decks shall be metal. For all other concrete construction the supports shall be metal or plastic. Metal bar supports shall be made of cold-drawn wire, or other approved material and shall be either epoxy coated, galvanized or plastic tipped. When the reinforcement bars are epoxy coated, the metal supports shall be epoxy coated. Plastic supports may be recycled plastic. Supports shall be provided in sufficient number and spaced to provide the required clearances. Supports shall adequately support the reinforcement bars, and shall permit the concrete to flow through and fully encase the reinforcement. The legs of supports shall be spaced to allow an opening that is a minimum 1.33 times the nominal maximum aggregate size used in the concrete. Nominal maximum aggregate size is defined as the largest sieve which retains any of the aggregate sample particles. All supports shall meet the approval of the Engineer.”

Revise the first sentence of the eighth paragraph of Article 508.05 of the Standard Specifications to read:

“Epoxy coated reinforcement bars shall be tied with plastic coated wire, epoxy coated wire, or molded plastic clips where allowed.”

Add the following sentence to the end of the first paragraph of Article 508.06(c) of the Standard Specifications:

“In addition, the total slip of the bars within the splice sleeve of the connector after loading in tension to 30 ksi (207 MPa) and relaxing to 3 ksi (20.7 MPa) shall not exceed 0.01 in. (254 microns).”

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Revise Article 1042.03(d) of the Standard Specifications to read:

“(d) Reinforcement and Accessories: The concrete cover over all reinforcement shall be within  $\pm 1/4$  in. ( $\pm 6$  mm) of the specified cover.

Welded wire fabric shall be accurately bent and tied in place.

Miscellaneous accessories to be cast into the concrete or for forming holes and recesses shall be carefully located and rigidly held in place by bolts, clamps, or other effective means. If paper tubes are used for vertical dowel holes, or other vertical holes which require grouting, they shall be removed before transportation to the construction site.”

## **RIGID METAL CONDUIT (BDE)**

Effective: August 1, 2014

Add the following to Article 1088.01(a) of the Standard Specifications:

“(6) Stainless Steel Conduit. The conduit shall be Type 304 or Type 316 stainless steel, shall be manufactured according to UL Standard 6A, and shall meet ANSI Standard C80.1. Conduit fittings shall be Type 304 or Type 316 stainless steel and shall be manufactured according to UL Standard 514B.

All conduit supports, straps, clamps. And other attachments shall be Type 304 or Type 316 stainless steel. Attachment hardware shall be stainless steel according to Article 1006.31.”

**SIDEWALK, CORNER, OR CROSSWALK CLOSURE (BDE)**

Effective: January 1, 2015

Revised: April 1, 2015

Revise the first sentence of Article 1106.02(m) of the Supplemental Specifications to read:

"The top and bottom panels shall have alternating white and orange stripes sloping 45 degrees on both sides."

## STEEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID)

Effective: April 2, 2004

Revised: July 1, 2015

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 have a contract value of \$10,000 or greater.

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

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

- (a) The dates and quantity of steel, in lb (kg), shipped from the mill to the fabricator.
- (b) The quantity of steel, in lb (kg), incorporated into the various items of work covered by this special provision. The Department reserves the right to verify submitted quantities.

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

$$SCA = Q \times D$$

Where: SCA = steel cost adjustment, in dollars  
Q = quantity of steel incorporated into the work, in lb (kg)  
D = price factor, in dollars per lb (kg)

$$D = MPI_M - MPI_L$$

Where:  $MPI_M$  = The Materials Cost Index for steel as published by the Engineering News-Record for the month the steel is shipped from the mill. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

MPI<sub>L</sub> = The Materials Cost Index for steel as published by the Engineering News-Record for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price,. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

The unit weights (masses) of steel that will be used to calculate the steel cost adjustment for the various items are shown in the attached table.

No steel cost adjustment will be made for any products manufactured from steel having a mill shipping date prior to the letting date.

If the Contractor fails to provide the required documentation, the method of adjustment will be calculated as described above; however, the MPI<sub>M</sub> 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<sub>L</sub> and MPI<sub>M</sub> in excess of five percent, as calculated by:

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

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

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

**Attachment**

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



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:** \_\_\_\_\_

## **TRACKING THE USE OF PESTICIDES (BDE)**

Effective: August 1, 2012

Add the following paragraph after the first paragraph of Article 107.23 of the Standard Specifications:

“Within 48 hours of the application of pesticides, including but not limited to herbicides, insecticides, algacides, and fungicides, the Contractor shall complete and return to the Engineer, Operations form “OPER 2720”.”

## **TRAINING SPECIAL PROVISIONS (BDE)**

This Training Special Provision supersedes Section 7b of the Special Provision entitled "Specific Equal Employment Opportunity Responsibilities," and is in implementation of 23 U.S.C. 140(a).

As part of the contractor's equal employment opportunity affirmative action program, training shall be provided as follows:

The contractor shall provide on-the-job training aimed at developing full journeyman in the type of trade or job classification involved. The number of trainees to be trained under this contract will be 1. In the event the contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also insure that this Training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the contractor's needs and the availability of journeymen in the various classifications within the reasonable area of recruitment. Prior to commencing construction, the contractor shall submit to the Illinois Department of Transportation for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the contractor shall specify the starting time for training in each of the classifications. The contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Accordingly, the contractor shall make every effort to enroll minority trainees and women (e.g. by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent such persons are available within a reasonable area of recruitment. The contractor will be responsible for demonstrating the steps that he has taken in pursuance thereof, prior to a determination as to whether the contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he has successfully completed a training course leading to journeyman status or in which he has been employed as a journeyman. The contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used the contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the contractor and approved by the Illinois Department of Transportation and the Federal Highway Administration. The Illinois Department of Transportation and the Federal Highway Administration shall approve a program, if it is reasonably calculated to meet the equal employment opportunity obligations of the contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved by not necessarily sponsored by the

U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the Illinois Department of Transportation and the Federal Highway Administration. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the Engineer, reimbursement will be made for training of persons in excess of the number specified herein. This reimbursement will be made even though the contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

No payment shall be made to the contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the contractor and evidences a lack of good faith on the part of the contractor in meeting the requirement of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program.

It is not required that all trainees be on board for the entire length of the contract. A contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The contractor shall furnish the trainee a copy of the program he will follow in providing the training. The contractor shall provide each trainee with a certification showing the type and length of training satisfactorily complete.

The contractor will provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

METHOD OF MEASUREMENT The unit of measurement is in hours.

BASIS OF PAYMENT This work will be paid for at the contract unit price of 80 cents per hour for **TRAINEES**. The estimated total number of hours, unit price and total price have been included in the schedule of prices.

## WARM MIX ASPHALT (BDE)

Effective: January 1, 2012

Revised: November 1, 2014

Description. This work shall consist of designing, producing and constructing Warm Mix Asphalt (WMA) in lieu of Hot Mix Asphalt (HMA) at the Contractor's option. Work shall be according to Sections 406, 407, 408, 1030, and 1102 of the Standard Specifications, except as modified herein. In addition, any references to HMA in the Standard Specifications, or the special provisions shall be construed to include WMA.

WMA is an asphalt mixture which can be produced at temperatures lower than allowed for HMA utilizing approved WMA technologies. WMA technologies are defined as the use of additives or processes which allow a reduction in the temperatures at which HMA mixes are produced and placed. WMA is produced by the use of additives, a water foaming process, or combination of both. Additives include minerals, chemicals or organics incorporated into the asphalt binder stream in a dedicated delivery system. The process of foaming injects water into the asphalt binder stream, just prior to incorporation of the asphalt binder with the aggregate.

Approved WMA technologies may also be used in HMA provided all the requirements specified herein, with the exception of temperature, are met. However, asphalt mixtures produced at temperatures in excess of 275 °F (135 °C) will not be considered WMA when determining the grade reduction of the virgin asphalt binder grade.

### Equipment.

Revise the first paragraph of Article 1102.01 of the Standard Specifications to read:

**"1102.01 Hot-Mix Asphalt Plant.** The hot-mix asphalt (HMA) plant shall be the batch-type, continuous-type, or dryer drum plant. The plants shall be evaluated for prequalification rating and approval to produce HMA according to the current Bureau of Materials and Physical Research Policy Memorandum, "Approval of Hot-Mix Asphalt Plants and Equipment". Once approved, the Contractor shall notify the Bureau of Materials and Physical Research to obtain approval of all plant modifications. The plants shall not be used to produce mixtures concurrently for more than one project or for private work unless permission is granted in writing by the Engineer. The plant units shall be so designed, coordinated and operated that they will function properly and produce HMA having uniform temperatures and compositions within the tolerances specified. The plant units shall meet the following requirements."

Add the following to Article 1102.01(a) of the Standard Specifications.

"(13) Equipment for Warm Mix Technologies.

- a. Foaming. Metering equipment for foamed asphalt shall have an accuracy of  $\pm 2$  percent of the actual water metered. The foaming control system shall be electronically interfaced with the asphalt binder meter.
- b. Additives. Additives shall be introduced into the plant according to the supplier's recommendations and shall be approved by the Engineer. The system for introducing the WMA additive shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes."

Mix Design Verification.

Add the following to Article 1030.04 of the Standard Specifications.

“(e) Warm Mix Technologies.

- (1) Foaming. WMA mix design verification will not be required when foaming technology is used alone (without WMA additives). However, the foaming technology shall only be used on HMA designs previously approved by the Department.
- (2) Additives. WMA mix designs utilizing additives shall be submitted to the Engineer for mix design verification.”

Construction Requirements.

Revise the second paragraph of Article 406.06(b)(1) of the Standard Specifications to read:

“The HMA shall be delivered at a temperature of 250 to 350 °F (120 to 175 °C). WMA shall be delivered at a minimum temperature of 215 °F (102 °C).”

Basis of Payment.

This work will be paid at the contract unit price bid for the HMA pay items involved. Anti-strip will not be paid for separately, but shall be considered as included in the cost of the work.

## **WEEKLY DBE TRUCKING REPORTS (BDE)**

Effective: June 2, 2012

Revised: April 2, 2015

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

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

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



**WORKING DAYS (BDE)**

Effective: January 1, 2002

The Contractor shall complete the work within 125 working days.

80071

## REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

### ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

#### I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

#### II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

**1. Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

**2. EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

**3. Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

**4. Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

**5. Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If

the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

## **6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

**8. Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

**9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

**10. Assurance Required by 49 CFR 26.13(b):**

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

**III. NONSEGREGATED FACILITIES**

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color,

religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

**IV. Davis-Bacon and Related Act Provisions**

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

**1. Minimum wages**

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

## 2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such

action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

## 3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee ( e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### 4. Apprentices and trainees

##### a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

##### b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

##### d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

**6. Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

**7. Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for

debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

**9. Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

#### **10. Certification of eligibility.**

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

#### **V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

**1. Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

**2. Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

**3. Withholding for unpaid wages and liquidated damages.** The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such

contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

**4. Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

#### **VI. SUBLETTING OR ASSIGNING THE CONTRACT**

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

## **VII. SAFETY: ACCIDENT PREVENTION**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

## **VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

## **IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

## **X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

### **1. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded,"



as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

\* \* \* \* \*

## **2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with

commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

### **2. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the

certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

\* \* \* \* \*

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

\* \* \* \* \*

**XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**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.