

# **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.DE-Contracts@Illinois.gov](mailto:DOT.DE-Contracts@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 PAPER 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)** – 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 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 – Do Not Submit with Bid** 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 calendar 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 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 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.

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

# 116

RETURN WITH BID

Proposal Submitted By
Name
Address
City

**Letting November 4, 2016**

**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. 91539  
CHAMPAIGN County  
Section 15-00304-01-PV (Urbana)  
Route FAU 7126 (Green Street)  
Project TIG-5181(057)  
District 5 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. 91539  
CHAMPAIGN County  
Section 15-00304-01-PV (Urbana)  
Project TIG-5181(057)  
Route FAU 7126 (Green Street)  
District 5 Construction Funds**

**Pavement reconstruction, storm sewer, utility construction, sidewalks, streetscape and landscaping, roadway and pedestrian lighting, traffic signal improvements and pavement markings from Wright St. to Busey Ave. in the City of Urbana.**

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**

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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STATE JOB # - C-95-305-16  
 PPS NBR -

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF PRICES  
 CONTRACT NUMBER - 91539

ECMS002 DTGECM03 ECMR003 PAGE 1  
 RUN DATE - 09/29/16  
 RUN TIME - 183023

COUNTY NAME	CODE	DIST	SECTION NUMBER	PROJECT NUMBER	ROUTE		
CHAMPAIGN	019	05	15-00304-01-PV (URBANA)	TIG-5181/057/000	FAU 7126		
ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE DOLLARS	CENTS	TOTAL PRICE DOLLARS	CTS
A2001722	T-ACER SACR FF	EACH	5.000 X				
A2002924	T-CELTIS OCCID	EACH	4.000 X				
A2006524	T-QUERCUS BICOL	EACH	3.000 X				
B2001167	T-CERCIS CAN (E R) 8'	EACH	6.000 X				
K0012990	P PL ORNAMENT T GAL P	UNIT	19.500 X				
K0013000	P PL PRAIRI 2X4 DPPLG	UNIT	51.500 X				
K1005481	SHRED BARK MULCH 3	SQ YD	1,522.000 X				
XX000300	CONCRETE STEPS	SQ FT	56.000 X				
XX001249	ORNAMENTAL FENCE	FOOT	327.000 X				
XX002090	STAIR SIDE RAILING	FOOT	192.000 X				
XX003000	CLASS SI CONC STEPS	CU YD	4.000 X				
XX003303	CONCRETE LIGHT POLE	EACH	8.000 X				
XX004360	SAN SEW BYPASS PUMP	L SUM	1.000 X				
XX005106	PVC CASING PIPE 18	FOOT	68.000 X				
XX005476	D I WM 12 RJ	FOOT	1,478.000 X				

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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
XX005478	D I WM 6 R J	FOOT	116.000 X				
XX005770	STR TO BE ABANDONED	EACH	5.000 X				
XX005967	TOPSOIL PLANT MIXTURE	CU YD	26.500 X				
XX006496	PCC SIDEWALK CURB WAL	CU YD	12.000 X				
XX006570	TREES (SPECIAL)	EACH	13.000 X				
XX006739	CONCRETE PAVERS TYP A	SQ FT	1,000.000 X				
XX006740	CONCRETE PAVERS TYP B	SQ FT	203.000 X				
XX006821	CONC TRUCK WASHOUT	L SUM	1.000 X				
XX007325	REM EX TR SIGNAL POST	EACH	2.000 X				
XX007797	LUMINAIRE SPL	EACH	8.000 X				
XX008068	LUMINAIRE INST TYPE 1	EACH	15.000 X				
XX008069	LUMINAIRE INST TYPE 2	EACH	8.000 X				
XX008263	PCC PLATFORM SPL	SQ FT	8,606.000 X				
XX008639	SHRUBS SPECIAL	EACH	373.000 X				
XX008839	WATER MAIN ABANDONED	L SUM	1.000 X				

FAU 7126 (URBANA) ILLINOIS DEPARTMENT OF TRANSPORTATION ECMS002 DTGECM03 ECMR003 PAGE 3  
 15-00304-01-PV CHAMPAIGN SCHEDULE OF PRICES RUN DATE - 09/29/16  
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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
XX009125	BUS SHELTER TYPE 1	EACH	1.000 X	=			
XX009127	BUS SHELTER TYPE 2	EACH	1.000 X	=			
XX009128	FIB OPT CBL CON SPL	FOOT	3,187.000 X	=			
XX009132	BUS SHELTER TYPE 4	EACH	5.000 X	=			
X0320239	CONC WALL REMOV	FOOT	240.000 X	=			
X0323256	REM & REL FLAGPOLE	EACH	1.000 X	=			
X0323706	TRASH RECEPACLE REL	EACH	12.000 X	=			
X0326657	RELOCATE SIGN SPL	EACH	1.000 X	=			
X0327008	REM/REL SIGN SPECIAL	EACH	4.000 X	=			
X0327009	REMOVE SIGN SPECIAL	EACH	1.000 X	=			
X0327149	RELO BENCH	EACH	16.000 X	=			
X0327241	STL CAS P TR 24	FOOT	111.000 X	=			
X0327515	THERM VEH DETECT SYST	EACH	2.000 X	=			
X0327739	MISC ELECTRICAL WORK	L SUM	1.000 X	=			
X0327802	PLNTG SOIL MIX F&P 12	SQ YD	1,522.000 X	=			

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ILLINOIS DEPARTMENT OF TRANSPORTATION  
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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
X0327980	PAVMT MRKG REM WTR BL	SQ FT	400.000	X	=		
X0350805	FOLD DOWN BOLLARDS	EACH	2.000	X	=		
X0350810	BOLLARD REMOVAL	EACH	22.000	X	=		
X0840000	SAN SEW REMOV 8	FOOT	37.000	X	=		
X1400092	LT P A 30MH 10DA-TW	EACH	2.000	X	=		
X1700001	DRILL MH HDHH MWL JBX	EACH	8.000	X	=		
X2600011	REM & REL SIGN PANEL	EACH	5.000	X	=		
X5030225	CONC STRUCT SPL	CU YD	4.000	X	=		
X5610746	WM LINE STOP 6	EACH	5.000	X	=		
X5640175	FIRE HYDRANT COMPLETE	EACH	3.000	X	=		
X6020082	INLETS TG-1	EACH	5.000	X	=		
X6022230	MAN TA 4 DIA SPL F&G	EACH	8.000	X	=		
X6023508	INLETS TA W/SPL F&G	EACH	33.000	X	=		
X6024502	INLETS TB W/SPL F&G	EACH	21.000	X	=		
X6025600	MAN ADJUST SPL	EACH	8.000	X	=		

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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
X6026056	SAN MH ADJ NEW T1F CL	EACH	1.000				
X6026624	VALVE BOX ADJ SPL	EACH	7.000				
X6050040	REMOV MANHOLES SPL	EACH	1.000				
X6061700	COMB CC&G TB SPL	FOOT	865.000				
X6061815	COMB CC&G TM SPL	FOOT	2,984.000				
X6331110	STEEL POSTS SPECIAL	EACH	9.000				
X6640100	FENCE RAIL REMOVAL	FOOT	66.000				
X7010216	TRAF CONT & PROT SPL	L SUM	1.000				
X7240505	RELOC SIGN PANEL&POST	EACH	1.000				
X7830060	GRV RCSD PM LTR & SYM	SQ FT	428.000				
X7830070	GRV RCSD PVT MRKG	FOOT	8,259.000				
X7830074	GRV RCSD PVT MRKG	FOOT	3,276.000				
X7830078	GRV RCSD PVT MRKG	FOOT	1,932.000				
X7830090	GRV RCSD PVT MRKG	FOOT	487.000				
X8040102	ELECT SERV INSTALL SP	EACH	4.000				

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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
X8130110	JUNCTION BOX SPL	EACH	78.000				
X8130125	REM EX JUNCTION BOX	EACH	8.000				
X8140115	HANDHOLE TO BE ADJUST	EACH	10.000				
X8211125	LUM LED HM SPL	EACH	21.000				
X8211285	LUM LED HM 285W	EACH	5.000				
X8250505	LIGHT CONTROLLER SPL	EACH	1.000				
X8360120	LIGHT POLE FDN SPL	EACH	22.000				
X8800101	PED PUSH-BUTTON SPL	EACH	10.000				
Z0003855	BICYCLE RACKS	EACH	33.000				
Z0004002	BOLLARDS	EACH	7.000				
Z0007430	TEMP SIDEWALK	SQ FT	400.000				
Z0013798	CONSTRUCTION LAYOUT	L SUM	1.000				
Z0036700	PARK METER POSTS REM	EACH	8.000				
Z0038700	PERMNT BENCH MARKS	EACH	2.000				
Z0042300	PC CONC SIDEWALK CURB	FOOT	411.000				

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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
Z0056642	SS 1 WAT MN 6	FOOT	96.000				
Z0056648	SS 1 WAT MN 12	FOOT	1,415.000				
Z0056650	SS 1 WAT MN 15	FOOT	67.000				
Z0056652	SS 1 WAT MN 18	FOOT	91.000				
Z0056668	SS 2 WAT MN 12	FOOT	294.000				
Z0056669	SS 2 WAT MN 15	FOOT	123.000				
Z0056670	SS 2 WAT MN 18	FOOT	180.000				
Z0056900	SAN SEW 8	FOOT	37.000				
Z0076600	TRAINEES	HOUR	1,500.000	0.80		1,200.00	
Z0076604	TRAINEES TPG	HOUR	1,500.000	15.00		22,500.00	
20100110	TREE REMOV 6-15	UNIT	50.000				
20100210	TREE REMOV OVER 15	UNIT	508.000				
20101000	TEMPORARY FENCE	FOOT	3,679.000				
20101400	NITROGEN FERT NUTR	POUND	86.000				
20101500	PHOSPHORUS FERT NUTR	POUND	86.000				

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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
20101600	POTASSIUM FERT NUTR	POUND	86.000				
20200100	EARTH EXCAVATION	CU YD	8,245.000				
20201200	REM & DISP UNS MATL	CU YD	789.000				
20600110	GRAN EMBANK SPEC	TON	1,616.000				
20800150	TRENCH BACKFILL	CU YD	691.000				
21001000	GEOTECH FAB F/GR STAB	SQ YD	2,367.000				
21101615	TOPSOIL F & P 4	SQ YD	6,289.000				
21101685	TOPSOIL F & P 24	SQ YD	665.000				
25200110	SODDING SALT TOLERANT	SQ YD	6,958.000				
25200200	SUPPLE WATERING	UNIT	70.000				
28000250	TEMP EROS CONTR SEED	POUND	144.000				
28000400	PERIMETER EROS BAR	FOOT	633.000				
28000510	INLET FILTERS	EACH	95.000				
35100300	AGG BASE CSE A 4	SQ YD	955.000				
35100500	AGG BASE CSE A 6	SQ YD	5,863.000				



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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
35101100	AGG BASE CSE A 12	SQ YD	12,042.000	=			
35300700	PCC BSE CSE 12	SQ YD	161.000	=			
35400520	PCC BASE CSE W 12	SQ YD	1,357.000	=			
40201000	AGGREGATE-TEMP ACCESS	TON	382.000	=			
40600295	P BIT MATLS TACK CT	POUND	6,688.000	=			
40600839	P LB MM IL-9.5FG N70	TON	510.000	=			
40600982	HMA SURF REM BUTT JT	SQ YD	274.000	=			
40603235	P HMA BC IL19.0 N70	TON	927.000	=			
40603540	P HMA SC "D" N70	TON	642.000	=			
40800050	INCIDENTAL HMA SURF	TON	100.000	=			
42000101	PCC PVT 6 JOINTED	SQ YD	2,869.000	=			
42000301	PCC PVT 8 JOINTED	SQ YD	2,564.000	=			
42000511	PCC PVT 10 1/2 JOINTD	SQ YD	8,373.000	=			
42001300	PROTECTIVE COAT	SQ YD	15,723.000	=			
42300400	PCC DRIVEWAY PAVT 8	SQ YD	1,880.000	=			

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				DOLLARS	CENTS		
42400300	PC CONC SIDEWALK 6	SQ FT	35,383.000	X	=		
42400410	PC CONC SIDEWALK 8	SQ FT	29,005.000	X	=		
42400800	DETECTABLE WARNINGS	SQ FT	3,163.000	X	=		
44000100	PAVEMENT REM	SQ YD	15,256.000	X	=		
44000151	HMA SURF REM 1/2	SQ YD	6,023.000	X	=		
44000200	DRIVE PAVEMENT REM	SQ YD	1,144.000	X	=		
44000300	CURB REM	FOOT	42.000	X	=		
44000500	COMB CURB GUTTER REM	FOOT	10,885.000	X	=		
44000600	SIDEWALK REM	SQ FT	72,697.000	X	=		
44003100	MEDIAN REMOVAL	SQ FT	4,705.000	X	=		
44200994	CL B PATCH T2 12	SQ YD	248.000	X	=		
44200998	CL B PATCH T3 12	SQ YD	439.000	X	=		
44201000	CL B PATCH T4 12	SQ YD	493.000	X	=		
44201696	CL D PATCH T4 4	SQ YD	327.000	X	=		
44201723	CL D PATCH T4 6	SQ YD	1,175.000	X	=		

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				DOLLARS	CENTS		
44400100	FIBERGLASS FAB REP SY	SQ YD	7,362.000	X	=		
50900805	PEDESTRIAN RAIL	FOOT	866.000	X	=		
50901760	PIPE HANDRAIL	FOOT	93.000	X	=		
550A0050	STORM SEW CL A 1 12	FOOT	1,337.000	X	=		
550A0070	STORM SEW CL A 1 15	FOOT	32.000	X	=		
550A0090	STORM SEW CL A 1 18	FOOT	98.000	X	=		
550A0340	STORM SEW CL A 2 12	FOOT	72.000	X	=		
550A0360	STORM SEW CL A 2 15	FOOT	5.000	X	=		
55100300	STORM SEWER REM 8	FOOT	3.000	X	=		
55100400	STORM SEWER REM 10	FOOT	212.000	X	=		
55100500	STORM SEWER REM 12	FOOT	686.000	X	=		
55100700	STORM SEWER REM 15	FOOT	176.000	X	=		
56103300	D I WATER MAIN 12	FOOT	1,021.000	X	=		
56104600	WATER VALVES 2	EACH	2.000	X	=		
56104900	WATER VALVES 6	EACH	7.000	X	=		

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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
56105200	WATER VALVES 12	EACH	6.000	X	=		
56108800	TAP VALVE & SLEEVE 6	EACH	1.000	X	=		
56109100	TAP VALVE & SLEEVE 12	EACH	1.000	X	=		
56200700	WATER SERV LINE 2	FOOT	20.000	X	=		
56201800	CORP STOPS 2	EACH	2.000	X	=		
56400500	FIRE HYDNITS TO BE REM	EACH	4.000	X	=		
56400600	FIRE HYDRANTS	EACH	4.000	X	=		
59300100	CONTR LOW-STRENG MATL	CU YD	1,434.000	X	=		
60108106	PIPE UNDERDR T 1 6	FOOT	4,175.000	X	=		
60218400	MAN TA 4 DIA T1F CL	EACH	5.000	X	=		
60218500	MAN TA 4 DIA T3F&G	EACH	1.000	X	=		
60219300	MAN TA 4 DIA T11F&G	EACH	2.000	X	=		
60221100	MAN TA 5 DIA T1F CL	EACH	1.000	X	=		
60234200	INLETS TA T1F OL	EACH	2.000	X	=		
60240215	INLETS TB T1F CL	EACH	1.000	X	=		

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				DOLLARS	CENTS		
60240220	INLETS TB T3F&G	EACH	4.000				
60240310	INLETS TB T11F&G	EACH	17.000				
60255500	MAN ADJUST	EACH	48.000				
60255800	MAN ADJ NEW T1F CL	EACH	3.000				
60258200	MAN RECON NEW T1F CL	EACH	1.000				
60259100	MAN RECON NEW T11F&G	EACH	1.000				
60261300	INLETS ADJ NEW T11F&G	EACH	1.000				
60266600	VALVE BOX ADJ	EACH	32.000				
60500040	REMOV MANHOLES	EACH	7.000				
60500060	REMOV INLETS	EACH	29.000				
60600605	CONC CURB TB	FOOT	212.000				
60603800	COMB CC&G TB6.12	FOOT	3,985.000				
60604400	COMB CC&G TB6.18	FOOT	618.000				
60619600	CONC MED TSBB.12	SQ FT	610.000				
66900200	NON SPL WASTE DISPOSL	CU YD	30.000				

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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
66900450	SPL WASTE PLNS/REPORT	L SUM	1.000				
66900530	SOIL DISPOSAL ANALY	EACH	1.000				
67100100	MOBILIZATION	L SUM	1.000				
70300150	SHRT TRM PAVT MK REM	SQ FT	1,600.000				
70300220	TEMP PVT MK LINE 4	FOOT	1,200.000				
70300510	PAVT MARK TAPE T3 L&S	SQ FT	100.000				
70300520	PAVT MARK TAPE T3 4	FOOT	3,100.000				
70300570	PAVT MARK TAPE T3 24	FOOT	200.000				
72000100	SIGN PANEL T1	SQ FT	362.750				
72000200	SIGN PANEL T2	SQ FT	35.000				
72800100	TELES STL SIN SUPPORT	FOOT	703.500				
78006100	PREF THPL PM LTR-SYM	SQ FT	2,716.000				
78009000	MOD URETH PM LTR-SYM	SQ FT	524.000				
78009004	MOD URETH PM LINE 4	FOOT	9,341.000				
78009006	MOD URETH PM LINE 6	FOOT	3,276.000				

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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
78009012	MOD URETH PM LINE 12	FOOT	2,064.000	X	=		
78009024	MOD URETH PM LINE 24	FOOT	487.000	X	=		
81028350	UNDRGRD C PVC 2	FOOT	10,227.000	X	=		
81028370	UNDRGRD C PVC 3	FOOT	33.000	X	=		
81028390	UNDRGRD C PVC 4	FOOT	465.000	X	=		
81028400	UNDRGRD C PVC 5	FOOT	9.000	X	=		
81400700	HANDHOLE PCC	EACH	7.000	X	=		
81500120	GULFBOX JUNCTION CC	EACH	1.000	X	=		
81702110	EC C XLP USE 1C 10	FOOT	2,980.000	X	=		
81702120	EC C XLP USE 1C 8	FOOT	3,786.000	X	=		
81702130	EC C XLP USE 1C 6	FOOT	1,861.000	X	=		
81702140	EC C XLP USE 1C 4	FOOT	20,208.000	X	=		
81702155	EC C XLP USE 1C 1	FOOT	2,070.000	X	=		
83000400	LT P A 30MH 10DA	EACH	39.000	X	=		
83600200	LIGHT POLE FDN 24D	FOOT	168.000	X	=		

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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
84200500	REM LT UNIT SALV	EACH	1.000 X	=			
84200600	REM LT U NO SALV	EACH	27.000 X	=			
84200804	REM POLE FDN	EACH	30.000 X	=			
84400105	RELOC EX LT UNIT	EACH	5.000 X	=			
84500110	REMOV LIGHTING CONTR	EACH	1.000 X	=			
84500120	REMOV ELECT SERV INST	EACH	1.000 X	=			
85000200	MAIN EX TR SIG INSTAL	EACH	1.000 X	=			
85700200	FAC T4 CAB	EACH	1.000 X	=			
86200200	UNINTER POWER SUP STD	EACH	1.000 X	=			
87301215	ELCBL C SIGNAL 14 2C	FOOT	2,527.000 X	=			
87301225	ELCBL C SIGNAL 14 3C	FOOT	1,792.000 X	=			
87301245	ELCBL C SIGNAL 14 5C	FOOT	3,742.000 X	=			
87301255	ELCBL C SIGNAL 14 7C	FOOT	2,098.000 X	=			
87301705	ELCBL C COMM 18 3PR	FOOT	1,113.000 X	=			
87301900	ELCBL C EGRDC 6 1C	FOOT	818.000 X	=			



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				DOLLARS	CENTS		
87502680	TS POST A 14	EACH	4.000				
87600200	PED PUSH-BUT POST T2	EACH	1.000				
87702920	STL COMB MAA&P 38	EACH	2.000				
87702930	STL COMB MAA&P 40	EACH	2.000				
87702960	STL COMB MAA&P 46	EACH	1.000				
87800100	CONC FDN TY A	FOOT	12.000				
87800150	CONC FDN TY C	FOOT	3.500				
87800400	CONC FDN TY E 30D	FOOT	28.000				
87800415	CONC FDN TY E 36D	FOOT	39.000				
88040070	SH P LED 1F 3S BM	EACH	5.000				
88040090	SH P LED 1F 3S MAM	EACH	13.000				
88040150	SH P LED 1F 5S BM	EACH	5.000				
88040160	SH P LED 1F 5S MAM	EACH	5.000				
88102825	PED SH P LED 1F BM CT	EACH	10.000				
88200100	TS BACKPLATE	EACH	28.000				

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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
88700090	CONFIRMATION BEACON	EACH	5.000				
88700200	LIGHT DETECTOR	EACH	5.000				
88700300	LIGHT DETECTOR AMP	EACH	5.000				
89500100	RELOC EX SIG HEAD	EACH	2.000				
89500300	RELOC EX ILLUM SIGN	EACH	1.000				
89502200	MOD EX CONTR	EACH	1.000				
89502375	REMOV EX TS EQUIP	EACH	3.000				
89502380	REMOV EX HANDHOLE	EACH	4.000				
89502385	REMOV EX CONC FDN	EACH	2.000				
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.

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### **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 \_\_\_

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(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. Suspension or 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: suspension or debarment from contracting with any governmental entity; professional licensure discipline; bankruptcies; adverse civil judgments and administrative findings; and criminal felony convictions. This disclosure is a continuing obligation and must be promptly supplemented for accuracy throughout the procurement process and term of the contract. If no person is identified, enter "None" on the line below:

Name of person(s): \_\_\_\_\_

Nature of disclosure: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**APPLICABLE STATEMENT**

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

Completed by:  \_\_\_\_\_ Date \_\_\_\_\_  
Signature of Individual or Authorized Representative

**NOT APPLICABLE STATEMENT**

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

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

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

The bidder has a continuing obligation to supplement these disclosures under Sec. 50-35 of the 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. 91539  
CHAMPAIGN County  
Section 15-00304-01-PV (Urbana)  
Project TIG-5181(057)  
Route FAU 7126 (Green Street)  
District 5 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. 91539  
CHAMPAIGN County  
Section 15-00304-01-PV (Urbana)  
Project TIG-5181(057)  
Route FAU 7126 (Green Street)  
District 5 Construction Funds**

PROPOSAL SIGNATURE SHEET

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

(IF AN INDIVIDUAL)

Firm Name \_\_\_\_\_  
Signature of Owner \_\_\_\_\_  
Business Address \_\_\_\_\_  
\_\_\_\_\_

(IF A CO-PARTNERSHIP)

Firm Name \_\_\_\_\_  
By \_\_\_\_\_  
Business Address \_\_\_\_\_  
Name and Address of All Members of the Firm: \_\_\_\_\_  
\_\_\_\_\_

(IF A CORPORATION)

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

(IF A JOINT VENTURE)

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

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



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	<b>Local Let Projects</b> Submit forms to the Local Agency

The Department of Transportation is requesting disclosure of information that is necessary to accomplish the purpose as outlined under State and Federal law. Disclosure of this information is **REQUIRED**. Failure to provide any information will result in the contract not being awarded. This form has been approved by the State Forms Manager Center.



# 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. 91539  
CHAMPAIGN County  
Section 15-00304-01-PV (Urbana)  
Project TIG-5181(057)  
Route FAU 7126 (Green Street)  
District 5 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 scuspended 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.

**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.

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.

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

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

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

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

1. Are you currently an officer or employee of either the Capitol Development Board or the Illinois State Toll Highway Authority? Yes \_\_\_ No \_\_\_

2. Are you currently appointed to or employed by any agency of the State of Illinois? If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds 60% of the annual salary of the Governor, provide the name the State agency for which you are employed and your annual salary.

**RETURN WITH SUBCONTRACT**

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

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

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(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 \_\_\_

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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 \_\_\_

---

(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 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 \_\_\_

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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 SUBCONTRACT**

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

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

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

**3 Communication Disclosure.**

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

Name and address of person(s): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**RETURN WITH SUBCONTRACT**

**4. Suspension or 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: suspension or debarment from contracting with any governmental entity; professional licensure discipline; bankruptcies; adverse civil judgments and administrative findings; and criminal felony convictions. This disclosure is a continuing obligation and must be promptly supplemented for accuracy throughout the procurement process and term of the contract. If no person is identified, enter "None" on the line below:

Name of person(s): \_\_\_\_\_

Nature of disclosure: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**APPLICABLE STATEMENT**

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

Completed by:  \_\_\_\_\_ Date \_\_\_\_\_  
Signature of Individual or Authorized Officer

**NOT APPLICABLE STATEMENT**

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

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

\_\_\_\_\_ Date \_\_\_\_\_  
Signature of Authorized Officer

RETURN WITH SUBCONTRACT

ILLINOIS DEPARTMENT  
OF TRANSPORTATION

Form B  
Subcontractor: Other Contracts &  
Financial Related Information  
Disclosure

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

Disclosure of the information contained in this Form is required by 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**

<input type="checkbox"/>	_____	_____
	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 4, 2016. 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. 91539  
CHAMPAIGN County  
Section 15-00304-01-PV (Urbana)  
Project TIG-5181(057)  
Route FAU 7126 (Green Street)  
District 5 Construction Funds**

**Pavement reconstruction, storm sewer, utility construction, sidewalks, streetscape and landscaping, roadway and pedestrian lighting, traffic signal improvements and pavement markings from Wright St. to Busey Ave. in the City of Urbana.**

- 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 April 1, 2016

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

No ERRATA this year.

SUPPLEMENTAL SPECIFICATIONS

Std. Spec. Sec.

Page No.

No Supplemental Specifications this year.



CHECK SHEET  
FOR  
RECURRING SPECIAL PROVISIONS

Adopted April 1, 2016

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<u>LR #</u>	<u>Pg #</u>	<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
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	196	<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
LR 403-1		<input type="checkbox"/> Surface Profile Milling of Existing, Recycled or Reclaimed Flexible Pavement	Apr. 1, 2012	Jun. 1, 2012
LR 403-2		<input type="checkbox"/> Bituminous Hot Mix Sand Seal Coat	Aug. 1, 1969	Jan. 1, 2007
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>
80099		Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2014
80274		Aggregate Subgrade Improvement	April 1, 2012	April 1, 2016
80192		Automated Flagger Assistance Device	Jan. 1, 2008	
80173	197	X 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
80366	200	X Butt Joints	July 1, 2016	
80360	201	X Coarse Aggregate Quality	July 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	July 1, 2016
80311		Concrete End Sections for Pipe Culverts	Jan. 1, 2013	April 1, 2016
80277	203	X Concrete Mix Design – Department Provided	Jan. 1, 2012	April 1, 2016
80261		Construction Air Quality – Diesel Retrofit	June 1, 2010	Nov. 1, 2014
* 80029	204	X Disadvantaged Business Enterprise Participation	Sept. 1, 2000	July 2, 2016
80363		Engineer's Field Office	April 1, 2016	
80358	215	X Equal Employment Opportunity	April 1, 2015	
80364	219	X Errata for the 2016 Standard Specifications	April 1, 2016	
80229	223	X Fuel Cost Adjustment	April 1, 2009	July 1, 2015
80304	227	X Grooving for Recessed Pavement Markings	Nov. 1, 2012	Aug. 1, 2014
80246	230	X Hot-Mix Asphalt – Density Testing of Longitudinal Joints	Jan. 1, 2010	April 1, 2016
80347		Hot-Mix Asphalt – Pay for Performance Using Percent Within Limits – Jobsite Sampling	Nov. 1, 2014	April 1, 2016
* 80376	231	X Hot-Mix Asphalt – Tack Coat	Nov. 1, 2016	
80367	232	X Light Poles	July 1, 2016	
80368		Light Tower	July 1, 2016	
80336		Longitudinal Joint and Crack Patching	April 1, 2014	April 1, 2016
80369	233	X Mast Arm Assembly and Pole	July 1, 2016	
80045		Material Transfer Device	June 15, 1999	Aug. 1, 2014
80342	234	X Mechanical Side Tie Bar Inserter	Aug. 1, 2014	April 1, 2016
80370		Mechanical Splicers	July 1, 2016	
80165		Moisture Cured Urethane Paint System	Nov. 1, 2006	Jan. 1, 2010
80361		Overhead Sign Structures Certification of Metal Fabricator	Nov. 1, 2015	April 1, 2016
80349		Pavement Marking Blackout Tape	Nov. 1, 2014	April 1, 2016
80371	236	X Pavement Marking Removal	July 1, 2016	
80298		Pavement Marking Tape Type IV	April 1, 2012	April 1, 2016
80365		Pedestrian Push-Button	April 1, 2016	
* 80377	237	X Portable Changeable Message Signs	Nov. 1, 2016	
80359		Portland Cement Concrete Bridge Deck Curing	April 1, 2015	July 1, 2016
80353		Portland Cement Concrete Inlay or Overlay	Jan. 1, 2015	April 1, 2016

80338			Portland Cement Concrete Partial Depth Hot-Mix Asphalt Patching	April 1, 2014	April 1, 2016
80300			Preformed Plastic Pavement Marking Type D - Inlaid	April 1, 2012	April 1, 2016
80372			Preventive Maintenance – Bituminous Surface Treatment (A-1)	Jan. 1, 2009	July 1, 2016
80373			Preventive Maintenance – Cape Seal	Jan. 1, 2009	July 1, 2016
80374			Preventive Maintenance – Micro-Surfacing	Jan. 1, 2009	July 1, 2016
80375			Preventive Maintenance – Slurry Seal	Jan. 1, 2009	July 1, 2016
80328	238	X	Progress Payments	Nov. 2, 2013	
34261			Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2006
80157			Railroad Protective Liability Insurance (5 and 10)	Jan. 1, 2006	
80306	239	X	Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)	Nov. 1, 2012	April 1, 2016
80340			Speed Display Trailer	April 2, 2014	April 1, 2016
80127	249	X	Steel Cost Adjustment	April 2, 2004	July 1, 2015
80362	253	X	Steel Slag in Trench Backfill	Jan. 1, 2016	
80317			Surface Testing of Hot-Mix Asphalt Overlays	Jan. 1, 2013	April 1, 2016
80355			Temporary Concrete Barrier	Jan. 1, 2015	July 1, 2015
20338	254	X	Training Special Provisions	Oct. 15, 1975	
80318			Traversable Pipe Grate	Jan. 1, 2013	April 1, 2014
80288	257	X	Warm Mix Asphalt	Jan. 1, 2012	April 1, 2016
80302	259	X	Weekly DBE Trucking Reports	June 2, 2012	April 2, 2015
80289			Wet Reflective Thermoplastic Pavement Marking	Jan. 1, 2012	
80071			Working Days	Jan. 1, 2002	

The following special provisions and recurring special provisions are in the 2016 Standard Specifications.

<u>File Name</u>	<u>Special Provision Title</u>	<u>New Location</u>	<u>Effective</u>	<u>Revised</u>
80240	Above Grade Inlet Protection	Articles 280.02, 280.04, and 1081.15	July 1, 2009	Jan. 1, 2012
80310	Coated Galvanized Steel Conduit	Articles 811.03	Jan. 1, 2013	Jan. 1, 2015
80341	Coated Nonmetallic Conduit	Article 1088.01	Aug. 1, 2014	Jan. 1, 2015
80294	Concrete Box Culverts with Skews ≤ 30 Degrees Regardless of Design Fill and Skews > 30 Degrees With Design Fills > 5 Feet	Article 540.04	April 1, 2012	April 1, 2014
80334	Concrete Gutter, Curb, Median, and Paved Ditch	Articles 606.02, 606.07, and 1050.04	April , 2014	Aug. 1, 2014
80335	Contract Claims	Article 109.09	April 1, 2014	
Chk Sht #27	English Substitution of Metric Reinforcement Bars	Article 508.09	April 1, 1996	Jan. 1, 2011
80265	Friction Aggregate	Articles 1004.01 and 1004.03	Jan. 1, 2011	Nov. 1, 2014
80329	Glare Screen	Sections 638 and 1085	Jan. 1, 2014	
Chk Sht #20	Guardrail and Barrier Wall Delineation	Sections 635, 725, 782, and 1097	Dec. 15, 1993	Jan. 1, 2012
80322	Hot-Mix Asphalt – Mixture Design Composition and Volumetric Requirements	Sections 312, 355, 406, 407, 442, 482, 601, 1003, 1004, 1030, and 1102	Nov. 1, 2013	Nov. 1, 2014
80323	Hot-Mix Asphalt – Mixture Design Verification and Production	Sections 406, 1030, and 1102	Nov. 1, 2013	Nov. 1, 2014
80348	Hot-Mix Asphalt – Prime Coat	Sections 403, 406, 407, 408, 1032, and 1102	Nov. 1, 2014	
80315	Insertion Lining of Culverts	Sections 543 and 1029	Jan. 1, 2013	Nov. 1, 2013
80351	Light Tower	Article 1069.08	Jan. 1, 2015	
80324	LRFD Pipe Culvert Burial Tables	Sections 542 and 1040	Nov. 1, 2013	April 1, 2015
80325	LRFD Storm Sewer Burial Tables	Sections 550 and 1040	Nov. 1, 2013	April 1, 2015
80337	Paved Shoulder Removal	Article 440.07	April 1, 2014	
80254	Pavement Patching	Article 701.17	Jan. 1, 2010	
80352	Pavement Striping – Symbols	Article 780.14	Jan. 1, 2015	

<u>File Name</u>	<u>Special Provision Title</u>	<u>New Location</u>	<u>Effective</u>	<u>Revised</u>
Chk Sht #19	Pipe Underdrains	Section 601 and Articles 1003.01, 1003.04, 1004.05, 1040.06, and 1080.05	Sept. 9, 1987	Jan. 1, 2007
80343	Precast Concrete Handhole	Articles 814.02, 814.03, and 1042.17	Aug. 1, 2014	
80350	Retroreflective Sheeting for Highway Signs	Article 1091.03	Nov. 1, 2014	
80327	Reinforcement Bars	Section 508 and Articles 421.04, 442.06, 1006.10	Nov. 1, 2013	
80344	Rigid Metal Conduit	Article 1088.01	Aug. 1, 2014	
80354	Sidewalk, Corner, or Crosswalk Closure	Article 1106.02	Jan. 1, 2015	April 1, 2015
80301	Tracking the Use of Pesticides	Article 107.23	Aug. 1, 2012	
80356	Traffic Barrier Terminals Type 6 or 6B	Article 631.02	Jan. 1, 2015	
80345	Underpass Luminaire	Articles 821.06 and 1067.04	Aug. 1, 2014	April 1, 2015
80354	Urban Half Road Closure with Mountable Median	Articles 701.18, 701.19, and 701.20	Jan. 1, 2015	July 1, 2015
80346	Waterway Obstruction Warning Luminaire	Article 1067.07	Aug. 1, 2014	April 1, 2015

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

## **TECHNICAL SPECIFICATIONS**

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction adopted April 1, 2016", the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways", and the "Manual of Test Procedures for Materials" in effect on the date of invitation for bids, the "Supplemental Specifications and Recurring Special Provisions" indicated on the Check Sheet included herein, the "Bureau of Design & Environment (BDE) Special Provisions" included herein, and the latest edition of the "Standard Specifications for Water and Sewer Main Construction in Illinois" excluding conflicting portions of "Division I General Requirements and Covenants", which apply to and govern the construction of project improvements, Section 15-00304-01-PV, Urbana Project Number 15-00551-00-PV, in the City of Urbana, Champaign County, and in case of conflict with any part or parts of said Specifications, the said Special Provisions shall take precedence and shall govern.

## **LOCATION AND DESCRIPTION OF WORK**

The proposed roadway improvements are part of the MCORE Project which consists of Green Street in the City of Urbana, Champaign County, Illinois. The proposed improvements for MCORE Project 1 commence near the intersection of Wright Street and Green Street and proceed in an easterly direction for a distance of 3,026 feet to west of the Busey Avenue intersection.

The work under this contract shall consist of the construction of:

- Grading and subgrade modifications for proposed roadway reconstruction;
- Portland cement concrete pavement over aggregate base course;
- Hot-Mix asphalt overlay atop Portland cement concrete pavement;
- Combination concrete curb and gutters;
- Storm Sewers, pipe underdrains and associated storm drainage structures;
- Portland cement concrete sidewalk and driveway pavements;
- Streetscape and landscaping elements;
- Bus stop elements
- Roadway and pedestrian lighting;
- Proposed utilities including water mains, water services and sanitary sewers;
- Pavement markings;
- Various removals, excavations, embankment construction, landscaping and other work necessary to complete the construction as shown in the plans and required by the specifications.

The work shall include all labor, materials, tools and equipment necessary for the proper execution and completion of the work as shown in the plans and as specified. It shall also include all work not specifically mentioned but which is reasonably and properly inferable and necessary for the completion of the work.

## **PRE-BID MEETING**

A pre-bid meeting will be held at the Clark Dietz office, 125 West Church Street, Champaign, IL 61820, on October 13, 2016, at 11:00 am. While attending is not mandatory, it is recommended that all bidders attend. Subcontractors are welcome to attend. As project completion is time sensitive, this meeting will serve to discuss and clarify the construction requirements.

## **PROJECT COMPLETION DATE /TIME OF THE ESSENCE**

Time is an essential element of the Contract and the Engineer will be monitoring the Contractor's progress toward completion. The assessment of liquidated damages in accordance with Article 108.09 of the Standard Specifications shall be defined with respect to the following substantial completion dates and final completion dates for the project. After the final completion date, the Contractor will be allowed additional working days to complete the project as described herein.

Substantial Completion Date (Stage 1 – Green Street from Wright Street to Mathews Avenue). The water main construction work for Stage 1 shall commence March 6, 2017 as weather allows. During this time, two way traffic shall be maintained on Green Street, except during spring break from March 18-March 26, 2017 when the two eastbound lanes can be closed to traffic and detoured using the applicable portions of the "Stage 1 – Detour Plans". Outside of spring break, pedestrian traffic midblock in front of the Union must be maintained. No work shall occur during the Illinois Marathon on April 21-23, 2017. Any open areas shall be buttoned up and covered with temporary aggregate or temporary pavement as shown in the plans as soon as possible after construction is complete. By May 3, 2017, the contractor shall provide two lanes in each direction of Green Street. No work shall be completed from May 4, 2017 to May 21, 2017. The construction work for Stage 1 shall recommence on **Monday, May 22, 2017**, unless an earlier start is granted by the Engineer. Starting Monday, May 22, 2017, this section of Green Street can be closed to through traffic. However, truck access must be maintained to Engineering Hall north of Green Street. In addition vehicle, delivery, and ADA access to the Illini Union and Harker Hall must be maintained south of Green Street throughout construction. Stage 1 shall be substantially complete by midnight **Friday, August 25, 2017**. North-South Pedestrian traffic at the Union does not need to be maintained during this closure. However, north-south pedestrian traffic must be maintained on one side of the Green/Mathews and Green/Wright intersections. Continuous construction must be maintained once this section of roadway is shutdown. Construction operations to be performed during this time period shall include all work necessary to complete all removals; install underground utilities and complete utility adjustments; construct all pavements, curbs, sidewalks, lighting, pavement marking, signage, transit amenities, and all work at the University of Illinois Union, except landscape plantings, as shown in the plans, and other work necessary to re-open the road, bike lanes, transit platforms, sidewalk, and University of Illinois Union circle drive and parking to traffic. If, in the opinion of the Engineer, all of the work or any portion thereof is in an acceptable condition for travel prior to the substantial completion date, the roadway shall be opened to traffic as directed by the Engineer. Opening of the roadway to traffic shall be in accordance with Article 107.29 of the Standard Specifications. Any additional costs, including traffic control, associated with completing the construction work while the road is opened to traffic shall be reflected in the Contractor's unit bid prices. **The full amount of liquidated damages as specified herein shall be assessed per calendar day should the Contractor fail to complete the specified work on or before midnight Friday, August 25, 2017.** In addition, the Contractor shall pay a daily rental fee of \$20 per parking meter in the lot at the University of Illinois Union for each calendar day past the substantial completion date that the parking meters are not usable. Landscaping shall be complete by November 3, 2017, except for spring only plantings which must be complete by April 19, 2018, before the Illinois Marathon.

Stage 2 Construction (Green Street from Mathews Avenue to Goodwin Avenue)

The water main construction work for Stage 2 shall commence March 6, 2017, as weather allows. During this time, two way traffic shall be maintained on Green Street, except during spring break from March 18-March 26, 2017 when the two eastbound lanes can be closed to traffic and detoured using the applicable portions of the "Stage 1 – Detour Plans". No work shall occur during the Illinois

Marathon on April 21-23, 2017. Any open areas shall be buttoned up and covered with temporary aggregate or temporary pavement as shown in the plans as soon as possible after construction is complete. By May 3, 2017, the contractor shall provide two lanes in each direction of Green Street. No work shall be completed from May 4, 2017 to May 21, 2017. The construction work for Stage 2 shall recommence on **Monday, May 22, 2017**, unless an earlier start is granted by the Engineer. Starting Monday, May 22, 2017, this block of Green Street may be closed to all traffic. This block may be used as a laydown area by the contractor. Construction should be complete by **November 3, 2017**. During winter shutdown, Green Street from Mathews to Goodwin shall be reopened to two-way traffic. After winter shut-down one side of the roadway must be opened for westbound traffic. North-south vehicular, bicycle and pedestrian traffic flow at Mathews Avenue and Goodwin Avenue shall be maintained at all times. East-west bicycle and pedestrian traffic must be maintained on one side of the roadway throughout construction. One side of Green Street must be open for the Illinois marathon on April 20-22, 2018.

#### Stage 3A and 3B Construction (Green Street from Goodwin Avenue to Busey Avenue)

The water main construction shall commence on **April 24, 2017** after the Illinois Marathon. The roadway shall remain open to two-way traffic until May 22, 2017. At that time, the south side of the roadway may be closed while maintaining westbound traffic to Goodwin Avenue. North-South vehicular, bicycle, and pedestrian traffic on Goodwin Avenue and Lincoln Avenue shall be maintained at all times. East-west bicycle and pedestrian traffic must be maintained on one side of the roadway. Work shall continue on the south side of the roadway to complete all concrete work, including sidewalk, entrances, bike lane, curb and gutters, transit platforms, and sidewalk ramps, by **November 3, 2017**. Additionally concrete work around the gas station properties at the Lincoln Avenue intersection shall be completed to comply with the restrictions on the temporary easement detailed in the commitment section. Continuous construction must be maintained once this section of roadway is shutdown.

During winter shutdown, Green Street from Mathews Avenue to Busey Avenue shall be opened to two-way traffic.

#### Stage 3B Construction (Green Street from Goodwin Avenue to Busey Avenue)

Construction shall commence on April 23, 2018 after the Illinois Marathon. One-way westbound traffic shall be maintained at all times on Green Street. North-South vehicular, bicycle and pedestrian traffic on Goodwin Avenue and Lincoln Avenue shall be maintained at all times. East-west bicycle and pedestrian traffic must be maintained on one side of the roadway. Continuous construction must be maintained once this section of roadway is shutdown.

#### Substantial Completion Date

All remaining construction work for the project shall be completed by midnight **Friday, November 2, 2018**, with the exception of proposed landscape plantings as defined herein. Completed construction work shall include all major items of work, placing all topsoil and sod, cleanup work, signage, pavement markings, signals and punch list items so that the roadways, bike lanes, sidewalks, and transit plazas can be opened to normal traffic. It is the Cities of Champaign's and Urbana's intent that all major items of work as specified in the contract will be completed on or before the final completion date. If, in the opinion of the Engineer, all of the work or any portion thereof is in an acceptable condition for normal traffic operation prior to the completion date, the roadways shall be opened as directed by the Engineer. Opening of the roadways to traffic shall be in accordance with Article 107.29 of the Standard Specifications. Any additional costs, including traffic control, associated with completing the construction work while the road is opened to traffic shall be reflected in the

Contractor's unit bid prices. **The full amount of liquidated damages as specified herein shall be assessed per calendar day should the Contractor fail to complete the specified work on or before midnight Friday, November 3, 2018.**

The provisions for the completion date shall be as set forth in Section 108 of the Standard Specifications. All applicable provisions of Section 108 shall apply. The contractor should note that these completion dates are based on an expedited work schedule.

The Contractor shall complete off-the-road proposed landscaping items which require spring time only planting by **April 28, 2019**. The contractor shall complete the said landscaping items, all cleanup work and final punch list items as determined by the Engineer by that date. **The full amount of liquidated damages as specified herein shall be assessed per calendar day should the Contractor fail to complete the specified work on or before April 28, 2019.**

See the Liquidated Damages and Sequence of Construction specifications for additional information.

### **PUBLIC MEETING**

A public informational meeting will be held prior to the start of construction for this project. The City of Urbana will schedule the meeting and advertise its date, time, and location. The City's representatives will conduct the meeting. The Contractor shall have a representative at the meeting to answer questions concerning scheduling, the nature of the work to be performed, and any other issues that may arise.

The cost of complying with this Special Provision will not be paid for separately but shall be considered as included in the lump sum price for TRAFFIC CONTROL AND PROTECTION (SPECIAL) and no additional compensation will be allowed.

### **COMMITMENTS**

There are four (4) applicable commitments made for this project as described in the Phase I Project Development Report.

- a) The Preliminary Site Investigations (PSI) will be completed before the project is included on a letting. PSI Report is available from the City of Champaign.
- b) Special conditions for access to properties during construction will be included in the construction documents. Provisions will be included to require communications with property owners throughout the construction process. Mail delivery is done by carrier and pedestrian access will be maintained throughout the project.
- c) Final Champaign-Urbana Mass Transit District (CUMTD) route detours will be determined before the project is included on a letting.
- d) The temporary easements for 809 W. Green Street and 810 W. Green Street are available from April 1, 2017 to March 31, 2018 and once work begins on each property it must be completed 120 days thereafter.

### **LIQUADATED DAMAGES**

Failure to complete work on time will result in liquidated damages in accordance with Article 108.09 of the Standard Specifications except as modified herein.

The schedule of deductions for each day of overrun in contract time shall be reduced by the value of work factor as follows:

Schedule of Deduction for Each Day Overrun in Contract Time				
Original Contract Amount		Daily Charges		Value of Work Factor
From More Than	To and Including	Calendar Day	Work Day	
\$0	\$100,000	\$475	\$675	"x"
\$100,000	\$500,000	\$750	\$1,050	"x"
\$500,000	\$1,000,000	\$1,025	\$1,425	"x"
\$1,000,000	\$3,000,000	\$1,275	\$1,725	"x"
\$3,000,000	\$6,000,000	\$1,425	\$2,000	"x"
\$6,000,000	\$12,000,000	\$2,300	\$3,450	"x"
\$12,000,000	And over	\$6,775	\$9,525	"x"

whereas "x" is equal to the Daily Charges Reduction in terms of a percentage of the total contract amount and location of work as follows:

- Green Street from Wright to Mathews = 60%
- Green Street from Mathews to Lincoln = 100%
- Landscaping = 45%

*Example: For a \$7M Contract, daily charges on Green Street from Wright to Mathews would be accessed at \$1,380 per day (\$2,300 x 60%)*

**SEQUENCE OF CONSTRUCTION**

The City of Urbana’s intent is for Green Street from Wright Street to Mathews Avenue to be constructed in the summer of 2017. In addition, the south side of Green Street from Mathews Avenue to Busey Avenue is to be constructed during 2017 and the north side in 2018. To expedite construction, the Contractor may perform multiple stages concurrently as approved by the Engineer. The Contractor may alter the suggested sequence of construction and the suggested construction limits of each stage as approved by the Engineer. Due to the magnitude of the project and the utility facilities to be adjusted or relocated it may be necessary for the Contractor to sequence the work to allow the utility companies time to complete their work. See the “Stage Construction and Maintenance of Traffic” plan sheets in the plans for the suggested sequence of construction and “TRAFFIC CONTROL AND PROTECTION, (SPECIAL)” specification for special event information.

The Contractor may use the following locations as laydown areas. The Illini Union work zone may be used from May 22, 2017 to August 25, 2017. Both sides of Green Street from Mathews Avenue to Goodwin Avenue may be used from May 22, 2017 to November 3, 2017. Half of Green Street, eastbound or westbound lanes, from Mathews Avenue to Goodwin Avenue may also be used starting April 24, 2018. Additional laydown areas may be available from the University of Illinois parking



department. Contact Michael Wise, Assistant Director of Parking, at 1201 W. University Avenue, Urbana, IL 61801, email [mwise@illinois.edu](mailto:mwise@illinois.edu) or phone 217-244-4223 during bidding.

Generally the construction work on Green Street shall only start after the Illinois Marathon as described herein or as directed by the Engineer. The Contractor will be allowed to continue work within areas that do not impact the Illinois Marathon and associated race routes as directed by the Engineer. See "PROJECT COMPLETION DATE/TIME OF THE ESSENCE" specification for substantial completion date information. For each stage of work, the Contractor shall provide continuous work from closure of the road or travel lanes to completion of the work unless otherwise directed by the Engineer.

The Contractor shall prepare a progress schedule as required by Article 108 of the Standard Specifications. A construction progress schedule indicating project milestones shall be completed and strictly adhered to by the Contractor unless a request to modify the schedule is submitted in writing and approved by the Engineer. See "PROJECT COMPLETION DATE/TIME OF THE ESSENCE" special provision for substantial completion dates and final completion date information.

The Contractor should plan the construction sequence so that no work will be started that could not be completed prior to any winter shut down period. Open holes, trenches or drop offs adjacent to traffic lanes, entrances or sidewalks will not be permitted while the work is suspended.

The Contractor is advised that many properties within the project limits have move-in days that correspond with the University of Illinois schedule. During the month of August, the Contractor shall be required to coordinate and maintain full access to these properties within the work area and limit construction activities within temporary easement areas as directed by the Engineer. Special efforts may be required by the Contractor to assure that roadways and pedestrian areas are clean and well maintained and that areas around the construction zones are safe for the public. Any additional work required to accommodate the move-in days will not be paid separately but shall be included in the cost of TRAFFIC CONTROL AND PROTECTION, (SPECIAL), and no additional compensation will be allowed.

**X7010216 TRAFFIC CONTROL AND PROTECTION, (SPECIAL)**

**40201000 AGGREGATE FOR TEMPORARY ACCESS**

**Z0007430 TEMPORARY SIDEWALK**

**Description**

This work shall consist of providing the necessary traffic control personnel and devices and the installation, maintenance, relocation and removal of these devices during construction of the improvement. The City of Urbana will be responsible for notifying the public, the United States Postal Service, the Champaign-Urbana Mass Transit District and the emergency service agencies for road closures and changes in the traffic control and maintenance of traffic plans.

**TRAFFIC CONTROL PLAN**

Traffic control shall be in accordance with the applicable sections of the Standard Specifications for Road and Bridge Construction, the applicable guidelines contained in the Illinois Manual on Uniform Traffic Control Devices for Streets and Highways, these Special Provisions and any special details and highway standards contained herein and in the plans.

Special attention is called to Articles 107.09, 107.14, 107.15, 107.16, 107.25, and applicable Sections 701, 702 and 703 of the Standard Specifications, the following Highway Standards, listed Supplemental Specifications and Recurring Special Provisions and Special Plan Details and Notations.

Highway Standards:

701006, 701301, 701311, 701501, 701502, 701602, 701611, 701701, 701801 and 701901

Special Provisions

Check Sheet # 21	Night Time Inspection of Roadway Lighting
LRS 3	Work Zone Traffic Control
LRS 4	Flaggers in Work Zones

Traffic/Access: The contractor is required to:

- Provide north/south access through project limits at all times
- Provide “all weather” pedestrian access around the construction site during the duration of the construction.
- Provide aggregate for temporary access at vehicle entrances.
- Maintain access to the University of Illinois Union and Harker Hall at all times.
- Maintain access to Engineering Hall/Material Science Service Entrance at all times.

Maintenance of Traffic

Road closures and the conveyance of thru and local traffic within and around the construction zone shall be provided for in accordance with the Plan Details noted above and the use of the above referenced Highway Standards as directed by the Engineer. Except as otherwise provided herein, the Contractor shall provide at least one entrance/exit point to commercial and University of Illinois properties at all times. The Contractor shall be permitted to close Green Street from Wright Street to Mathews Avenue to through traffic in stage 1 as shown on the Stage Construction and Maintenance of Traffic Plan. The Contractor shall be permitted to close Green Street from Mathews Avenue to Goodwin Avenue to through traffic in stage 2 as shown on the Stage Construction and Maintenance of Traffic Plan. The Contractor shall maintain one-way westbound local traffic on Green Street from Goodwin Avenue to Busey Avenue as shown on the Stage Construction and Maintenance of Traffic Plan.

With the approval of the Engineer, the Contractor may modify the suggested construction sequence and attendant traffic control procedures as shown. The Contractor shall submit his proposed sequence of operations and any necessary revisions to attendant traffic control to the Engineer for approval before actual construction operations begin.

Driveways

Except where the plans expressly authorize temporary complete closures, the Contractor shall keep driveways open to local traffic by keeping at least half of the width of said driveway open or by providing access at a temporary location, as approved by the Engineer. The Contractor shall provide and maintain access to commercial and private properties abutting the roadway being improved in accordance with Article 107.09 of the Standard Specifications. Access to commercial property shall, at no time, be shut off completely except as expressly authorized in the plans. At no time shall a driveway be closed for no more than 1 hour. An estimated quantity of AGGREGATE FOR TEMPORARY ACCESS has been included in the plans for use in the conveyance of local traffic and the provision of temporary access.

Concurrent construction of driveway entrances will be required along with mainline pavement construction to the limits of each stage of the project. This is necessary in order to accommodate vehicle turning movements in and out of the driveways after completion of their construction thus eliminating the need for closure of these facilities twice; i.e., once for mainline pavement construction and again for the entrance or side road construction.

At locations designated by the Engineer it may be necessary to construct pavements, driveways or sidewalks using high-early strength concrete so that the facilities can be put back into service as soon as possible. The high-early strength concrete shall meet the requirements of Article 1020.04 of the Standard Specifications for Class PP-4 concrete. The cost of this work including the high-early strength concrete will not be paid for separately but shall be included in the contract lump sum price of TRAFFIC CONTROL AND PROTECTION, (SPECIAL) and no additional compensation will be allowed. The Contractor shall receive approval from the Engineer before using high-early strength concrete on the project.

#### Temporary Lighting

Temporary lighting systems will be required during construction operations as directed by the Engineer. The temporary lighting system for each stage shall be installed and operational prior to removal of the existing lighting within each stage unless otherwise directed by the Engineer. The temporary lighting system for each stage shall not be removed until the permanent lighting system within each stage is installed and operational unless otherwise directed by the Engineer.

The City of Urbana will provide the Contractor up to twelve (12) fully operational portable light towers before the start of construction for the temporary lighting system. The City of Urbana will service, inspect and document the pre-construction condition of the portable light towers before providing them to the Contractor. Upon taking temporary possession, the Contractor will be responsible for the storage, placement, fueling, routine maintenance, protection, insuring and inspection of the portable light towers. After use, the Contractor shall perform a final service of the portable light towers which shall include fueling and performing oil and filter changes. The Contractor shall deliver the units to the City of Urbana where a post-construction inspection will be conducted by the City of Urbana. The Contractor will be responsible for any damage to the portable light towers that occur during the Contractor's possession of the units, which may include replacement of damaged parts or complete replacement of units as determined by the City of Urbana.

The placement of temporary lighting systems and hours of operation shall be provided to the satisfaction of the Engineer. If additional temporary lighting units are required, these shall be provided by the Contractor as directed by the Engineer. This work will not be paid for separately, but shall be considered included in the contract lump sum price for TRAFFIC CONTROL AND PROTECTION, (SPECIAL).

#### Removing and Resetting Traffic Signs

This work shall consist of the removal, relocation, and resetting of traffic signs which interfere with construction operations. This work shall also include the removal, relocation, and resetting of existing wood signs, delineators and other miscellaneous signs which interfere with construction operations. This work shall be performed in accordance with the applicable portions of Article 107.25 of the Standard Specifications and as directed by the Engineer. The contractor shall remove, temporarily relocate and/or permanently reset existing signs which interfere with the construction operations. This work will not be paid for separately but shall be included in the contract lump sum price of TRAFFIC CONTROL AND PROTECTION, (SPECIAL). The Engineer will determine which signs will be removed, temporarily relocated and permanently reset. Before the completion of each construction

stage the Contractor shall install traffic and street name signs in accordance with the signing plan.

#### Traffic Control Surveillance

Traffic control surveillance will be required, but will not be paid for separately on this project. The special provision check sheet LRS 3 "Construction Zone Traffic Control" will apply for the inspection of traffic control devices on this project along with the following additional requirements. The minimum frequency of worksite inspections by the Contractor shall be defined as daily unless directed otherwise by the Engineer.

#### Quality of Traffic Control Devices

Traffic Control Devices include signs and their supports, signals, pavement markings, barricades with sand bags, channelizing devices, warning lights, arrow boards, flaggers, or any device used for the purpose of regulating, detouring, warning or guiding traffic through or around the construction zone.

Only signs, barricades, vertical panels, drums, and cones that meet the requirements of the Department's "Quality Standard for Work Zone Traffic Control Devices 2010" shall be used on this project. Copies of this publication are available from the IDOT website under "Resources". At the time of the initial setup or at the time of major stage changes, one-hundred percent (100%) of each type of device (cones, drums, barricades, vertical panels or signs) shall be acceptable as defined by the referenced publication. Throughout the duration of the project, the percentage of acceptable devices may decrease to seventy-five percent (75 %) only as a result of damage and/or deterioration during the course of the work. Work shall not begin until a determination has been made that the traffic control devices meet the quality required in this standard. The Contractor is required to conduct routine inspections of the work site at a frequency that will allow for the prompt replacement of any traffic control device that has become displaced or damaged to the extent that it no longer conforms to the shape, dimensions, color and operational requirements of the MUTCD and the Traffic Control Standards, or that it no longer presents a neat appearance to motorists. A sufficient quantity of replacement devices, based on vulnerability to damage, shall be readily available to meet this requirement.

#### Placement of Traffic Control Signs and Devices

The Contractor shall be responsible for the proper location, installation, and arrangement of all traffic advance warning signs during construction operations in order to keep lane assignment consistent with barricade placement at all times. The Contractor shall immediately remove, cover, or turn from the view of the motorists all traffic control devices which are inconsistent with detour or lane alignment patterns and conflicting conditions during the transition from one construction stage to another. When the Contractor elects to cover conflicting or inappropriate signing materials used, he/she shall totally block out reflectivity of the sign and shall cover the entire sign. The method used for covering the signing shall meet the approval of the Engineer.

The Contractor shall coordinate all traffic control work on this project with adjoining or overlapping projects, including barricade placement necessary to provide a uniform traffic detour pattern. When directed by the Engineer, the Contractor shall remove all traffic control devices which were furnished and installed and maintained by him/her under this contract, and such devices shall remain the property of the Contractor. All traffic control devices shall remain in place until specific authorization for relocation or removal is received from the Engineer.

The Contractor shall ensure that all traffic control devices installed by him/her are operational, functional, and effective 24 hours a day, including Sundays and holidays.

#### Solar Powered Changeable Message Signs

Changeable message signs shall be furnished, placed and maintained in accordance with the “Stage Construction and Maintenance of Traffic Plans” and Section 701 of the Standard Specifications. All changeable message signs to be used on this project shall be solar powered. Any additional cost in meeting this requirement shall be considered as included in the cost of TRAFFIC CONTROL AND PROTECTION, (SPECIAL).

#### Solar Powered Arrow Boards

Arrow boards shall be used as required by the Standards and as directed by the Engineer. All arrow boards to be used on this project shall be solar powered. Any additional cost in meeting this requirement shall be considered as included in the cost of TRAFFIC CONTROL AND PROTECTION, (SPECIAL).

#### Construction Signs

Construction signs referring to daytime lane closures during working hours shall be removed, covered or turned away from the view of motorists during non-working hours.

Flashing lights shall be used on each approach in advance of the work area, and in accordance with the details shown on the Plans and Standard Drawings.

All provisions of Article 107.25 of the Standard Specifications shall apply except the third paragraph shall be revised to read: “The Contractor shall maintain, furnish, and replace at his/her own expense, any traffic sign or post which has been damaged or lost by the Contractor or a third party.”

#### Wayfinding or Directional Signage

The Contractor shall be responsible for the proper location, installation, and arrangement of any wayfinding or directional signage as directed by the Engineer. It is the City of Urbana’s intent that wayfinding or directional signage will be utilized to adequately direct the traveling public to specific locations within the project limits. The wayfinding or direction signage may consist of post mounted sheet signs or changeable message boards. The cost of providing, installing and maintaining wayfinding or directional signs will not be paid for separately but shall be included in the contract lump sum price of TRAFFIC CONTROL AND PROTECTION, (SPECIAL). No additional compensation will be allowed.

#### Placement and Removal of Signs and Barricades

Placement of all signs and barricades shall proceed in the direction of flow of traffic. Removal of all signs and barricades shall start at the end of the construction areas and proceed toward oncoming traffic unless otherwise directed by the Engineer.

#### Flaggers

Flaggers will not be required for truck or equipment traffic entering or exiting the work zones with the following exceptions:

1. Flaggers will be required as shown on all plan details or highway standards.
2. Truck traffic and all other construction vehicles or equipment shall give right of way to all other vehicular or pedestrian traffic and obey all traffic laws.
3. The Engineer may request that flaggers be provided if he/she determines unsafe conditions exist requiring the use of flaggers. No additional compensation will be allowed for this requirement and the cost will be included in the bid unit price for TRAFFIC CONTROL AND PROTECTION, (SPECIAL).

#### Pedestrian Sidewalk Control

The Contractor shall install, maintain, and remove necessary signs, fences and barricades needed to direct pedestrians to usable sidewalks and walkways during the construction, and as directed by the Engineer. Temporary chain link fences 6 feet tall minimum shall be erected along the edge of sidewalks to prevent pedestrians from entering the work zone as directed by the Engineer. The cost of installing, maintaining, and removing the signs, fences and barricades shall be considered as included in the cost of TRAFFIC CONTROL AND PROTECTION, (SPECIAL).

At each point of closure, a sufficient number of barricades shall be used to completely close the sidewalk to pedestrian movement. Where construction activities involve sidewalks on both sides of the street, the work shall be staged so that both are not out of service at the same time.

#### Temporary Sidewalks

It is the City's intention to maintain pedestrian access through the project site during construction of the improvement. The Contractor may restrict pedestrian access to the project site during working hours by utilizing Highway Standard 701801. During non-working hours the Contractor shall allow for pedestrian access through the project site by constructing temporary sidewalks at locations where existing sidewalks have been removed or as directed by the Engineer. This work shall consist of furnishing, placing, maintaining, and removing temporary sidewalks in accordance with Section 424 of the Standard Specifications and the plan notes. The temporary sidewalk shall consist of either Portland cement concrete (4 inches minimum thickness) or Hot-Mix Asphalt (2 inches minimum thickness) at locations shown on the plans and as directed by the Engineer. The quantity for this work has been estimated in order to establish a unit bid price. No change in contract unit price will be allowed because of an adjustment of these quantities due to actual conditions encountered in the field. This work, including furnishing and placing the materials, as well as compaction, removal, and subsequent disposal of the material in accordance with Article 202.03 of the Standard Specifications, will not be paid for separately, but shall be considered included in the contract unit price per square foot for TEMPORARY SIDEWALK.

#### Public Safety and Convenience

The Contractor shall provide a telephone number where a responsible individual can be contacted on a 24-hour-a-day basis to receive notification of any deficiencies regarding traffic control and protection. The Contractor shall dispatch personnel, materials and equipment to correct any such deficiencies. The Contractor shall respond to any call from the Engineer or government agencies concerning any request for improving or correcting traffic control devices and begin making the requested repair within **two (2) hours** from the time of notification.

When traveling in lanes open to public traffic, the Contractor's vehicles shall always move with and not against or across the flow of traffic. These vehicles shall enter or leave work areas in a manner which will not be hazardous to, or interfere with traffic and shall not park or stop except within areas designated by the Engineer.

Personal vehicles will not be allowed to park within the right-of-way. The Contractor shall provide for off-site parking of his/her personal vehicles.

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

#### Compliance with Parking Regulations

While actual construction work is in progress, vehicles necessary for the production of the work may temporarily park or stop in locations in the immediate vicinity of the work site. Vehicles and equipment include those vehicles and equipment owned or leased by the Contractor and his/her employees which are actively used in the construction activity. This exemption does not apply to any vehicle or equipment which is not essential to the actual progress of the construction. An example of a vehicle not essential to the actual progress of the construction is a vehicle owned by the employee of the Contractor used to transport the employee to the job site or his/her home but not used to carry tools actively used on the project site. These vehicles must be parked according to posted regulations and are subject to any meter fees.

#### Construction Staging Requirements

Lane Closures and the conveyance of local traffic within and around the construction zone shall be provided for in accordance with the above referenced Highway Standards and as directed by the Engineer. With the approval of the Engineer, the Contractor may make modifications to the proposed traffic control plans. The Contractor shall submit his/her proposed sequence of operations, and any necessary revisions to the attendant traffic control plan, to the Engineer for approval before actual construction operations begin.

All traffic control devices and barricades throughout the project shall remain in place until the entire project is substantially complete, or as otherwise directed by the Engineer.

All proposed traffic signal heads shall be bagged until the scheduled traffic signal turn on.

#### Construction and Maintenance Noise

The contractor shall adhere to the City of Urbana noise ordinance Section 16-7 in scheduling work windows. According to the ordinance, it is unlawful to use any construction equipment to perform any construction or maintenance work associated with this project at any time between the hours noted below where such construction equipment is operated within six hundred (600) feet of any residence, hospital, or place of worship.

- 8:00 pm through 7:00 am Monday through Saturday
- 8:00 pm Saturday through 12:00 pm (noon) Sunday
- 8:00 pm Sunday through 7:00 am Monday

#### Brooming of Roadway

All traffic lanes which are closed to through traffic during construction shall be broomed or swept free of all loose gravel or construction debris before the traffic lane is reopened to traffic. All roadway surface conditions shall be approved by the Engineer before they are opened to traffic. This work will not be paid for separately, but shall be considered included in the contract lump sum price for TRAFFIC CONTROL AND PROTECTION, (SPECIAL).

#### Brooming of Pedestrian Routes

All pedestrian routes which are closed during construction operations shall be broomed or swept free of all loose gravel or construction debris before the pedestrian routes are reopened. All pedestrian route surface conditions shall be approved by the Engineer before they are opened. This work will not be paid for separately, but shall be considered included in the contract lump sum price for TRAFFIC CONTROL AND PROTECTION, (SPECIAL).

### Special Events

Certain events and activities will take place in or near the project area which may affect construction activities. A list of these events and approximate dates are as follows:

#### *2017 Events (subject to change)*

- 2017 to 2018 – Construction at Everitt Lab
- 2017 to 2018 – Construction at Mechanical Engineering Building
- 
  
- Friday, March 3<sup>rd</sup> – Saturday, March 4<sup>th</sup>, Unofficial St Patrick's
- Friday, March 10<sup>th</sup> – Saturday, March 11<sup>th</sup>, Engineering Open House
- Saturday, March 18<sup>th</sup> – Sunday, March 26<sup>th</sup>, Spring Break
- Monday, March 27<sup>th</sup>, Classes Resume
  
- Friday, April 28<sup>th</sup>, Illinois Marathon 5K and 10K
- Saturday, April 29<sup>th</sup>, Illinois Full and Half Marathons
  
- Friday, May 5<sup>th</sup> – Friday, May 12<sup>th</sup>, Finals
- Sunday, May 14<sup>th</sup>, Commencement
- Monday, May 15<sup>th</sup>, Summer Session 1 Classes Begin
- Monday, May 29<sup>th</sup>, Memorial Day, No Classes
  
- Friday, June 9<sup>th</sup> – Saturday, June 10<sup>th</sup>, Summer Session 1 Finals
- Monday, June 12<sup>th</sup>, Summer Session 2 Classes Begin
  
- Tuesday, July 4<sup>th</sup>, Independence Day & Freedom Celebration
  
- Friday, August 4<sup>th</sup> – Saturday, August 5<sup>th</sup>, Summer Session 2 Finals
- Monday, August 28<sup>th</sup>, Instruction Begins
  
- Monday, September 4<sup>th</sup>, Labor Day, No Classes
  
- Saturday, November 18<sup>th</sup> – Sunday, November 26<sup>th</sup>, Thanksgiving Break
- Monday, November 27<sup>th</sup>, Classes Resume
  
- Friday, December 15<sup>th</sup> – Friday, December 22<sup>nd</sup> Final Exams

#### *2018 Events (subject to change)*

- Tuesday, January 16<sup>th</sup>, Spring Semester Classes Begin
  
- Saturday, March 17<sup>th</sup> – Sunday, March 25<sup>th</sup>, Spring Break
- Monday, March 26<sup>th</sup>, Classes Resume
  
- April Illinois Marathon Races (dates TBD)
  
- Friday, May 4<sup>th</sup> – Friday, May 11<sup>th</sup>, Final Exams



- Sunday, May 13<sup>th</sup>, Commencement
- Monday, May 14<sup>th</sup>, Summer Session 1 Classes Begin
- Monday, May 28<sup>th</sup>, Memorial Day, No Classes
  
- Saturday, June 9<sup>th</sup>, Summer Session 1 Final Exams
- Monday, June 12<sup>th</sup>, Summer Session 2 Classes Begin
  
- Wednesday, July 4<sup>th</sup>, Independence Day & Freedom Celebration
  
- Friday, August 3<sup>rd</sup> – Saturday, August 4<sup>th</sup>, Summer Session 2 Final Exams
- Monday, August 27<sup>th</sup>, Instruction Begins
  
- Monday, September 3<sup>rd</sup>, Labor Day, No Classes
  
- Saturday, November 17<sup>th</sup> – Sunday, November 25<sup>th</sup>, Thanksgiving Break
- Monday, November 26<sup>th</sup>, Classes Resume
  
- Friday, December 14<sup>th</sup> – Friday, December 21<sup>st</sup>, Final Exams

*2019 Events (subject to change)*

- Tuesday, January 15<sup>th</sup>, Spring Semester Classes Begin
  
- Saturday, March 16<sup>th</sup> – Sunday, March 24<sup>th</sup>, Spring Break
- Monday, March 25<sup>th</sup>, Classes Resume
  
- April Illinois Marathon Races (dates TBD)
  
- Friday, May 3<sup>rd</sup> – Friday, May 10<sup>th</sup>, Final Exams
- Sunday, May 12<sup>th</sup>, Commencement

Special provisions may be included herein to provide for these activities. These events are planned to take place concurrently with the construction activities. The Contractor will be informed of these events at the preconstruction meeting so planning and coordination can take place prior to the event as necessary. Special efforts may be required by the Contractor prior to these events to assure roadways and pedestrian areas are clean, well maintained and areas around the construction zones are safe for the public. Any additional work required to prepare and coordinate construction activities around these events shall not be paid separately but shall be included in the contract lump sum price for TRAFFIC CONTROL AND PROTECTION, (SPECIAL) and no additional compensation will be allowed.

CONTRACTOR ACCESS

At road closure locations, where Type III barricades are installed in a manner that will not allow contractor access to the project without relocation of one or more of the barricades, the arrangement of the barricades at the beginning of each work day may be relocated, when approved by the Engineer, in the manner shown on Highway Standard 701901 for Road Closed to Through Traffic. 'Road Closed' signs (RII-2), supplemented by 'Except Authorized Vehicles' signs (R3-II0I), shall be mounted on both the near-right and the far-left barricade(s). At the end of each work day the barricades shall be returned to their in-line positions. This work will be considered to be included in the cost of the various traffic control items and no extra compensation will be allowed.

#### Measurement and Payment

All work prescribed and referenced herein shall be measured for payment at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION, (SPECIAL). This price shall be considered payment in full for all labor, materials, transportation, handling and incidental work necessary to furnish, install, relocate, maintain and remove all traffic control devices as required by the traffic control plan and as directed and approved by the Engineer, for the duration of the contract. No separate payment will be made for complying with the provisions of Standard 701006, 701301, 701311, 701501, 701502, 701602, 701611, 701701, 701801, and 701901. Article 701.20 of the Standard Specifications is revised in that no additional payment will be made for furnishing, installing, maintaining, and removing additional traffic control devices or signs from those shown on the plans or as directed by the Engineer.

The cost of furnishing, placing, compacting, maintaining, removing, and disposing of coarse aggregate for temporary driveways will be paid for at the contract unit price per ton for AGGREGATE FOR TEMPORARY ACCESS.

The cost of furnishing, placing, compacting, maintaining, removing, and disposing of Portland cement concrete or hot-mix asphalt for temporary sidewalks will be paid for at the contract unit price per square foot for TEMPORARY SIDEWALK.

#### ENGINEER'S FIELD OFFICE

The engineer's field office will be provided as a part of concurrent projects that are located in the City of Champaign. The exact location has yet to be determined but will be located somewhere within the City of Champaign and not located on the site of this project. The contractor for this project shall have no financial commitment for this item.

#### NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

This work shall be done in accordance with the "National Pollutant Discharge Elimination System Permit" (NPDES) requirements and provisions of the NPDES Permit Number ILR400462, issued by the Illinois Environmental Protection Agency for storm water discharges for Construction Site Activities. The Contractor will be required to comply with all terms of the permit. As a part of the requirements the Contractor will be required to fill out the "Contractor Certification Statement", form number BDE 2342 and submit it to the Engineer at the pre-construction conference. A copy of the form is attached.

#### CONSTRUCTION ON PRIVATE PROPERTY

Whenever excavation is made within a temporary or permanent construction easement, including tree planting easements, on private property for driveways, sidewalks, steps, retaining walls, utility connections, tree plantings or other construction, the topsoil disturbed by the excavation operations shall be restored as nearly as possible to its original position and the whole area involved in the construction operation shall be left in a neat and presentable condition.

The Contractor shall use reasonable care to avoid disturbing portions of private property not necessary to the construction operations. If, in the judgment of the Engineer, areas are disturbed unnecessarily, the Contractor shall restore these areas at his own expense. The Contractor shall not pile excavated material outside the limits of the Right-of-Way upon adjacent private property without the written

consent of the property owner and the Engineer.

The cost of compliance with this Special Provision will not be paid for separately but shall be considered, as included in the cost of the EARTH EXCAVATION pay item and no additional compensation will be allowed.

#### **COOPERATION WITH UTILITY OWNERS**

The utilities companies may be making adjustments or relocations to their facilities during construction of the proposed improvements. The Contractor will be responsible for coordinating and cooperating with the utility owners while they perform their work in accordance with Articles 105.07 of the Standard Specifications. For underground utilities the Contractor will be responsible for removing existing pavements, sidewalks, and curbs and gutters to allow access to the utilities. The utility companies will be responsible for excavating to make any necessary adjustments or relocations and backfilling their excavations. The Contractor shall notify the Engineer immediately if the utility owners are not responsive to performing their work in a timely manner. Any cost associated with these requirements or for delays in the project will not be considered for payment and no additional compensation will be allowed.

#### **COOPERATION WITH OTHER CONTRACTORS**

There are active University projects in progress or currently being planned such that there may be other contractors working adjacent to or within the project limits. The Contractor will be responsible for cooperating with other contractors in accordance with Articles 105.08 of the Standard Specifications. Where there is overlap in work areas, the Contractor will be responsible for coordinating construction operations so that delays are minimized. The Contractor shall notify the Engineer immediately if other contractors are not responsive to his/her coordination attempts. Any cost associated with these requirements or for delays in the project will not be considered for payment and no additional compensation will be allowed.

#### **CURB AND GUTTER TRANSITIONS AND THICKNESS**

Whenever it is necessary to make a smooth connection between the proposed gutter or curb and gutter and the existing curb and gutter the Contractor shall vary the horizontal and/or vertical dimensions of the proposed gutter or curb and gutter as directed by the Engineer. This work will not be paid for separately but will be considered as included in the contract unit prices for the various curb and gutter pay items and no additional compensation will be allowed.

#### **CUTTING PAVEMENT, DRIVEWAY PAVEMENT, SIDEWALK, OR CURB & GUTTER**

At locations where it is necessary to cut asphalt surfaces, concrete pavement, concrete or asphalt driveway pavement, concrete sidewalk, or concrete curb and gutter, where it will abut the proposed new construction, a uniformly straight cut shall be obtained by the use of a diamond concrete saw. The use of pneumatic tools to make these cuts will not be allowed. This work shall be considered as included in the contract unit prices for the various pay items of the proposed construction involved and no additional compensation will be allowed.

**DUST CONTROL**

Prior to the start of construction the Contractor shall provide to the engineer a dust control plan in accordance with article 107.36 of the standard specifications. Dust control shall be used for the earthwork operations or any other operations that warrant dust control measures as directed by the Engineer. The Contractor shall be responsible for cleaning all dust or airborne erosion from adjacent properties if concerns of health, safety, or damage to the public arise from construction operations. Water shall be used as a dust suppressant and cleaning agent unless directed otherwise by the Engineer. This work will not be paid for separately and shall be included in the unit prices bid including furnishing and applying water.

**HAND GRADING**

Grading shall be done by hand around light poles, utility poles, sign posts, shrubs, trees or other natural or man-made objects where shallow fills or cuts are adjacent to the items. It is the intent that the limits of construction be such as to preserve in the original state as much area behind proposed sidewalks and in temporary easements as possible. The decision as to items to remain in place shall be as directed by the Engineer. This work will not be paid for separately and should be included in the cost of the earthwork.

**MANHOLE STEPS**

The manhole steps depicted on Highway Standard Drawing 602401 shall be omitted and will not be required for the manholes.

**PRESERVING PROPERTY MARKERS**

The Contractor shall locate the existing property corner markers along this section. Any such monuments unnecessarily destroyed by the Contractor's operations shall be replaced by a registered Illinois Land Surveyor at the Contractor's expense.

Any expense, inconveniences or delays caused the Contractor in complying with this Special Provision will be considered as included in the unit bid prices of the contract and no additional compensation will be allowed.

**REMOVAL OF UNCLASSIFIED MATERIAL**

Debris or unclassified materials shall be removed at the locations shown on the Plans or as designated by the Engineer. The material removed as required in this Special Provision shall be disposed of outside the limits of the right-of-way in accordance with Article 202.03 of the Standard Specifications and as directed by the Engineer. This work will not be paid for separately and is considered to be included in the cost of the various removal items.

### **STOCKPILE AREAS**

Short-term stockpile of earth, backfill and crushed stone material will be allowed only where directed by the Engineer. Temporary stockpiles of materials shall not interfere with local and through traffic as described on the traffic control plans.

Stockpiles shall be protected from erosion by utilizing silt fence, temporary seeding, or any other means of controlling erosion as directed by the Engineer. This work will not be paid for separately and is included in the cost of the various stock pile items.

Stockpiles of materials shall not be allowed on private property (unless permission is granted by owner in writing), outside street rights-of-way; and shall not be allowed to block private driveways or sidewalks. Any grass area that is damaged by stockpiled material shall be repaired by either seeding or sodding as determined by the Engineer. These areas shall not be measured for payment and the Contractor shall repair them at his/her own expense.

### **SALVAGEABLE MATERIALS**

All materials deemed salvageable by the Engineer shall remain the property of the City of Urbana, University of Illinois Urbana-Champaign (UIUC), or Champaign-Urbana Mass Transit District (MTD) and shall be stored on the job site or delivered to the appropriate location as shown below and as directed by the Engineer. The Contractor shall dispose of any materials off site that the Engineer determines should not be salvaged. This work will not be paid for separately and is considered to be included in the cost of the various removal items.

MCORE  
 Project 1: Green Street – Wright Street to Busey Avenue  
 Section No. 15-00304-01-PV  
 Urbana Project No. 15-00551-00-PV

Location		Item	Quantity	Owner (Urbana, UIUC, or MTD)	Disposition (Remove, Salvage, or Relocate)	Responsible Party (Contractor, Urbana, UIUC, of MTD)	Location for Salvage/Relocation
Station	Offset						
<b>Green Street - Wright Street to Mathews Street</b>							
1001+72.50	55'	LT	Bollards	1	UIUC	Remove	Contractor
1001+80.00	30'	RT	Bollards	3	UIUC	Remove	Contractor
1001+97.00	58'	LT	Concrete Trash Receptacle	1	UIUC	Salvage	Contractor UIUC F&S 1501 S. Oak St., Champaign, IL 61820
1002+42.00	52'	RT	Concrete Bench	1	UIUC	Salvage	Contractor 803 E. University Ave., Urbana
1003+85.00	47'	RT	Bus Shelter	1	MTD	Salvage	MTD
1004+20.00	47'	RT	Concrete Bench	6	UIUC	Salvage	Contractor 803 E. University Ave., Urbana
1004+35.00	40'	RT	Concrete Trash Receptacle	3	UIUC	Salvage	Contractor UIUC F&S 1501 S. Oak St., Champaign, IL 61820
1004+52.00	54'	RT	Kiosk	1	MTD	Salvage	MTD (MCS)
1004+72.00	59'	RT	Information Board	1	UIUC	Relocate	Contractor coordinate location with UIUC F&S
1005+12.96	42'	RT	Illini Union Sign	1	UIUC	Remove and Relocate	Contractor Deliver sign to UIUC F&S for storage until reinstalled.
1005+20.00	40'	LT	Fence Railing	66 FT		Remove	Contractor
1005+75.00	47'	LT	Concrete Bench	3	UIUC	Salvage	Contractor 803 E. University Ave., Urbana
1005+75.00	47'	LT	Concrete Trash Receptacle	1	UIUC	Salvage	Contractor UIUC F&S 1501 S. Oak St., Champaign, IL 61820
1005+76.00	52'	LT	Kiosk	1	MTD	Salvage	MTD (MCS)
1005+97.00	40'	LT	Bus Shelter	1	MTD	Salvage	MTD
1007+90.32	60'	RT	Harker Hall Sign	1	UIUC	Remove and Relocate	Contractor Deliver sign to UIUC F&S for storage until reinstalled. 1501 S. Oak St., Champaign, IL 61820
1008+50.00	73'	RT	Concrete Trash Receptacle	1	UIUC	Salvage	Contractor UIUC F&S
1010+08.00	55'	RT	Concrete Bench	4	UIUC	Salvage	Contractor 803 E. University Ave., Urbana
1010+25.00	54'	RT	Concrete Trash Receptacle	2	UIUC	Salvage	Contractor UIUC F&S
1010+25.00	54'	RT	Bus Shelter	1	MTD	Salvage	MTD
<b>Green Street - Mathews Street to Goodwin Avenue</b>							
1011+00.00	57'	RT	Warning Light	1		Remove	Contractor
1011+00.00	51'	LT	Warning Light	1		Remove	Contractor
1011+29.00	63'	LT	Bus Shelter	1	MTD	Salvage	MTD
1011+35.00	63'	LT	Concrete Bench	2	UIUC	Salvage	Contractor 803 E. University Ave., Urbana
1011+46.00	62'	LT	Concrete Trash Receptacle	1	UIUC	Salvage	Contractor UIUC F&S 1501 S. Oak St., Champaign, IL 61820
1011+46.00	56'	LT	Information Board	1	UIUC	Remove	Contractor
1011+85.23	53'	LT	Mechanical Engineering Building Sign	1	UIUC	Remove and Relocate	Contractor Deliver sign to UIUC F&S for storage until reinstalled. 1501 S. Oak St., Champaign, IL 61820
<b>Green Street - Goodwin Avenue to Gregory Street</b>							
1016+30.87	48'	RT	Goodwin-Green Apartments Sign	1	UIUC	Remove and Relocate	Contractor Deliver sign to UIUC F&S for storage until reinstalled. 1501 S. Oak St., Champaign, IL 61820
1020+25.00	40'	LT	Mailbox	1	USPS	Relocate	USPS call Urbana postmaster for pickup
1021+60.61	53'	LT	Daniels Hall Sign	1	UIUC	Remove and Relocate	Contractor Deliver sign to UIUC F&S for storage until reinstalled. 1501 S. Oak St., Champaign, IL 61820
1022+42.00	41'	RT	Concrete Trash Receptacle	1	UIUC	Salvage	Contractor UIUC F&S 1501 S. Oak St., Champaign, IL 61820
<b>Green Street - Lincoln Intersection</b>							
Intersection		Traffic Signal Controller		1	Urbana	Salvage	Contractor Call Urbana operations manager to arrange pickup (217) 384-2342
<b>Illini Union Parking Lot</b>							
			Planters	2	UIUC	Removed	UIUC
			Concrete Trash Receptacle	2	UIUC	Salvage	Contractor UIUC F&S 1501 S. Oak St., Champaign, IL 61820
			Parking Meters	8	UIUC	Salvage	UIUC Parking
			Flag Pole	1	UIUC	Relocate	Contractor See Union Plans and specifications for Remove and relocate Flag Pole
			Lighting	10	UIUC		
<b>Miscellaneous Items located throughout Project Limits</b>							
Various Locations		Street Lights			Urbana	Remove	Contractor
Various Locations		Street Signs			UIUC	Relocate	Contractor As shown on plans
Various Locations		Drainage Frame & Grates			Urbana	Remove	Contractor
Various Locations		Traffic Signal Equipment			Urbana	Salvage	Contractor Call Urbana operations manager to arrange pickup (217) 384-2342

**UNIVERSITY OF ILLINOIS SERVED UTILITIES**

The University of Illinois owns and operates several utilities within the proposed construction limits of this project. These utilities include but are not limited to: water, sanitary sewer, storm sewer, chilled water (supply and return system), steam distribution, compressed air, electric, helium, lighting and telecommunications. All necessary adjustments and relocations made to University of Illinois utilities shall be performed by the Contractor as part of this contract. Existing utilities shall be temporarily supported according to the detail in the plans as necessary to complete the work. No University of Illinois utility service shall be interrupted, adjusted, or relocated without written permission from the University of Illinois, Utility Distribution staff. Contractor shall obtain written permission from the University of Illinois, Utility Distribution, before any work is started. When interruption of services is required, inform the University at least five days in advance and coordinate a time that is agreed by all parties. The Facilities and Services, Service Office, 217-333-0340, shall be the point of contact for all utility issues, including outages or emergency incidents. This number provides 24/7/365 access for callers. Damage of any kind, scratch or dent, no matter how small or minor shall be reported immediately to the Service Office and JULIE, as required by State Law. The cost of complying with this Special Provision will not be paid for separately, but shall be considered included in the various pay items of the proposed construction involved and no additional compensation will be allowed.

**20100110 TREE REMOVAL (6 TO 15 UNITS DIAMETER)**

**20100210 TREE REMOVAL (OVER 15 UNITS DIAMETER)**

Description

This work shall consist of the removal of trees including the cutting, grubbing, removal and disposal. This work shall be performed in general conformance with Article 201 of the Standard Specifications except as modified below.

Construction Requirements

Trees that are removed shall be hauled away during the same day. Piling of trees for removal later will not be allowed.

Measurement and Payment

This work will be paid for at the contract unit price per unit diameter for TREE REMOVAL (6 TO 15 UNITS DIAMETER) and TREE REMOVAL (OVER 15 UNITS DIAMETER).

**20201200 REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL**

Description

This work shall consist of undercutting, removing and disposing of unsuitable earth or subgrade material below pavements, utility trenches, or at locations determined by the Engineer and in accordance with Section 202 of the Standard Specifications. All unsuitable earth or subgrade materials shall be disposed of off the site unless directed otherwise by the Engineer. The unsuitable earth or subgrade excavations shall be backfilled as shown on the "Subgrade Removal and Replacement Detail" in the plans or as directed by the Engineer. A removal quantity has been included in the plans for the purpose of establishing a unit bid price in case unsuitable materials are discovered. It is hereby understood that the City of Champaign reserves the right to delete any or all of this pay item quantity from the contract. Should the City of Champaign delete any or all of this pay item quantity from the contract, the Contractor will receive no remuneration for the deleted item.

Measurement and Payment

This work of undercutting and removing unsuitable earth material will be measured in accordance with Article 202.07(b) of the Standard Specifications and will be paid for at the contract unit price per cubic yard for REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL. Backfilling the excavated areas with GRANULAR EMBANKMENT, SPECIAL and AGGREGATE BASE COURSE, TYPE A 12" material will be paid for separately.

**21000300 GRANULAR EMBANKMENT, SPECIAL**

Description

This work shall consist of placing granular embankment as fill in excavations under proposed paved areas created by the removal of earth or unsuitable material as shown on the "Subgrade Removal and Replacement Detail". The locations for the placement of the granular embankment will be as directed by the Engineer. A quantity has been included in the plans for the purpose of establishing a unit bid price for the granular embankment. It is hereby understood that the City of Champaign reserves the right to delete any or all of this pay item from the contract. Should the City of Champaign delete any or all of this pay item from the contract, the Contractor will receive no remuneration for the deleted item.

Construction Requirements

This work shall be in accordance with Sections 206, 207 and 210 of the Standard Specifications. The granular embankment shall consist of granular material placed in uniform layers not exceeding 8 inches loose measure and compacted by a vibratory roller meeting the requirements of Article 1101.01 of the Standard Specifications or by ramming or tamping as directed by the Engineer. The granular material shall be crushed gravel, crushed stone or crushed concrete having a gradation of CA 1 or a gradation approved by the Engineer. The material shall meet the requirements of Article 1004.01 of the IDOT Standard Specifications.

Revise Section 206.01 Description to read: "This work shall consist of the construction of granular embankment by placing and compacting gravel or crushed stone on an existing pavement, surface course, the adjacent shoulders or earth embankment."

Revise Section 206.03 Equipment to read: "Equipment shall meet the requirements of the following Articles of Section 1100 - Equipment:

Item	Article/Section
(a) Tamping Roller .....	1101.01
(b) Pneumatic-tired Roller .....	1101.01
(c) Three-wheel Roller (Note 1) .....	1101.01
(d) Tandem Roller (Note 1) .....	1101.01
(e) Vibratory Machine (Note 2)	
(g) Spreading and Finishing Machine (Note 3).....	1102.03
(h) Spreaders (Note 3).....	1102.04

Note 1. The three-wheel or tandem roller shall weigh from 6 to 10 tons (5.5 to 9 metric tons) and shall weigh not less than 200 lbs. per inch (35 N/mm) nor more than 325 lbs. per inch (57 N/mm) of width of the roller.

Note 2. The vibratory machine shall meet the approval of the Engineer.



Note 3. The spreader may be used on all lifts except the top lift. The Spreading and Finishing Machine shall be used on the top lift. For the final lift, the Spreading and Finishing Machine shall be equipped as required for bituminous binder and surface course.”

Revise the second paragraph of Section 206.04 Placing and Compacting Aggregate to read: “The aggregate shall be placed and compacted according to Article 351.05 (a). The aggregate shall be deposited full-lane width, directly on the pavement, surface course, earth embankment, shoulder, or preceding layer with a spreader, or spreading and finishing machine, as required herein. The aggregate shall be constructed in layers not more than 4 inches (100 mm) thick when compacted, except that if tests indicate that the desired results are being obtained, the compacted thickness of any layer may be increased to a maximum of 8 inches (200 mm). Construction shall be alternated on each lane width so that at no time will there be a difference of more than 4 inches (100 mm) in elevation. Construction operations shall be carried on in such a manner that the elevation of adjacent traffic lanes shall be the same when work is suspended at nights and over weekends or holidays.”

Measurement and Payment

This work will be measured and paid for at the contract unit price per ton for GRANULAR EMBANKMENT, SPECIAL, which price shall include furnishing, placing and compacting the material.

**35100500     AGGREGATE BASE COURSE, TYPE A 6”**

Description

This work shall consist of furnishing all labor, equipment, and material for the installation of Aggregate Base Course, Type A 6”, under proposed P.C. Concrete Pavement in accordance with Section 351 of the Standard Specifications, except as modified herein. Material shall be in accordance with Article 1004.04a of the Standard Specifications, except that the coarse aggregate may be Reclaimed Asphalt Pavement (RAP) or Recycled Concrete Material (RCM). All materials shall be mechanically crushed and free of steel, glass, or other deleterious materials and otherwise meet the requirements of Article 1004.04 of the Standard Specifications.

Measurement and Payment

This work will be measured and paid for at the contract unit price per square yard for AGGREGATE BASE COURSE, TYPE A 6”, which price shall include all labor, equipment and materials necessary to perform the work as specified herein.

**35300700     PORTLAND CEMENT CONCRETE BASE COURSE 12”**

Description

This work shall consist of constructing a Portland cement concrete pavement in accordance with Section 353 of the Standard Specifications and the following additional requirements:

Various steam tunnels exist within the project limits. The contractor shall protect the steam tunnels during construction and will be responsible for any damage that occurs to the tunnels as a result of the construction actions. The location of the steam tunnels as shown on the plans is approximate and shall be field verified by contractor prior to starting excavation in the vicinity of the steam tunnels.

Portland Cement Concrete Base Course 12” shall be used in place of Aggregate Base Course over the steam tunnel near the University of Illinois Union. The contractor will not be allowed to run trucks on the grade over the tunnel before or during placement of the PCC Base Course. At their discretion, the contractor may run trucks over this area after the PCC Base Course has cured. Slip forming will not be allowed for placement of the PCC Base Course. A vibratory screed or hand finishing of the concrete will be allowed. All reinforcement required for the PCC Base Course will be included in the cost of the pay item.

Measurement and Payment

This work will be paid for at the contract unit price per square yard for PORTLAND CEMENT CONCRETE BASE COURSE 12”, which price shall include all labor, materials and equipment necessary to perform the work as specified herein.

**40600839 POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-9.5FG, N70**

**40603235 POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70**

**40603540 POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX “D”, N70**

Description

This work shall consist of constructing hot-mix asphalt (HMA) leveling binder, binder and/or surface course on a milled surface or PCC base course widening.

Construction Requirements

This work shall be in general conformance with Article 406 of the Standard Specifications with the exception that there shall be no placement of HMA surface after October 31.

Measurement and Payment

This work will be paid for at the contract unit price per ton for POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70, POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70 and POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX “D”, N70.

**HOT-MIX ASPHALT MIXTURE IL-9.5FG**

Effective: July 1, 2005

Revised: December 10, 2014

Description. This work shall consist of constructing fine graded hot-mix asphalt (HMA) surface course or leveling binder with an IL-9.5FG mixture. Work shall be according to Sections 406, 407 and 1030 of the Standard Specifications, except as modified herein.

Equipment. Add the following to Article 406.03

- (i) Non-Vertical Impact Roller.....1101.01

Materials. 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. For mixture IL-9.5FG, the fine aggregate fraction shall consist of at least 67 percent manufactured sand meeting FA 20, FA 21 or FA 22 gradation. The manufactured sand shall be stone sand, slag sand, steel slag sand, or combinations thereof.”

Mixture Design. Add the following to the table in Article 1030.04(a)(1):

"High ESAL, MIXTURE COMPOSITION (% PASSING) <sup>1/</sup>		
Sieve Size	IL-9.5FG	
	min	max
1 1/2 in. (37.5 mm)		
1 in. (25 mm)		
3/4 in. (19 mm)		
1/2 in. (12.5 mm)		100
3/8 in. (9.5 mm)	90	100
#4 (4.75 mm)	65	80
#8 (2.36 mm)	50	65
#16 (1.18 mm)	25	40
#30 (600 μm)	15	30
#50 (300 μm)	8	15
#100 (150 μm)	6	10
#200 (75 μm)	4	6.5
Ratio: Dust/Asphalt Binder		1.0

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

"VOLUMETRIC REQUIREMENTS: High ESAL			
	Voids in the Mineral Aggregate (VMA),% minimum		Voids Filled with Asphalt Binder (VFA),%
N <sub>design</sub>	IL-19.0	IL-9.5, IL 9.5FG	
50	13.5	15.0	65 - 78
70			65 - 75 <sup>1/</sup>
90			

1/ The VFA range for IL-9.5FG shall be 65 - 78 percent."

Quality Control/Quality Assurance (QC/QA). Revise the second table in Article 1030.05(d)(4) to read:

DENSITY CONTROL LIMITS			
Mixture Composition		Parameter	Individual Test
IL-4.75		N <sub>design</sub> = 50	93.0 – 97.4% <sup>1/</sup>
IL-9.5FG	Lifts < 1.25 in. (32 mm)	N <sub>design</sub> 50 - 90	90.0 – 95.0% <sup>1/</sup>
	Lifts ≥ 1.25 in. (32 mm)	N <sub>design</sub> 50 - 90	92.0 – 96.0%
IL-9.5		N <sub>design</sub> ≥ 90	92.0 – 96.0 %
IL-9.5, IL-9.5L		N <sub>design</sub> < 90	92.5 – 97.4 %
IL-19.0		N <sub>design</sub> ≥ 90	93.0 – 96.0 %
IL-19.0, IL-19.0L		N <sub>design</sub> < 90	93.0 – 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.

CONSTRUCTION REQUIREMENTS

Leveling Binder. Revise the 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, IL-9.5 FG, or IL-9.5L
> 1 1/4 to 2 (32 to 50)	IL-9.5, IL-9.5FG, 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-9.5FG and IL 4.75 mixtures and 1 1/4 in. (32 mm) or greater for IL-9.5 and IL-9.5L mixtures."

Compaction. Revise Table 1 in Article 406.07(a) of the Standard Specifications to read:

"TABLE 1 - MINIMUM ROLLER REQUIREMENTS FOR HMA <sup>4/</sup>				
	Breakdown Roller (one of the following)	Intermediate Roller	Final Roller (one or more of the following)	Density Requirement
Level Binder: (When the density requirements of Article 406.05(c) do not apply.)	P <sup>3/</sup>	--	V <sub>s</sub> , P <sup>3/</sup> , T <sub>B</sub> , T <sub>F</sub> , 3W	To the satisfaction of the Engineer.
Level Binder: (When placed at ≤ 1 1/4 (32 mm) and density requirements of Article 406.05 (c) apply.)	V <sub>N</sub> , T <sub>B</sub> , 3W	P <sup>3/</sup>	V <sub>s</sub> , T <sub>B</sub> , T <sub>F</sub>	As specified in Articles: 1030.05(d)(3), (d)(4), and (d)(7).
Level Binder <sup>1/</sup> > 1 1/4 in. (32 mm) Binder and Surface <sup>1/</sup>	V <sub>D</sub> , P <sup>3/</sup> , T <sub>B</sub> , 3W	P <sup>3/</sup>	V <sub>s</sub> , T <sub>B</sub> , T <sub>F</sub>	As specified in Articles: 1030.05(d)(3), (d)(4), and (d)(7).
Bridge Decks <sup>2/</sup>	T <sub>B</sub>	--	T <sub>F</sub>	As specified in Articles: 582.05 and 582.06.

1/ If the average delivery at the job site is 85 ton/hr (75 metric ton/hr) or less, any roller combination may be used provided it includes a steel wheeled roller and the required density and smoothness is obtained.

- 2/ One  $T_B$  may be used for both breakdown and final rolling on bridge decks 300 ft (90 m) or less in length, except when the air temperature is less than 60 °F (15 °C).
- 3/ A vibratory roller ( $V_D$ ) may be used in lieu of the pneumatic-tired roller on mixtures containing polymer modified asphalt binder.
- 4/ For mixture IL-4.75 a minimum of two  $T_B$  and one  $T_F$  roller shall be provided. Both the  $T_B$  and  $T_F$  rollers shall be a minimum of 280 lb/in. (49 N/mm). P and V rollers will not be permitted.

Add the following to EQUIPMENT DEFINITION

$V_N$  - Non-Vertical Impact roller operated in a mode that will provide non-vertical impacts and operate at a speed to produce not less than 10 impacts/ft (30 impacts/m).

Rollers. Add the following to Article 1101.01 of the Standard Specifications:

- h) The non-vertical impact roller shall be self-propelled and provide a smooth operation when starting, stopping or reversing directions. Non-vertical impact drum(s) amplitude and frequency shall be approximately the same in each direction and meet the following minimum requirements: drum diameter 48 in. (1200 mm), length of drum 66 in. (1650 mm), unit static force on drum(s) 125 lb/in. (22 N/m), adjustable eccentrics, and reversible eccentrics on non-driven drum(s). The total applied force and the direction it is applied for various combinations of VPM and eccentric positions shall be shown on decals on the roller or on a chart maintained with the roller. The roller shall be equipped with water tanks and sprinkling devices, or other approved methods, which shall be used to wet the drums to prevent material pickup.

Basis of Payment. Add the following two paragraphs after the third paragraph of Article 406.14 of the Standard Specifications:

"Mixture IL-9.5FG will be paid for at the contract unit price per ton (metric ton) for LEVELING BINDER (HAND METHOD), IL-9.5FG, of the Ndesign specified; LEVELING BINDER (MACHINE METHOD), IL-9.5FG, of the Ndesign specified; or HOT-MIX ASPHALT SURFACE COURSE, IL-9.5FG, of the Ndesign specified.

Mixture IL-9.5FG in which polymer modified asphalt binders are required will be paid for at the contract unit price per ton (metric ton) for POLYMERIZED LEVELING BINDER (HAND METHOD), IL-9.5FG, of the Ndesign specified; POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-9.5FG, of the Ndesign specified; or POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, IL-9.5FG, of the Ndesign specified."

### **PNEUMATIC-TIRED ROLLER FOR HOT-MIX ASPHALT**

Eff. 10-01-1998  
Rev. 09-01-2006

For all Hot-Mix Asphalt Mixtures placed at a rate exceeding 85 tons per hour (75 metric tons per hour), a pneumatic-tired roller will be required as the intermediate roller. This roller shall meet the requirements

of Table 1 of Article 406.07 of the Standard Specifications. This provision shall hold over any other requirements included elsewhere in the contract.

This work will not be measured for payment or paid for separately, but shall be considered as included in the price per ton (metric ton) or square yard (square meter) of the various items of HOT-MIX ASPHALT, of the mixture and Ndesign (if applicable) specified.

### **NON-VERTICAL IMPACT ROLLER FOR HOT-MIX ASPHALT**

Eff. October 13, 2011

For all Hot-Mix Asphalt Mixtures placed at a rate exceeding 85 tons per hour (75 metric tons per hour), a Non-Vertical Impact roller may be used as the finish roller. The roller shall meet the requirements outlined below.

The roller shall be capable of operating in a mode that will provide non-vertical impacts and operate at a speed to produce not less than 10 impacts/ft (30 impacts/m). The roller shall be self-propelled and provide a smooth operation when starting, stopping or reversing directions. The non-vertical impact drum(s) amplitude and frequency shall be approximately the same in each direction and meet the following minimum requirements: drum diameter 48 in. (1200 mm), length of drum 66 in. (1650 mm), unit static force on drum(s) 125 lb/in. (22 N/m), adjustable eccentrics, and reversible eccentrics on non-driven drum(s). The total applied force and the direction it is applied for various combinations of VPM and eccentric positions shall be shown on decals on the vibrating roller or on a chart maintained with the roller. The roller shall be equipped with water tanks and sprinkling devices, or other approved methods, which shall be used to wet the drums to prevent material pickup.

This work will not be measured for payment or paid for separately, but shall be considered as included in the price per ton (metric ton) or square yard (square meter) of the various items of HOT-MIX ASPHALT, of the mixture and Ndesign (if applicable) specified.

**42000101 PORTLAND CEMENT CONCRETE PAVEMENT 6" (JOINTED)**

**42000301 PORTLAND CEMENT CONCRETE PAVEMENT 8" (JOINTED)**

**42000511 PORTLAND CEMENT CONCRETE PAVEMENT 10 1/2" (JOINTED)**

#### **Description**

This work shall consist of constructing a Portland cement concrete pavement in accordance with Section 420 of the Standard Specifications and the following additional requirements:

#### **Sub-Grade and Aggregate Base Course Protection**

Concrete trucks will not be allowed on the sub-grade or aggregate base course directly ahead of the paving operation, so the base material and dowel/tie bars will not be disturbed. Concrete trucks will be allowed on the sub-grade or aggregate base course laterally adjacent to the paving operation. The sub-grade or aggregate base course must be re-graded and compacted prior to the subsequent paving operation.

#### **Longitudinal Construction Joints**

Installing the tie bars in formed or drilled holes as specified in Article 420.05(b) of the Standard

Specifications will not be allowed when the concrete is in a plastic condition.

#### Final Finish

The final finish of the pavement shall be a heavy broom finish that is performed to the satisfaction of the Engineer. Hand tining or tining the pavement surface with a mechanically operated comb will not be allowed.

#### Measurement and Payment

This work will be measured and paid for in accordance with Articles 420.19 and 420.20 of the Standard Specifications at the contract unit price per square yard for PORTLAND CEMENT CONCRETE PAVEMENT, of the thickness and type specified and no additional compensation will be allowed.

### **CONCRETE PAVEMENT SURFACE TESTS**

Revise Article 420.10 to read:

The finished surface of the pavement shall be tested for smoothness as follows:

The finished surface of the pavement shall be tested for smoothness once the pavement has attained a flexural strength of 550 psi or a compressive strength of 3000 psi.

Membrane curing damaged during testing shall be repaired as directed by the Engineer at no additional cost to the City.

The finished surface of the pavement shall be tested for smoothness within three days of paving. Testing shall be performed in the presence of the Engineer.

Prior to testing, a copy of the approval letter and recorded settings from the Profile Equipment Verification (PEV) Program shall be submitted to the Engineer; and all objects and debris shall be removed from the pavement.

#### (a) Test Sections.

- (1) High-Speed Mainline Pavement. High-speed mainline pavement shall consist of pavements (including intersections, horizontal and vertical curves, variable width pavements and crossovers) with a posted speed greater than 45 mph. These sections shall be tested using a profile testing device.
- (2) Low-Speed Mainline Pavement. Low-speed mainline pavement shall consist of pavements (including intersections, horizontal and vertical curves, variable width pavements and crossovers) with a posted speed of 45 mph or less. These sections shall be tested using a profile testing device.
- (3) Miscellaneous Pavement. Miscellaneous pavement shall consist of:
  - a. the first or last 15 ft. of a pavement section where the Contractor is not responsible for the adjoining surface;
  - b. side street returns;

- c. connector pavement from mainline pavement expansion joint to the bridge approach slab;
- d. bridge approach slab; and
- e. other miscellaneous pavement surfaces (i.e. a turn lane) as determined by the Engineer.

Miscellaneous pavement shall be tested using a 16 ft. (5 m) straightedge set to a 3/8 in. (10 mm) tolerance.

(b) Lots/Sublots.

Mainline pavement test sections will be divided into lots and sublots.

- (1) Lots. A lot will be defined as a continuous strip of pavement 1 mile long and one lane wide. When the project length is less than 1 mile the lot will be defined from the beginning to the end of the improvements. Structures will be omitted when measuring pavement length.
- (2) Sublots. Lots will be divided into 0.1 mile sublots. A partial subplot greater than or equal to 250 ft. resulting from an interruption in the pavement will be subject to the same evaluation as a whole subplot. Partial sublots less than 250 ft. shall be included with the previous subplot for evaluation purposes.

(c) Testing Procedure.

Two wheel tracks shall be tested per lane. Testing shall be performed 3 ft. from and parallel to each lane edge. A guide shall be used to maintain the proper distance.

The profile trace generated shall have stationing indicated every 500 ft. at a minimum. Both ends of the profile trace shall be labeled with the following information: contract number, beginning and ending stationing, which direction is up on the trace, which direction the data was collected, and the device operator name(s). The top portion of the Department supplied form; "Profile Report of Pavement Smoothness" shall be completed and secured around the trace roll.

The Engineer may perform his/her own testing at any time for monitoring and comparison purposes.

(d) Trace Reduction and Bump Locating Procedure.

All traces shall be reduced. Traces produced by a mechanical recorder shall be reduced using an electronic scanner and computer software. This software shall calculate the profile index of each subplot in in. /mile and indicate any high points (bumps) in excess of 0.30 in. with a line intersecting the profile on the printout. Computerized recorders shall provide the same information.

The profile index of each track, average profile index of each subplot, average profile index of the lot and locations of bumps shall be recorded on the form.



All traces and reports shall be provided within two working days of completing the testing to the Engineer for the project file. Traces from either a computerized profile testing device or analysis software used with a manual profile testing device shall display the settings used for the data reduction. The Engineer will compare these settings with the approved settings from the PEV Program. If the settings do not match, the results will be rejected and the section shall be retested/reanalyzed with the appropriate settings.

The Engineer will use the results of the testing to evaluate paving methods and equipment. If the average profile index of a lot exceeds 40.0 in./mile for high-speed mainline pavement or 65.0 in./mile for low-speed mainline pavement, the paving operation will be suspended until corrective action is taken by the Contractor.

(e) Corrective Work.

All bumps in excess of 0.30 in. will be marked and shall be corrected as directed by the Engineer.

- (1) High-Speed Mainline Pavement. Any subplot having an average profile index within the range of greater than 30.0 to 40.0 in./mile including bumps, shall be corrected to reduce the profile index to 30.0 in./mile or less on each trace. Any subplot having an average profile index greater than 40.0 in./mile including bumps, shall be corrected to reduce the profile index to 30.0 in./mile or less on each trace, or replaced at the Contractor's option.
- (2) Low-Speed Mainline Pavement. Any subplot having an average profile index within the range of greater than 45.0 to 65.0 in./mile including bumps, shall be corrected to reduce the profile index to 45.0 in./mile or less on each trace. Any subplot having an average profile index greater than 65.0 in./mile including bumps, shall be corrected to reduce the profile index to 45.0 in./mile or less on each trace, or replaced at the Contractor's option.
- (3) Miscellaneous Pavement. Surface variations which exceed the 3/8 in. tolerance will be marked by the Engineer and shall be corrected by the Contractor.

Corrective work shall be completed with pavement surface grinding equipment or by removing and replacing the pavement. Corrective work shall be applied to the full lane width. When completed, the corrected area shall have uniform texture and appearance, with the beginning and ending of the corrected area squared normal to the centerline of the paved surface.

Upon completion of the corrective work, the surface of the subplot(s) shall be retested. The Contractor shall furnish the profile tracing(s) and the completed form(s) to the Engineer within two working days after corrections are made. If the profile index and/or bumps still do not meet the requirements, additional corrective work shall be performed.

No further texturing for skid resistance will be required for areas corrected by grinding. Protective coat shall be reapplied to ground areas according to Article 420.18 at no additional cost to the City.

Corrective work shall be at no additional cost to the City.

(f) Smoothness Assessments.

Assessments will be paid to or deducted from the Contractor for each subplot of mainline pavement, per the Smoothness Assessment Schedule. Assessments will be based on the average profile index of each subplot prior to performing any corrective work unless the Contractor has chosen to remove and replace the subplot. For sublots that are replaced, assessments will be based on the profile index determined after replacement. Assessments will not be paid or deducted until all other contract requirements for the pavement are satisfied. Pavement that is corrected or replaced for reasons other than smoothness, shall be retested as stated herein.

SMOOTHNESS ASSESSMENT SCHEDULE (PCC)		
High-Speed Mainline Pavt. Average Profile Index in./mile	Low- Speed Mainline Pavt. Average Profile Index in./mile	Assessment per subplot
6.0 or less		+\$1200.00
>6.0 to 11.0	15.0 or less	+\$950.00
>11.0 to 17.0	>15.0 to 25.0	+\$600.00
>17.0 to 30.0	>25.0 to 45.0	+\$0.00
>30.0 to 40.0	>45.0 to 65.0	+\$0.00
Greater than 40.0	Greater than 65.0	-\$750.00

Smoothness assessments will not be applied to miscellaneous pavement sections.

(g) Pavement Surface Test Equipment.

Required surface testing and analysis equipment and their jobsite transportation shall be provided by the Contractor.

- (1) 16 ft. Straightedge. The 16 ft. straightedge shall consist of a metal I-beam mounted between two wheels spaced 16 ft. between the axles. Scratcher bolts, which can be easily and accurately adjusted, shall be set at the ¼, ½, and ¾ points between the axles. A handle suitable for pushing and guiding shall be attached to the straightedge.
- (2) Profile Testing Device. The profile testing device shall have a decal displayed to indicate it has been tested through the Profile Equipment Verification (PEV) Program administered by the Department.
  - a. California Profilograph. The California Profilograph shall be either computerized or manual and have a frame 25 ft. in length supported upon multiple wheels at either end. The profile shall be recorded from the vertical movement of a wheel attached to the frame at midpoint.

The California Profilograph shall be calibrated according to the manufacturer's recommendations and California Test 526. All calibration traces and calculations shall be submitted to the Engineer for the project file.

- b. Inertial Profiler. The inertial profiler shall be either an independent device or a system that can be attached to another vehicle using one or two non-contact sensors to measure the pavement profile. The inertial profiler shall be capable of performing a simulation of the California Profilograph to provide results in the Profile Index format.

The inertial profiler shall be calibrated according to the manufacturer's recommendations. All calibration traces and calculations shall be submitted to the Engineer for the project file.

- c. Trace Analysis. The Contractor shall reduce/evaluate these traces using a 0.00 in. blanking band and determine a Profile Index in in. /mile for each section of finished pavement surface. Traces produced using a computerized profile testing device will be evaluated without further reduction. When using a manual profile testing device, the Contractor shall provide an electronic scanner, a computer, and software to reduce the trace. All analysis equipment (electronic scanner, computerized recorder, etc.) shall be able to accept 0.00 in. for the blanking band.

All traces from pavement sections tested with the profile testing device shall be recorded on paper with scales of 300:1 longitudinally and 1:1 vertically. Equipment and software settings of the profile testing device and analysis equipment shall be set to those values approved through the PEV Program.

The Engineer may retest the pavement at any time to verify the accuracy of the equipment.

This work shall include all testing, corrective work, retesting, equipment, materials and labor as specified. This work will not be paid for separately but shall be included in the contract unit price per square yard for PORTLAND CEMENT CONCRETE PAVEMENT (JOINTED), of the thickness specified.

**42400410 PORTLAND CEMENT CONCRETE SIDEWALK 8 INCH**

**Description**

This work shall be completed according to Section 424 of the Standard Specification and the following additional requirements:

Woven wire fabric with woven wire fabric supports shall be placed at 1/3 depth from the bottom of concrete.

The woven wire fabric and supports will not be paid for separately, but shall be included in the pay item for PORTLAND CEMENT CONCRETE SIDEWALK 8 INCH.

**44000100 PAVEMENT REMOVAL**

**44000200 DRIVEWAY PAVEMENT REMOVAL**

**44000600 SIDEWALK REMOVAL**

**44003100 MEDIAN REMOVAL**

**Description**

This work shall consist of the removal of the existing pavement, sidewalk and median in accordance with the applicable articles of Section 440 of the Standard Specifications and the following additional requirements:

**Construction Requirements**

Locations of brick sidewalk and curb at the back of sidewalk will need to be removed as part of the construction. The quantity of these areas are included in the quantity for SIDEWALK REMOVAL. Note locations on plans where care should be taken when removing sidewalk near trees to remain.

The existing pavement, sidewalk, driveways, and median structures within the project limits vary both in type and thickness throughout. The best available information, based on original construction plans and some pavement coring, is shown in the existing typical sections. No additional compensation will be allowed for sections of pavement that may deviate from the type and depth information provided on the existing typical sections

**Measurement and Payment**

This work will be measured and paid for at the contract unit price per square foot for SIDEWALK REMOVAL and MEDIAN REMOVAL and per square yard for PAVEMENT REMOVAL and DRIVEWAY PAVEMENT REMOVAL

**44200994 CLASS B PATCHES, TYPE II, 12 INCH**

**44200998 CLASS B PATCHES, TYPE III, 12 INCH**

**44201000 CLASS B PATCHES, TYPE IV, 12 INCH**

**Description**

This work shall consist of the removal of the existing pavement, the necessary excavation and the replacement with the class and type of patch specified at the designated locations. This work shall be done in accordance with Section 442 of the Standard Specifications and plan details except as modified below.

**Construction Requirements**

The patch depth may vary based upon the existing pavement thickness. All patches shall be constructed to the existing pavement grade prior to surface milling the roadway

The installation of the dowel bars and saw cutting will not be paid for separately but will be included in the cost of the Class B Patches pay items.

**Measurement and Payment**

This work will be measured for payment at the contract unit price per square yard for CLASS B PATCHES, of the type and thickness specified.

**44400100 FIBER GLASS FABRIC REPAIR SYSTEM**

This work shall consist of furnishing and installing a fiberglass fabric repair system, prior to placement of a hot-mix asphalt surface course, in accordance with Section 444 of the Standard Specifications and the following additions or exceptions.

The paving mat shall be Owens Corning TRUPAVE Engineering Paving Mat as distributed by TenCate Mirafi. The paving mat shall be constructed of a single layer of wet-formed nonwoven material consisting of at least 60% fiberglass (by weight), the remainder comprised of polyester and binder, heat set to provide multi-directional tensile strength conforming to the test methods and physical properties shown in the chart below. The material shall have a minimum average roll value (MARV) unit weight of 4.0 oz./SY. The material shall be resistant to chemicals, mildew, rot, and shall not have any tears or holes that will adversely affect the in-situ performance and physical properties of the installed material.

Physical Properties and Testing Methods of Engineered Paving Mat

Property	ASTM Test Method	Units	Nominal Value	Minimum Value
Tensile Strength (MD)	D5035	lbf / 2in	80	45
Tensile Strength (CD)			70	45
Tensile Strength (Bias Angle)			70	
Elongation at Max Load (MD/CD)		%	< 5%	
Melting Point	D276	°F	446	
Asphalt Retention	D6140	gal / yd <sup>2</sup>	0.18	
Mass Per Unit Area	D5261	oz / yd <sup>2</sup>	4.0	

The manufacturer of the mat shall furnish a letter of certification cover the physical and engineering properties of the mat. A letter of certification shall be furnished with each shipment stating that the mat complies with these specification requirements.

The paving roll shall be wrapped in protective wrapping. A durable label shall be on the outside of the wrapping indicating manufacturer, product name or style number, roll and lot number, and roll dimensions.

The paving mat rolls shall be delivered, stored and handled in a manner to prevent damage. The paving mat rolls shall be inspected for defects and damage after unloading. The paving mat shall be stored per the manufacturer’s recommendations – in a dry, covered condition free from dust, dirt and moisture. The paving mat rolls shall be stored off the ground, protected from precipitation, ultraviolet radiation, strong chemicals, sparks, flames, temperatures in excess of 160 degrees Fahrenheit and other environmental conditions that could cause damage.

Installation shall be performed or supervised by a trained and experienced installer certified by the manufacturer or their agent(s).

Surface Preparation. All areas of base failure shall be removed and replaced in accordance with these special provisions and as directed by the Engineer.

Prior to mat placement, the final surface texture to be overlaid shall have gaps no greater than ¼ inch. This may be obtained through placement of an asphalt leveling course or “finish grinding”. When “finish grinding” is used as an alternative to an asphalt leveling course, all cracks ¼ inch deep or greater must be filled and brought to the level of the existing surface to be overlaid.

Immediately prior to placement of paving mat, the pavement shall be dry, cleaned of loose and extraneous materials such as, but not limited to, vegetation, sand, dirt, gravel, and water.

Ambient temperature for installation of mat should be 40 degrees Fahrenheit or higher.

Mat shall be installed to the surface using mechanically powered installation equipment or by hand installed means. Mechanical equipment shall be capable of installing full width rolls of up to 12.5 feet in width. The installation by hand may also be used in situations where areas require specially cut sections, and/or where mechanically installed methods cannot be accomplished. If manual laydown methods are used, the paving mat shall be unrolled, aligned, and placed in increments of approximately 30 feet. To ease installations around curves, the paving mat can be placed in shortened lengths by mechanical equipment or by hand.

The material shall be placed flat and wrinkle-free. Brooms or squeegees shall be used to remove any air bubbles and ensure paving mat is completely in contact with the tack-coated surface. If wrinkles occur, any wrinkle (1 inch) shall be slit and lapped in the direction of paving and seated into the tack coat to ensure adhesion.

Paving mat shall be overlapped to provide a minimum of 2 inches longitudinally and a minimum of 4 inches transversely. Overlaps on the transverse roll ends shall be in the direction of the paving operation to avoid paving mat pick-up during asphalt installation. All overlapping of paving mat shall be tack coated to ensure proper adhesion.

Tack coat application. The asphalt tack coat shall be hot applied asphalt cement meeting grade requirements of AC, AR, or PG specifications. Every effort should be made in order to install paving mat over hot asphalt tack coat. It is recommended that an AC-20, PG64-22, AR-8000 (see **NOTE**), or a 60-80 penetration grade of asphalt be applied for normal installations and temperatures. For extremely high summertime temperatures (above 90°F) higher viscosity asphalt should be used. AC-30, PG70-22, AR-8000 (see **NOTE**), or 40-60 penetration grades are appropriate. Optimum tack temperature is between 350°-400°F at the installation point. **NOTE: Residue grades such as AR grades do not specify initial viscosity. Bituminous materials specified for engineered paving mat installation should have initial or un-aged viscosities corresponding to the above AC grades.**

The tack coat application rate shall be 0.20 gal/sy. At the discretion and direction of the Engineer, the application rate may be increased for heavily aged, deteriorated pavements, or fine milled surfaces (0.20-0.25 gal/sy). In the event that the Contractor has applied less and/or more tack coat than is required, the Engineer shall direct the Contractor to make the necessary adjustments to the equipment to achieve the desired result. The use of cutbacks, emulsion or materials containing solvents shall NOT be permitted for use as tack coat.

Application procedures. The tack coat application shall be applied using a mechanically operated distributor truck, calibrated to meet the specified application rate as called for in the plans and specifications. The tack coat application temperatures shall be sufficiently hot so as to ensure

proper coverage and proper adhesion of the paving mat to the pavement surface. The use of hand sprayers, squeegee and or brush-applied tack coat may be used in locations where the distributor truck cannot reach. Every effort shall be made to minimize the application of tack coat by hand applied means. The tack coat shall be applied in a uniform application to sufficiently cover the surface prior to the installation of the paving mat. The surface shall be dry and free and clear of all debris and loose materials prior to the installation of the tack coat. Any and all pavement repairs to be made shall be made at the direction of the Engineer prior to the installation of the tack coat.

The application width of tack coat shall be sufficiently wide to cover the entire width of the paving mat, plus any additional width required for overlapping joints. The tack coat shall be applied only as far in advance of the mat installation to ensure a tacky surface at the time of the mat installation. Traffic shall not be permitted to drive on the tack coat at any time.

Excess tack coat shall be cleaned from the pavement. In the event that installation operations must be curtailed, best practice is to barricade the affected area where the tack coat and mat have been installed, preventing vehicular traffic from driving on the prepared surface. In instances where the best practice is not feasible, the pavement may be opened to traffic after installation of engineered paving mat at the Engineer's discretion.

Turning of construction equipment and other vehicles shall be gradual and kept to a minimum to avoid damage to the paving mat. If excessive heat, overspray or turning cannot be eliminated, then use of clean blotting sand or broadcasting bituminous asphalt mix over the paving mat shall be utilized to minimize and prevent construction and/or paving tires/tracks from adhering to the tack coat and pulling up the mat. Excess blotting sand shall be removed before placement of the hot mix asphalt pavement over the paving mat.

In the event that the paving mat has been displaced from the surface, additional rolling and or hand-brushing will be required to restore the bond between the surface and paving mat. An additional application of tack may be required to ensure adhesion. Additional tack coat or labor shall not be paid for as an extra and shall be considered incidental to the installation of the paving mat.

Placement of the paving fabric shall be measured in place as installed per square yard. Overlaps in the paving mat will not be measured for payment.

The work shall be paid for at the contract unit price per square yard for FIBERGLASS FABRIC REPAIR SYSTEM and shall include furnishing of labor, tools and equipment, materials (including asphalt tack coat), and incidentals required for furnishing and placing of paving mat.

### **CONNECTING INTO EXISTING MANHOLES AND STORM SEWERS**

At locations indicated in the plans, proposed storm sewers are to be connected into existing manholes or existing storm sewers. These connections shall be made by core drilling holes in the structures or pipes and constructing brick and masonry around the connections to prevent leakage. This work will not be paid for separately, but shall be considered as included in the contract unit prices for storm sewers of the size and type specified, and no additional compensation will be allowed.

**EXISTING SEWERS AND DRAINAGE STRUCTURES TO BE PLUGGED**

Existing sewers to be removed shall only be abandoned in place if it is not feasible to remove them based on field conditions and approval of the Engineer. Where existing sewers are abandoned, or as directed by the Engineer, the abandoned sewers and drainage structure openings which remain shall be plugged with concrete or brick masonry plugs and filled with CLSM in a workmanlike manner and to the satisfaction of the Engineer. This work will not be paid for separately but will be considered as included in the contract unit prices for the various storm sewer pay items and no additional compensation will be allowed.

<u>Z0056642</u>	<u>STORM SEWERS, TYPE 1, WATER MAIN QUALITY PIPE, 6"</u>
<u>Z0056648</u>	<u>STORM SEWERS, TYPE 1, WATER MAIN QUALITY PIPE, 12"</u>
<u>Z0056650</u>	<u>STORM SEWERS, TYPE 1, WATER MAIN QUALITY PIPE, 15"</u>
<u>Z0056668</u>	<u>STORM SEWERS, TYPE 1, WATER MAIN QUALITY PIPE, 18"</u>
<u>Z0056669</u>	<u>STORM SEWERS, TYPE 2 WATER MAIN QUALITY PIPE, 15"</u>
<u>Z0056670</u>	<u>STORM SEWERS, TYPE 2 WATER MAIN QUALITY PIPE, 18"</u>

Description

STORM SEWER, WATER MAIN QUALITY PIPE are being used to satisfy the EPA requirements for vertical and horizontal separation of water mains from sewers as outlined in Section 41-2.01A and 41-2.01B, respectively, of the Standard Specifications for Water and Sewer Construction in Illinois, dated 2014.

Construction Requirements

The storm sewer shall be constructed to the lines and grades shown in the plans and according to applicable portions of Section 550 of the Standard Specifications and as specified herein.

Materials permitted and methods of construction are given below:

Plastic Pipe shall be used for water main quality storm sewer, and shall be installed at locations shown in the plans. The plastic pipe shall be according to Section 40-2.01C, ASTM D 2241 and Section 40-2.05B of the Standard Specifications for Water & Sewer Construction in Illinois, dated 2014. The Contractor shall install the pipe size specified or the next larger pipe size available, and methods of construction shall be in accordance with Section 550 of the Standard Specifications for Road and Bridge Construction. The pressure testing required by Section 41-2.14 of the Standard Specifications for Water and Sewer Construction in Illinois, 2014 shall include a hydrostatic head to the top of casting elevation of the lower manhole on the run, or as otherwise shown in the plans.

Basis of Payment

This work will be measured according to Article 550.09 of the Standard Specifications for Road and Bridge Construction and shall be paid for at the contract unit price per linear foot STORM SEWERS WATER MAIN QUALITY PIPE, of the type and size specified in the plans. This payment shall include the excavation, placement, and backfilling and shall be according to the applicable portions of Section 550 of the Standard Specifications except as otherwise described herein and no additional compensation will be allowed.



## **TEMPORARY DRAINAGE INTO PROPOSED DRAINAGE STRUCTURES**

This work shall consist of providing temporary drainage into any proposed drainage structure that is to be constructed in sag locations. These sag locations shall also be interpreted to include side streets. This work shall consist of a 4 inch (100-mm) PVC or polyethylene pipe installed from the surface of the proposed widening material into the proposed drainage structure near the 'resurfacing lip 'on the combination concrete curb and gutter. The 4-inch (100-mm) pipe shall be cut flush with the proposed widening material as directed by the Engineer. Prior to the final resurfacing operations, the 4-inch (100-mm) pipe shall be filled with concrete.

This work will not be paid for separately but shall be considered as included in the contract unit price for the various pay items involved and no additional compensation will be allowed.

<b><u>55100300</u></b>	<b><u>STORM SEWER REMOVAL 8"</u></b>
<b><u>55100400</u></b>	<b><u>STORM SEWER REMOVAL 10"</u></b>
<b><u>55100500</u></b>	<b><u>STORM SEWER REMOVAL 12"</u></b>
<b><u>55100700</u></b>	<b><u>STORM SEWER REMOVAL 15"</u></b>

### **Description**

This work shall consist of the removal and disposal of existing storm sewers at the locations shown on the plans in accordance with Section 551 of the Standard Specifications and as directed by the Engineer. Storm sewer materials determined not to be salvageable by the Engineer shall be disposed of by the Contractor in accordance with Article 202.03 of the Standard Specifications. Excavations resulting from the removal of the storm sewers that are within two feet of paved surfaces shall be backfilled with trench backfill. Trench Backfill shall not be paid for separately, but shall be included in the contract unit price per foot for STORM SEWER REMOVAL.

### **Measurement and Payment**

This work will be measured for payment at the contract unit price per foot for STORM SEWER REMOVAL of various sizes, which price shall be considered payment in full for all labor, equipment, and materials required for the satisfactory removal and disposal of the existing storm sewers

## **MANHOLES AND INLETS**

### **Description**

This work shall consist of the construction of manholes and inlets in accordance with Section 602 of the Standard Specifications and the details of Highway Standard Drawings 602306 and 602401, except that these structures shall be constructed with precast concrete flat slab tops as detailed in Standard Drawing 602601 and the flat slab top details for manholes with double openings. Any necessary lengths of 24-inch diameter risers required to achieve the top-of-frame elevations as shown in the plans shall also be included. All manholes shall be Type A.

### **Measurement and Payment**

This work will be measured for payment at the contract unit price each for MANHOLES or INLETS, of the specified type and diameter, with frame and grate or lid. The price shall include the cost of all excavation and backfill, furnishing and installing the manholes, inlets, flat slab tops, and any required risers, and furnishing and installing the specified frame and grate or lid.

### **MANHOLES AND INLETS WITH TYPE 3 FRAME AND GRATES**

#### Description

Type 3 frame and grates shall be provided with open face curb boxes. The grates used with the Type 3 frames shall be Neenah Foundry Type “R” or East Jordan Type “M5” for bicycle safety.

#### Measurement and Payment

These frame and grate substitutions will not be paid for separately, but shall be considered as included in the contract unit price for the specified pay items involved.

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

#### **66900200 NON-SPECIAL WASTE DISPOSAL**

#### **66900450 SPECIAL WASTE PLANS AND REPORTS**

#### **66900530 SOIL DISPOSAL ANALYSIS**

#### Description

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 oil excavation for worker protection and soil contamination. 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:

PESA REC Site #35– 810 West Green Street (Hanson Professional Services Inc. Report)  
Station 1300+97.50 (start of improvements) to Station 1301+75 (P1) (Green Street & Lincoln Avenue intersection), 15 to 50 feet RT, Station 1028+60 to Station 1030+15 (Green Street east of Lincoln Avenue), 46 feet RT to 45 feet LT (810 West Green Street, PESA REC Site #35, Urbana, Champaign County, Illinois) - This material meets the criteria of Article 669.09(a)(3) and shall be managed in accordance to Article 669.09. COCs sampling parameters: Naphthalene, total Xylenes

Any waste generated as a special waste or a waste not certified as a non-special waste from this project should be manifested off-site using the generator number associated with Champaign County. **The generator number for Champaign County is 0198995004.**

Phase I Preliminary Engineering information is available through the District's Environmental Studies Unit and can be viewed at the office of Clark Dietz, Inc., 125 W. Church St., Champaign, IL.

#### Measurement and Payment

This work of removing and disposing of regulated substances including analysis of the materials and reporting will be measured and paid for at the contract unit price per cubic yard for NON-SPECIAL WASTE DISPOSAL; per lump sum for SPECIAL WASTE PLANS AND REPORTS and per each for SOIL DISPOSAL ANALYSIS in accordance with Articles 669.15 and 669.16 of the Standard Specifications.

### **78006100      PREFORMED THERMOPLASTIC PAVEMENT MARKING – LETTERS AND SYMBOLS**

#### Description

This work shall consist of installing preformed thermoplastic pavement markings in accordance with Section 780 of the Standard Specifications, details shown in the plans and the following additional requirements.

#### General Requirements

Preformed thermoplastic markings shall be a durable, high skid resistant, retroreflective pavement marking material suitable for use as bike path and roadway markings. The markings must be a resilient white, yellow or other color thermoplastic product, the surface of which must contain glass beads and abrasives in an alternating pattern. The markings must be resistant to the detrimental effects of motor fuels, lubricants, hydraulic fluids etc. Lines, legends and symbols are capable of being affixed to Hot-Mix Asphalt and Portland Cement Concrete pavements by the use of the normal heat of a propane torch.

The markings must be capable of conforming to pavement contours, breaks and faults through the action of traffic at normal pavement temperatures. The markings shall have resealing characteristics, such that it is capable of fusing with itself and previously applied thermoplastic when heated with the torch.

The markings shall not have minimum ambient and road temperature requirements for application, storage, or handling.

#### Manufacturer Requirements

The manufacturer must be ISO 9001:2008 certified and provide proof of current certification. The scope of the certification shall include manufacture of reflective highway markings.

#### Materials

Performed thermoplastic materials shall be composed of an ester modified rosin resistant to degradation by motor fuels, lubricants etc. in conjunction with aggregates, pigments, binders, abrasives, and glass beads which have been factory produced as a finished product, and meets the requirements of the current edition of the Manual on Uniform Traffic Control Devices for Streets and Highways. The thermoplastic material conforms to AASHTO designation M249-79 (98), with the

exception of the relevant differences due to the material being supplied in a preformed state.

*Graded Glass Beads:*

The material must contain a minimum of thirty percent (30%) intermixed graded glass beads by weight. The intermixed beads shall be clear and transparent. Not more than twenty percent (20%) consists of irregular fused spheroids, or silica. The index of refraction shall not be less than 1.50.

The material must have factory applied coated surface beads and abrasives in addition to the intermixed beads at a rate of 1/2 lb. ( $\pm$  20%) per 11 sq. ft. The surface beads and abrasives must be applied in an alternating arrangement across the surface of the material so that the surface is covered in what is best described as a “checkerboard” pattern of glass beads and abrasive materials. The abrasive material must have a minimum hardness of 8 (Mohs scale). These factory applied coated surface beads shall have the following specifications:

- Minimum 80% rounds
- Minimum refractive index of 1.5
- Minimum SiO<sub>2</sub> Content of 70%;
- Maximum iron content of 0.1%;

Size Gradation		Retained, %	Passing, %
US Mesh	Um		
12	1700	0 - 2%	98 - 100%
14	1400	0 - 6%	94 - 100%
16	1180	1 - 21%	79 - 99%
18	1000	28 - 62%	38 - 72%
20	850	62 - 71%	29 - 38%
30	600	67 - 77%	23 - 33%
50	300	86 - 95%	5 - 14%
80	200	97-100%	0 - 3%

*Pigments:*

**White** - The material shall be manufactured with sufficient titanium dioxide pigment to meet FHWA Docket No. FHWA-99-6190 Table 5 and Table 6 as revised and corrected.

**Red, Blue, and Yellow** - The material shall be manufactured with sufficient pigment to meet FHWA Docket No. FHWA-99-6190 Table 5 and Table 6 as revised and corrected. The yellow pigments must be organic and must be heavy-metal free.

**Other Colors** - The pigments must be heavy-metal free.

*Heating indicators:*

The top surface of the material (same side as the factory applied surface beads) shall have regularly spaced indents. These indents shall act as a visual cue during application that the material has reached a molten state so satisfactory adhesion and proper bead embedment has been achieved and a post-application visual cue that the installation procedures have

been followed.

*Skid Resistance:*

The surface of the preformed retroreflective marking materials, wherein every other shaped portion contains glass beads, or abrasives with a minimum hardness of 8 (Mohs scale), shall upon application provide a minimum skid resistance value of 60 BPN when tested according to ASTM: E 303.

*Thickness:*

The material must be supplied at a minimum thickness of 90 mils (2.29 mm) or 125 mils (3.15 mm).

*Retroreflectivity:*

The preformed retroreflective marking materials upon application shall exhibit adequate and uniform nighttime retroreflectivity. The marking materials shall have the following retroreflectivity as measured using a Delta LTL 2000 or LTL-X Retroreflectometer:

White preformed reflective marking materials—minimum of  $275 \text{ mcd}\cdot\text{m}^{-2}\cdot\text{lx}^{-1}$

Note: Initial retroreflection and skid resistance are affected by the amount of heat applied during installation. When ambient temperatures are such that greater amounts of heat are required for proper installation, initial retroreflection and skid resistance levels may be affected.

*Environmental Resistance:*

The material must be resistant to deterioration due to exposure to sunlight, water, salt or adverse weather conditions and impervious to oil and gasoline.

*Abrasives:*

The abrasives and surface beads must be applied in an alternating arrangement across the surface of the material so that the surface is covered in what is best described as a “checkerboard” pattern of glass beads and abrasive materials. The abrasive material must have a minimum hardness of 8 (Mohs scale).

Construction Requirements

For preformed thermoplastic markings applied on Hot-Mix Asphalt pavements, the materials shall be applied using the propane torch method recommended by the manufacturer. The material must be able to be applied without minimum requirements for ambient and road temperatures and without any preheating of the pavement to a specific temperature. The material must be able to be applied without the use of a thermometer. The pavement shall be clean, dry and free of debris. Supplier must enclose application instructions with each box/package.

For preformed thermoplastic markings applied on Portland Cement Concrete pavements, the same application procedure shall be used as described above. However, a compatible primer sealer shall be applied before application to assure proper adhesion. In addition, grinding of the Portland Cement Concrete pavements will be required per the manufacturer’s recommendations and as directed by the Engineer.

The preformed thermoplastic markings shall be placed in protective plastic film with cardboard stiffeners where necessary to prevent damage in transit. Linear material must be cut to a maximum

of 3' long pieces. Legends and symbols must also be supplied in flat pieces. The cartons in which packed shall be non-returnable and shall not exceed 40" in length and 25" in width, and be labeled for ease of identification. The weight of the individual carton must not exceed seventy (70) pounds. A protective film around the box must be applied in order to protect the material from rain or premature aging.

When placed on existing or proposed concrete surfaces, the pavement surface shall be grooved in preparation for the application of the pavement marking. Grooves shall be cut such that the width is one (1) inch greater than the width of the pavement marking line as specified in the plans. Grooves for letters and symbols shall be cut in a square or rectangular shape so that the entire marking will fit within the limits of the grooved area. The position of the edge of the grooves shall be a minimum of four (4) inches from the edge of all longitudinal joints. The depth of the groove shall not be less than the manufacturer's recommendations for the pavement marking material specified, but shall be installed to a minimum depth of 110 mils and a maximum depth of 200 mils for pavement marking tapes and thermoplastic markings. The cutting head shall be operated at the appropriate speed in order to prevent undulation of the cutting head and grooving at an inconsistent depth.

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

#### Measurement and Payment

This work will be measured and paid for at the contract unit price per square feet for PREFORMED THERMOPLASTIC PAVEMENT MARKING – LETTERS AND SYMBOLS, which price shall include all labor, materials, and equipment specified herein.

### **89502385 REMOVE EXISTING HANDHOLE**

#### Description

This work shall consist of the removal of existing handholes at the locations noted on the plans.

#### Construction Requirements

The handholes shall be completely removed and the grade backfilled using Trench Backfill to match the bottom of the adjacent existing pavement. The removed concrete foundation shall be disposed of by the contractor. Trench Backfill shall not be paid for separately, but shall be included in the contract unit price.

#### Measurement and Payment

This work will be paid for at the contract unit price per each for REMOVE EXISTING HANDHOLE.

### **89502385 REMOVE EXISTING CONCRETE FOUNDATION**

#### Description

This work shall consist of the removal of an existing concrete foundation at the locations noted on the plans.

Construction Requirements

The concrete foundations shall be completely removed and the grade backfilled using Trench Backfill to an elevation one (1) foot below the proposed grade. The removed concrete foundation shall be disposed of by the contractor. Trench Backfill shall not be paid for separately, but shall be included in the contract unit price.

Measurement and Payment

This work will be paid for at the contract unit price per each for REMOVE EXISTING CONCRETE FOUNDATION, which price shall include all labor, materials, and equipment specified herein.

**X0320239 CONCRETE WALL REMOVAL**

Description

This work shall consist of the removal of the existing concrete retaining wall at locations noted in the plans. The existing concrete retaining walls are located behind the existing sidewalk at various locations along the south side of Green Street. The retaining wall is approximately 12 to 18 inches tall. The work shall be performed in accordance with applicable portions of Section 440 of the Standard Specifications.

Measurement and Payment

This work will be paid for at the contract unit price per foot for CONCRETE WALL REMOVAL, which price shall include all labor, materials, and equipment specified herein.

**X0323256 REMOVE AND RELOCATE FLAGPOLE**

Description

This work shall consist of the removal and relocation of the existing flag pole located in front of the University of Illinois Union.

Construction Requirements

The flag pole shall be removed in such a manner that it would be available for reuse. The contractor will be responsible for coordination with the University in regards to storing the flag pole during construction. Upon completion of the construction adjacent to the Union, the contractor will coordinate with the University to determine an acceptable site for the relocation of the flag pole. The contractor will be required to install and stabilize the flag pole to a condition equal to or greater than the existing condition. The contractor will provide a structural design calculation for the installation and anchoring of the flagpole for review prior to re-installation.

The Contractor shall be responsible for the replacement of any damaged parts of the flagpole as a result of his/her operations at no additional compensation.

Measurement and Payment

The removal and relocation of the flag pole shall be paid for at the contract unit price per each for REMOVE AND RELOCATE FLAGPOLE, which price shall include all labor, materials, and equipment specified herein.

**X0323706 TRASH RECEPTACLE RELOCATION**

Description

This work shall consist of the removal of existing trash receptacles along the project corridor at locations noted on the plans.

Construction Requirements

The contractor will be responsible for the removal of trash receptacles. The trash receptacles will be delivered to UIUC F&S Facility, 1501 S. Oak Street, Champaign, IL 61820. The contractor will be responsible to coordinate with the University of Illinois Facilities and Services for delivery.

The Contractor shall be responsible for the replacement of any damaged trash receptacles as a result of his/her operations at no additional compensation.

Measurement and Payment

This work will be paid for at the contract unit price per each for TRASH RECEPTACLE RELOCATION, which price shall include all labor, materials, and equipment specified herein.

**X0327008 RELOCATE SIGN, SPECIAL**

Description

This work shall consist of the removal and relocation of the existing information sign located at the existing University of Illinois Union entrance.

Construction Requirements

The sign shall be removed in such a manner that it would be available for reuse. The contractor will be responsible for coordination with the University in regards to storing the existing sign after removal and during construction. Upon completion of the construction, the contractor will coordinate with the University to determine an acceptable site for the relocation of the sign. The contractor will be required to install and stabilize the sign to a condition equal to or greater than the existing condition.

The Contractor shall be responsible for the replacement of any damage to the sign as a result of his/her operations at no additional compensation.

Measurement and Payment

The removal and relocation of the sign shall be paid for at the contract unit price per each for RELOCATE SIGN, SPECIAL, which price shall include all labor, materials, and equipment specified herein.

**X0327008 REMOVE AND RELOCATE SIGN (SPECIAL)**

Description

This work shall consist of the removal and relocation of the existing building identification signs located along the project limits at locations noted on the plans.

Construction Requirements

The signs shall be removed in such a manner that it would be available for reuse. The contractor will be responsible for coordination with the University in regards to storing the existing sign after removal and during construction. Upon completion of the construction, the contractor will coordinate with the



University to determine an acceptable site for the relocation of the sign. The contractor will be required to install and stabilize the sign to a condition equal to or greater than the existing condition per the standard in the plans

The Contractor shall be responsible for the replacement of any damage to the sign as a result of his/her operations at no additional compensation. Any sign frames needing replaced shall be constructed of aluminum, stainless steel, or brass. All aluminum shall be dark bronze anodized to match Matthews Paint Company #313 dark bronze. This includes frames and panels.

The location for reinstalling the signs shall be coordinated with the University.

Measurement and Payment

The removal and relocation of the sign shall be paid for at the contract unit price per each for REMOVE AND RELOCATE SIGN (SPECIAL), which includes all material, equipment and labor required to complete the work.

**X0327008 REMOVE SIGN (SPECIAL)**

Description

This work shall consist of the removal of the existing signs and foundations located along the project limits at locations noted on the plans.

Construction Requirements

The signs and concrete foundations shall be completely removed and the grade backfilled using Trench Backfill to an elevation one (1) foot below the proposed grade. The removed concrete foundation shall be disposed of by the contractor. Trench Backfill shall not be paid for separately, but shall be included in the contract unit price.

Measurement and Payment

The removal and relocation of the sign shall be paid for at the contract unit price per each for REMOVE SIGN (SPECIAL), which price shall include all labor, materials, and equipment specified herein.

**X0327149 RELOCATE BENCH**

Description

This work shall consist of the relocation of existing benches along the project corridor at locations noted on the plans.

Construction Requirements

The contractor will be responsible for the removal and relocation of the benches. The contractor may be required to temporarily store the benches until construction is complete at the proposed location. Benches not reused shall be delivered to UIUC F&S Facility at 1501 S. Oak St., Champaign, IL 61820.

Measurement and Payment

This work will be paid for at the contract unit price per each for RELOCATE BENCH, which price shall include all labor, materials, and equipment specified herein.

**X0350805 FOLD DOWN BOLLARDS**

Description

This work shall consist of furnishing and installing reboundable delineator marker assemblies according to the manufactures recommended installation instructions at locations shown on the plans or as directed by the Engineer.

Construction Requirements

Bollard Assemblies shall be shall be 42" tubular or 42" cloverleaf shaped markers with two (2) collars consisting of Hi Intensity Reflective Sheeting. The marker shall be constructed of flexible polypropylene or polyurethane plastic that is resistant to light, ozone and hydrocarbons and be yellow in color. Markers shall be designed to rebound from repeated vehicle impacts and meet MUTCD standards. Markers shall be secured to the concrete using anchor bolts as directed by the manufacturer, no adhesives will be allowed for installing the markers. Markers shall be one of the following:

- Tuff Post Hi Performance Channelizer Post by Impact Recovery Systems of San Antonio, TX
- FG 300 Post by Pexco of Alpharetta, Georgia
- 42" Clover-Leaf Road Marker by Traffic Safety Store of West Chester, PA

Measurement and Payment

This work shall be paid for at the contract unit price per each for FOLD DOWN BOLLARDS, which price shall include all labor, materials, and equipment specified herein.

**X0350810 BOLLARD REMOVAL**

Description

This work shall include the removal of existing bollards at locations noted on the plans.

Construction Requirements

The bollards shall be removed in such a manner that they would be available for reuse if required by the University of Illinois. The contractor will be required to transport and deliver the removed bollards to the University of Illinois Facilities and Services office.

Some of the proposed bollards to be removed include an existing chain between the bollards. The contractor will be responsible to remove the chain as part of the bollard removal. Additional compensation will not be allowed for the removal of the existing chain.

Measurement and Payment

The removal of the bollards shall be paid for at the contract unit price per each for BOLLARD REMOVAL, which price shall include all labor, materials, and equipment specified herein.

**X2600011 REMOVE AND RELOCATE SIGN PANEL**

Description

This work shall consist of the removal and reinstallation of the existing sign panels at locations shown on the plans.

Construction Requirements

The sign panels shall be removed in such a manner that they would be available for reuse. The contractor will be responsible for storing the existing sign panels after removal and during construction. Upon completion of the construction, the contractor will reinstall the sign panel at the location noted on the plans. All materials, equipment, and labor required to remove and reinstall the sign panels shall be included in the

contract unit price. Any telescoping steel sign supports required to reinstall the sign panels shall be paid for separately.

The Contractor shall be responsible for the replacement of any damage to the sign panels as a result of his/her operations at no additional compensation.

Measurement and Payment

The removal and installation of the sign panels shall be paid for at the contract unit price per each for REMOVE AND RELOCATE SIGN PANEL, which price shall include all labor, materials, and equipment specified herein.

**X5030225 CONCRETE STRUCTURES (SPECIAL)**

Description

This work shall include construction of concrete retaining walls as shown in the plans. This work shall be done in accordance with Section 503 of the Standard Specifications with the following exceptions.

Construction Requirements

The retaining wall shall be constructed according to the detail shown in the plans.

Structure excavation will be paid for as earth excavation.

The epoxy coated rebar and protective coat will not be paid for separately but shall be included in the cost for CONCRETE STRUCTURES (SPECIAL).

Measurement and Payment

This work shall be paid for at the contract unit price per cubic yard for CONCRETE STRUCTURES (SPECIAL), which includes all labor, equipment, and material required to perform the work as specified herein.

**X5640175 FIRE HYDRANT COMPLETE**

Description

This work shall include the removal and disposal of existing fire hydrants and the installation of new hydrants at locations noted on the plans. This work shall be done in accordance with Article 564 of the Standard Specifications and the following:

Construction Requirements

The existing fire hydrants and valves shall be completely removed. Where the proposed fire hydrant is connected to the existing branch connection, no new fitting shall be required. Where the proposed fire hydrant requires a new branch connection, the existing fitting shall be replaced with a new tee fitting placed appropriately for the proposed hydrant.

Fire hydrants shall comply with AWWA Standard C509 and compatible with Mueller or Waterous hydrants. Fire hydrants shall use national standard threads. The hydrant shall be equipped with a secondary gate valve designed for a 200 psi working pressure. All fittings shall have mechanical joints.

The minimum bury depth for the branch connections is 42" from grade to the top of pipe. At least 7.5 cubic feet of rock shall be placed around each fire hydrant to prevent freeze-up and allow drainage. Thrust blocks shall be provided at all points where there is the possibility of joint separation and shall be in accordance with AWWA Standard C600.

Fire hydrant shall be painted red.

All materials, equipment, and labor required to perform the work described above shall be included in the cost per each for FIRE HYDRANT COMPLETE.

Prior to starting this work, the Contractor shall be required to obtain written permission from Keith Erickson with the University of Illinois Facilities and Services. All work shall be coordinated with the University.

Measurement and Payment

The removal and installation of fire hydrants shall be paid for at the contract unit price per each for FIRE HYDRANT COMPLETE.

**X6020082 INLETS, TYPE G-1**

This work shall consist of furnishing all labor, equipment, and material for the construction of Type G-1 Inlets and Combination Concrete Curb and Gutter in accordance with Sections 602 and 606 of the Standard Specifications and the details in the plans.

Add "INLETS, TYPE G-1" to Article 602.16 of the Standard Specifications. Delete the first paragraph in Articles 606.14 and 606.15.

Payment for transitional Combination Concrete Curb and Gutter will be included in "INLETS, TYPE G-1" in accordance with details shown in the plans.

This work will be paid for at the contract unit price per each for INLETS, TYPE G-1.

**X6022230 MANHOLE, TYPE A, 4' DIAMETER, WITH SPECIAL FRAME AND GRATE**

Description: This work shall consist of furnishing and installing Manholes of the type and frame noted on the plans including all equipment, labor, and materials for the construction of MANHOLE, TYPE A, 4' DIAMETER, WITH SPECIAL FRAME AND GRATE in accordance with Section 602 of the Standard Specifications.

Basis of Payment: This work will be paid for at the contract unit price per each for MANHOLE, TYPE A, 4' DIAMETER, WITH SPECIAL FRAME AND GRATE.

**X6023508 INLETS, TYPE A, WITH SPECIAL FRAME AND GRATE**

Description: This work shall consist of furnishing and installing Inlets of the type and frame noted on the plans including all equipment, labor, and materials for the construction of INLETS, TYPE A, WITH SPECIAL FRAME AND GRATE in accordance with Section 602 of the Standard Specifications.

Basis of Payment: This work will be paid for at the contract unit price per each for INLETS, TYPE A, WITH SPECIAL FRAME AND GRATE.

**X6024502 INLETS, TYPE B, WITH SPECIAL FRAME AND GRATE**

Description: This work shall consist of furnishing and installing Inlets of the type and frame noted in the plans including all equipment, labor, and materials for the construction of INLETS, TYPE B, WITH SPECIAL FRAME AND GRATE in accordance with Section 602 of the Standard Specifications.

Basis of Payment: This work will be paid for at the contract unit price per each for INLETS, TYPE B, WITH SPECIAL FRAME AND GRATE.

**X6025600 MANHOLES TO BE ADJUSTED (SPECIAL)**

Description

This work shall consist of adjusting manholes within proposed HMA pavement areas at locations noted in the plans and in accordance with the plan details.

Construction Requirements

This work shall include all labor, material, and equipment necessary to complete the work, including saw cutting, pavement removal, excavation, adjusting rings and Portland cement concrete patch with reinforcement bars as shown in the detail on the plans.

Basis of Payment

This work will be paid for at the contract unit price per each for MANHOLES TO BE ADJUSTED (SPECIAL), which price includes all labor, equipment, and material required to perform the work as specified herein.

**X6026056 SANITARY MANHOLES TO BE ADJUSTED WITH NEW TYPE 1 FRAME CLOSED LID**

Description

This work shall consist of adjusting sanitary manholes with a new frame and lid to the elevations as noted on the plans and any additional materials to complete the work described below and as shown on the manhole adjustment detail sheet at locations shown on the plans or as directed by the Engineer.

Construction Requirements

In areas of HMA overlay, the work shall include full depth saw cutting, full depth pavement removal, and excavation. All sanitary manhole adjustments shall include removal of damaged or deteriorated grade adjustment rings, removal of the manhole frame and cover, replacement of damaged or deteriorated grade adjustment rings, installation of new Type 1, Frame and Closed Lid, and placement of plasticized concrete patch with reinforcement bars.

No external chimney seal is required for manhole adjustments.

Precast concrete adjusting rings or cast-in-place concrete shall be constructed to adjust structure to the required elevation. Manhole castings shall be Neenah R-1713 with Type B self-sealing lid, with "UCSD Sanitary" cast in lid.

For placing of castings adjacent to rigid pavement, the castings shall be placed in full mortar beds.

Castings shall be set to the finished pavement elevation so no subsequent adjustment will be necessary.

Basis of Payment

This work shall be paid for at the contract unit price per each for SANITARY MANHOLES TO BE ADJUSTED WITH NEW TYPE 1 FRAME, CLOSED LID.

**X6061815 COMBINATION CONCRETE CURB AND GUTTER, TYPE M (SPECIAL)**

Description

This work shall consist of constructing concrete curb and gutter in accordance with Article 606 of the Standard Specifications and the following additional requirements:

Construction Requirements

The combination concrete curb and gutter shall be constructed at locations noted in the plans and according to the plan details.

Measurement and Payment

This work will be paid for at the contract unit price per foot for COMBINATION CONCRETE CURB AND GUTTER, TYPE M (SPECIAL), which price shall include all labor, materials and equipment necessary to perform the work as specified herein.

**X6331110 STEEL POSTS, SPECIAL**

Description

This work shall consist of the installation of steel posts along the project corridor at locations noted on the plans.

Construction Requirements

The post shall be installed in accordance with the plan details. A standard meter post should be made from heavy galvanized pipe. The pipe should measure 2 3/8" O.D. and 2 1/16" I. D. The pipe should be set in a full concrete base 2 feet below grade. The finish elevation for the top of the pipe should be 3 feet above grade. The pipe should be checked for plumb before set in concrete. The concrete around the base of the pipe should be finished to drain water away from the base of the pipe.

Once the steel posts are installed, UIUC Parking Department will re-install the parking meter heads.

Measurement and Payment

This work will be paid for at the contract unit price per each for STEEL POSTS, SPECIAL, which shall include all materials, equipment and labor to complete the work.

**X6640100 FENCE RAIL REMOVAL**

Description

This work shall include the removal of existing ornamental fencing at locations noted on the plans.

Construction Requirements

The ornamental fence shall be removed completely and disposed of by the contractor. The fence will not be reinstalled as part of the proposed construction.

Measurement and Payment

The removal of the ornamental fencing shall be paid for at the contract unit price per foot for FENCE RAIL REMOVAL.

**X7240505 RELOCATE SIGN PANEL AND POST**

Description

This work shall consist of the removal and relocation of the existing parking fee collection sign located at the existing Illinois University Union entrance.

Construction Requirements

The sign shall be removed in such a manner that it would be available for reuse. The contractor will be responsible for coordination with the University in regards to storing the existing sign after removal and during construction. Upon completion of the construction, the contractor will coordinate with the University to determine an acceptable site for the relocation of the sign. The contractor will be required to install and stabilize the sign to a condition equal to or greater than the existing condition.

The Contractor shall be responsible for the replacement of any damage to the sign as a result of his/her operations at no additional compensation.

Measurement and Payment

The removal and relocation of the sign shall be paid for at the contract unit price per each for RELOCATE SIGN PANEL AND POST

**X8140115 HANDHOLE TO BE ADJUSTED**

Description

This work shall consist of adjusting handholes to the elevations as noted on the plans.

Construction Requirements

The existing frame and lid shall be removed and the handhole removed to a depth to allow for the reconstruction of the handhole to the proposed elevation. All material, labor, and equipment necessary to complete this work shall be included in the unit price.

Measurement and Payment

This work shall be paid for at the contract unit price per each for HANDHOLE TO BE ADJUSTED.

**XX000300 CONCRETE STEPS**

Description

This work shall consist of the construction of concrete steps at locations noted on the plans.

Construction Requirements

The existing sidewalk shall be saw cut at the limits of the concrete steps or sidewalk to be removed as

required. All debris resulting from this operation shall be removed from the project site. Preformed Expansion Joint Filler will be placed at the saw cut location between the existing sidewalk and the proposed concrete steps or sidewalk. The concrete steps shall be constructed in accordance with the details noted on the plans. All reinforcement shall be epoxy coated and shall be included in the cost of the Concrete Steps.

Measurement and Payment

This work will be paid for at the contract unit price per square foot for CONCRETE STEPS. The price will include all materials, equipment and labor necessary to complete the work.

**XX002090 STAIR SIDE RAILING**

Description

This work shall consist of the constructing stair railings in accordance with Section 509 of the Standard Specifications and the detail drawings shown in the plans. The railing system shall be galvanized and painted.

Construction Requirements

The handrail shall be furnished and installed in accordance with Section 509 of the Standard Specifications and the details noted in the plans.

Painting Requirements

All weld flux and other contaminates shall be mechanically removed. All surfaces shall be degreased, cleaned, and air dried to assure all moisture is removed. All galvanized exterior surfaces shall be coated with a urethane or triglycidyl isocyanurate (TGIC) polyester powder to a dry film thickness of 2.0 mils. The painting shall be in accordance with the applicable Articles of Sections 506 and 509 of the Standard Specifications. The paint finish shall be powder type and the color shall be black. Any damage to the finish after leaving the shop facility shall be repaired to the satisfaction of the Engineer using a method approved by the Engineer.

Measurement and Payment

This work will be paid for at the contract unit price per foot for STAIR SIDE RAILING. The price will include all labor, equipment and materials, including rails, posts, anchor devices and painting.

**XX003000 CLASS SI CONCRETE STEPS**

Description

This work shall consist of construction of Class SI Concrete Steps at locations noted on the plans.

Construction Requirements

The existing sidewalk shall be saw cut at the limits of the concrete steps or sidewalk to be removed as required. All debris resulting from this operation shall be removed from the project site. Preformed Expansion Joint Filler will be placed at the saw cut location between the existing sidewalk and the proposed concrete steps or sidewalk. The concrete steps shall be constructed in accordance with the details noted on the plans. All reinforcement shall be epoxy coated and shall be included in the cost of the Class SI Concrete Steps.

Measurement and Payment

This work will be paid for at the contract unit price per cubic yard for CLASS SI CONCRETE STEPS.



The price will include all materials, equipment and labor necessary to complete the work.

**XX002260     STRUCTURE TO BE ABANDONED**

Description

This work shall consist of the partial removal and filling of existing abandoned utility structures along Green Street at locations noted in the plans.

Construction Requirements

The top of the structures shall be removed to a depth at least 6" below the proposed subgrade elevation. The structures shall then be backfilled with controlled low strength material (CLSM) to the proposed subgrade elevation. CLSM will not be paid for separately but shall be included in the unit cost.

The structure to be removed at Sta. 107+37.18, 5.54' LT located in the proposed Green St. roadway shall be coordinated with Chuck Kammin from the University of Illinois Utilities Distribution – Facilities and Services prior to any work being completed. The University will need 1-2 days to perform work on the adjacent electric manhole. The contractor will then be required to remove the top of both structures and backfill each. Each structure shall be paid for separately.

Measurement and Payment

The removal and backfilling of each structure shall be paid for at the contract unit price per each for STRUCTURE TO BE ABANDONED.

**XX006496     PORTLAND CEMENT CONCRETE SIDEWALK AND CURB WALL**

Description

This work shall consist of construction of Portland Cement Concrete Sidewalk and Curb Wall in accordance with Sections 424 and 503 of the Standard Specifications at locations noted on the plans.

All reinforcement shall be epoxy coated and shall be included in the cost of the Portland Cement Concrete Sidewalk and Curb Wall. Any protective coat required by the Engineer shall be included in the cost of the Portland Cement Concrete Sidewalk and Curb Wall.

Excavation shall be paid for as EARTH EXCAVATION.

Measurement and Payment

This work will be paid for at the contract unit price per cubic yard for PORTLAND CEMENT CONCRETE SIDEWALK AND CURB WALL. The price will include all materials, equipment and labor necessary to complete the work.

**XX006821     CONCRETE TRUCK WASHOUT**

Description

This work shall consist of the construction of concrete truck washout at locations approved by the Engineer.

Construction Requirements

The concrete truck washout shall be constructed and maintained in accordance with the plan details. No additional compensation will be allowed for maintaining, moving, or reconstructing the washouts.

Measurement and Payment

This work will be paid for at the contract unit price per lump sum for CONCRETE TRUCK WASHOUT. The price will include all materials, equipment and labor necessary to construct and maintain the facilities.

**XX007325 REMOVE EXISTING TRAFFIC SIGNAL POST**

Description

This work shall consist of the removal of existing traffic signal posts and foundations at the locations noted on the plans.

Construction Requirements

The post and concrete foundations shall be completely removed and the grade backfilled using Trench Backfill to an elevation six (inches) below the proposed grade. The removed post and concrete foundation shall be disposed of by the contractor. Trench Backfill shall not be paid for separately, but shall be included in the contract unit price of this item.

Measurement and Payment

This work will be paid for at the contract unit price per each for REMOVE EXISTING TRAFFIC SIGNAL POST.

**Z0004002 BOLLARDS**

Description

This work shall consist of furnishing and installing bollards with eyelets and a chain at locations noted on the plans.

Construction Requirements

The bollard shall be San Francisco style bollards with eyelets as distributed by Urban Accessories, made from 100% recycled aluminum per ASTM B26. All parts shall be powder coated in semi-gloss black in accordance with the following specifications:

1. All parts are Media Blast prepared.
2. A Zinc Rich Primer is applied at 2.5 to 3.0 mils and cured for 15 minutes at 400 degrees.
3. Finish coat is applied at 2.5 to 3.0 mils and cured for 25 minutes at 400 degrees.

The bollard shall be cast in concrete as shown in the detail in the plans. The cost for the concrete foundation and rebar will not be paid for separately, but shall be included in the cost of the bollards.

The chain shall be ¼" steel chain, galvanized then powder coated black. The chain will not be paid for separately, but shall be included in the cost of the bollards.

Measurement and Payment

This work will be paid for at the contract unit price per each for BOLLARDS.

**Z0036700 PARKING METER POSTS TO BE REMOVED**

Description

This work shall consist of the removal of existing parking meter posts along the project corridor at locations noted on the plans.

Construction Requirements

University of Illinois Champaign Urbana (UIUC) Parking will remove all signs and meter heads just prior to the start of construction at the Illini Union. The Contractor shall give UIUC parking two weeks' notice to complete this work. Once the meter is removed, the parking meter post and foundation shall then be completely removed and the grade backfilled using Trench Backfill to an elevation six (inches) below the proposed grade. The removed post and concrete foundation shall be disposed of by the contractor. Trench Backfill shall not be paid for separately, but shall be included in the contract unit price. All materials, equipment and labor necessary to complete the work shall be included in the unit price per each for PARKING METERS TO BE REMOVED.

Measurement and Payment

This work will be paid for at the contract unit price per each for PARKING METERS TO BE REMOVED.

**Z0042300 PORTLAND CEMENT CONCRETE SIDEWALK CURB**

Description

This work shall consist of construction of Portland Cement Concrete Sidewalk Curb in accordance with Section 424 of the Standard Specification at locations noted on the plans.

The concrete sidewalk curb shall be constructed in accordance with the details noted on the plans. All reinforcement shall be epoxy coated and shall be included in the cost of the Portland Cement Concrete Sidewalk Curb.

Measurement and Payment

This work will be paid for at the contract unit price per cubic yard for PORTLAND CEMENT CONCRETE SIDEWALK CURB. The price will include all materials, equipment and labor necessary to complete the work as specified herein.

**Z0038700 PERMANENT BENCH MARKS**

Description

This work shall consist of constructing a permanent bench mark in accordance with the applicable portions of the National Geodetic Survey publication "Bench Mark Reset Procedures", the details of Highway Standard 668001, and the following additions or exceptions.

Construction Requirements

University of Illinois Bench Marks #142 in the center median and #USGS 1987 at the southeast corner of Lincoln and Green shall be reset at the locations shown on the plans or as directed by the Engineer. The concrete encasement shall be constructed in accordance with the details of Highway Standard 668001 except that the depth of the encasement shall be 4'-0". The University of Illinois will provide the tablet for the bench marks. The Contractor shall contact Chad Kupferschmid at the University of Illinois (217-244-0407) to obtain the tablet.

The Contractor shall establish the elevation of the proposed bench mark and reset the bench mark in accordance with the publication "Bench Mark Reset Procedures". The proposed bench mark elevation shall be based directly on the University of Illinois Bench Mark #142, Elevation = 718.895. In addition, the proposed bench mark elevation for #USGS 1987 shall be based directly on the University of Illinois Bench Mark #USGS 1987, Elevation = 718.160. The datum for the benchmarks is NGVD1929. Therefore, this work must be completed prior to removing or disturbing the existing benchmarks.

All survey related work shall be performed by, or under the direct supervision of, an Illinois Professional Land Surveyor and shall certify that the new benchmark elevation has been determined using 3<sup>rd</sup> order accuracy leveling procedures. The Contractor shall provide a copy of all field notes and a location tie sheet to the Engineer upon completion of the work.

Basis of Payment

This work will be paid for at the contract unit price each for PERMANENT BENCH MARKS, which price shall include all labor, material, and equipment necessary to complete the work as specified, including the services of an Illinois Professional Land Surveyor.

## **TRAFFIC SIGNAL SPECIFICATIONS**

### **89500300 RELOCATE EXISTING ILLUMINATED SIGN**

This work shall consist of relocating and installing the existing internally illuminated street sign from the mast arm in the southeast quadrant of the Wright Street and Green Street intersection to the proposed mast arm in the same quadrant. The work shall be done in accordance with the Standard Specifications for Road and Bridge Construction and the following additions or exceptions.

1. Wiring: All wiring from the traffic signal controller cabinet to the sign shall be No. 14 AWG three conductor signal cable in accordance with Section 873 of the Standard Specifications. Wire connections shall be made with insulated compression wire nuts. The cost of all wiring and associated labor shall be included in the cost of this pay item.
2. Mounting Hardware: The mounting hardware shall allow swinging of the sign to reduce mast arm wind loads. Brackets shall be adjustable for leveling the sign for use on any size mast arm. Brackets shall be cleaned, prepared, primed, and finished with a standard black finish.

**Basis of Payment:** This work will be paid for at the contract unit price each for RELOCATE EXISTING ILLUMINATED SIGN, which price shall include all material, labor, and equipment to complete the work described above.

### **89502200 MODIFY EXISTING CONTROLLER**

This work shall consist of modifying the existing controller and cabinet at the intersection of Goodwin Avenue and Green Street as indicated on the plans in accordance with Section 857 and 895 of the Standard Specifications for Road and Bridge Construction and the following additions or exceptions.

The existing inductive loop detector system shall be removed and replaced by the proposed thermal vehicle detection system. This pay item shall include any labor or materials required to change the detection system to thermal vehicle detection.

The proposed intersection phasing and timings shall be changed to include a leading bicycle interval per the plans. The timings should be implemented and verified with the Engineer.

**Basis of Payment:** This work will be paid for at the contract unit price each for MODIFY EXISTING CONTROLLER of the type and length indicated on the plan for supplying and installing the signal post.

### **85700200 FULL-ACTUATED CONTROLLER AND TYPE IV CABINET**

This work shall consist of furnishing and installing a traffic actuated solid state digital controller in the controller cabinet of the type specified with peripheral equipment. This work shall be performed in accordance with Section 857 of the Standard Specifications, the details in the plans, and the following additions or exceptions.

The full-actuated controller shall be the Siemens EPAC M52 TS2 Type 2 controller with fiber modem.

The anti-backup feature for controller programming required in Article 1073.01(c) of the Standard Specifications shall have the following added to the definition shown in Article 1073.01(a): "The components used to accomplish this feature shall be hardwired on the controller cabinet back panel and labeled for identification."

The controller cabinet shall be constructed of aluminum.

The controller cabinet shall have a detector test panel installed, properly wired to the back panel, and located on the interior of the service door. It shall be possible to register an input call by means of one 3-position switch per each phase. The switch positions shall be off, on, and test. The test position shall be a momentary closure position which returns to the on position upon release. The test position shall allow a call to be manually places to the controller for that phase. The call will be serviced as an actual call from a field detector. Each switch shall be properly identified per phase.

The controller cabinet shall contain the circuit breakers, lighting contactor, and Hand-Off-Auto switch as shown in the "Traffic Signal Controller Installation Diagram" included in the plans. All circuit breakers shall be clearly labeled. The lighting contactor shall be manufactured by Square D and shall be a minimum of 4 pole, 30 amp, 240 VAC with 120 VAC electrically held coil. The Hand-Off-Auto switch shall be manufactured by Square D and shall be connected such that the lights are on in the Hand position and are controlled by the photocell in the Auto position.

The controller cabinet shall contain the necessary rack space and power supply required for the THERMAL VEHICLE DETECTION SYSTEM.

The controller cabinet shall contain separate ground and neutral buses. The neutral bus shall be electrically isolated from ground. The controller cabinet shall be bonded to the equipment grounding conductor in accordance with the NEC and the NESC.

**Basis of Payment:** This work will be paid for at the contract unit price each for FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, which price shall include all labor, equipment, and material necessary to complete the work as specified.

**88700200 LIGHT DETECTOR**

**88700300 LIGHT DETECTOR AMPLIFIER**

This work shall be performed in accordance with Section 887 of the Standard Specifications, the details in the plans, and the following additions or exceptions.

The emergency vehicle priority system shall be the Opticom.

Bidirectional light detectors shall be provided. A bidirectional light detector shall be considered as one unit. The system shall be installed in accordance with the manufacturer's instructions. The system shall include a card rack for the light detector amplifier.

A confirmation beacon shall be installed for each direction of travel. Furnishing and installing the confirmation beacon shall be included in the cost of the light detector.

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

LIGHT DETECTOR AMPLIFIER, which prices shall include all labor, equipment, and material necessary to complete the work as specified.

**87502680 TRAFFIC SIGNAL POST, ALUMINUM 14 FT.**

This work shall consist of furnishing and installing a traffic signal post of the type and length indicated on the plans in accordance with Section 875 and 1077.01 of the Standard Specifications for Road and Bridge Construction and the following additions or exceptions.

An aluminum collar shall be attached where the post connects to the base. Minimum 1" diameter washers may be used between the post base and the anchor bolts to level the post.

The traffic signal post assembly shall be finished with a standard black finish.

**Basis of Payment:** This work will be paid for at the contract unit price each for TRAFFIC SIGNAL POST of the type and length indicated on the plan for supplying and installing the signal post.

**87702920 STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 38 FT.**

**87702930 STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 40 FT.**

**87702960 STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 46 FT.**

This work shall be performed in accordance with Section 877 of the Standard Specifications, the details in the plans, and the following additions or exceptions.

The pole, base, pole cap, signal arm, and luminaire arm shall have a powder coated black paint finish over galvanized steel. The stainless steel mesh and band at the pole base shall be painted black.

**Basis of Payment**

This work will be paid for at the contract unit price each for STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, of the signal arm length specified, which price shall include all labor, material, and equipment necessary to complete the work as specified.

**87800100 CONCRETE FOUNDATION, TYPE A**

This work shall consist installing a Concrete Foundation, Type A in accordance with Section 878 of the Standard Specifications for Road and Bridge Construction and State Standard 878001 with no exceptions.

The proposed location of the Concrete Foundation, Type A may be moved in the field to avoid conflicts at the approval of the Engineer. If foundation is located in an area not within the removal limits shown on the plans, removal of the existing sidewalk or earth disturbance shall be completed in accordance with Section 895 of the Standard Specifications for Road and Bridge Construction and any applicable notes or Special Provisions provided in these construction documents.

**Basis of Payment:** This work will be paid for at the contract unit price per foot for CONCRETE FOUNDATION, TYPE A, which price shall be payment in full for all labor, material, and equipment

necessary to perform the work described above.

**87800150 CONCRETE FOUNDATION, TYPE C**

This work shall consist installing a Concrete Foundation, Type C in accordance with Section 878 of the Standard Specifications for Road and Bridge Construction and State Standard 878001 with no exceptions.

The proposed location of the Concrete Foundation, Type C may be moved in the field to avoid conflicts at the approval of the Engineer. If foundation is located in an area not within the removal limits shown on the plans, removal of the existing sidewalk or earth disturbance shall be completed in accordance with Section 895 of the Standard Specifications for Road and Bridge Construction and any applicable notes or Special Provisions provided in these construction documents.

The ground rod for the concrete foundation shall be located in the double handhole rather than in the concrete foundation. A No. 6 AWG bare, solid copper grounding electrode conductor pigtail may be installed for use in splicing the equipment grounding conductors in the double handhole. The grounding electrode conductor pigtail shall be exothermically welded to the ground rod in the double handhole. The grounding electrode conductor pigtail and exothermic weld shall be included in the cost of the concrete foundation.

**Basis of Payment:** This work will be paid for at the contract unit price per foot for CONCRETE FOUNDATION, TYPE C, which price shall be payment in full for all labor, material, and equipment necessary to perform the work described above.

**87800400 CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER**

**87800415 CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER**

This work shall consist installing a Concrete Foundation, Type E, Specified Diameter in accordance with Section 878 of the Standard Specifications for Road and Bridge Construction and State Standard 878001 with no exceptions.

The proposed location of the Concrete Foundation, Type E may be moved in the field to avoid conflicts at the approval of the Engineer. If foundation is located in an area not within the removal limits shown on the plans, removal of the existing sidewalk or earth disturbance shall be completed in accordance with Section 895 of the Standard Specifications for Road and Bridge Construction and any applicable notes or Special Provisions provided in these construction documents.

**Basis of Payment:** This work will be paid for at the contract unit price per foot for CONCRETE FOUNDATION, TYPE E, 36" DIAMETER or CONCRETE FOUNDATION, TYPE E, 30" DIAMETER, which price shall be payment in full for all labor, material, and equipment necessary to perform the work described above.



<u>88040070</u>	<u>SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED</u>
<u>88040090</u>	<u>SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED</u>
<u>88040150</u>	<u>SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED</u>
<u>88040160</u>	<u>SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED</u>

This work shall be in accordance with Sections 880 and 1078 of the Standard Specifications except as modified herein.

The traffic signal heads shall consist of 12" polycarbonate sections and shall be equipped with LED assemblies for all red bulb, yellow bulb, green bulb, red arrow, yellow arrow, green arrow, red bicycle, yellow bicycle, and green bicycle indications. The bicycle symbol shall be similar to that shown on sign W11-1 in Section 9B.15 of the MUTCD.

The traffic signal heads shall have a black finish with black doors and tunnel visors.

The LED signal faces shall be equipped with spade connectors and connected to the traffic signal head terminal block.

**Basis of Payment:** This work will be paid for at the contract unit prices each for SIGNAL HEAD, POLYCARBONATE, LED of the type specified and shall be payment in full for all labor, materials, and equipment required to provide and install the traffic signal heads described above, complete.

88102825 PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, BRACKET MOUNTED WITH COUNT DOWN TIMER

This work shall be in accordance with Section 881 and 1078 of the Standard Specifications except as modified herein.

The pedestrian signal head shall consist of a single 16" polycarbonate section and shall be equipped with an overlaid LED indication with countdown timer (Walking Person/Upraised Hand).

The traffic signal head shall have a black finish with black doors and tunnel visors.

The LED signal faces shall be equipped with spade connectors and connected to the traffic signal head terminal block.

The LED signal face shall have international symbols (Upraised Hand - Color: Portland Orange, Walking Person - Color: Lunar White). Only filled indications will be allowed.

The LED assembly shall meet or exceed the following minimum specifications:

Lens: 16" x 18", Hard Coated for Abrasion Resistance, UV Stabilized Dome

LEDS: Interconnected to minimize the effect of single LED failures, Nominal Wattage White: 8W or less, Nominal Wattage Orange: 11W or less, Nominal Wattage Countdown: 6W

Luminous Intensity (min): Countdown = 1,400 cd/m<sup>2</sup>, Hand = 1,400 cd/m<sup>2</sup>, Person = 2,200 cd/m<sup>2</sup>

Product Warranty: 5 Year Replacement

Combination hand/person pedestrian signal modules shall incorporate separate power supplies for the hand and the person displays.

The assembly shall be capable of operating from 80 to 135 VAC with less than 10% variation in intensity, shall have an operating temperature range of -40° to 74°C, and shall be sealed and highly resistant to water intrusion.

All LED Pedestrian Signal Modules shall be fully compliant to the ITE PTCSI Part-2: LED Pedestrian Traffic Signal Modules specifications adopted March 19, 2004 or the latest adopted version as listed on the ITE website at time of bid

The assembly shall be compatible with signal control equipment per NEMA TS-2, NEMA TS-1 standards, and include transient voltage protection and fusing to withstand high-repetition noise transients and low repetition high energy transients per NEMA standard 1992 per ITE VTCSH - STD Part 2.

**Basis of Payment:** This work will be paid for at the contract unit price per each for PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER and payment will be in full for all labor, equipment, and materials required to provide and install the pedestrian traffic signal heads equipped with LED indications described above, complete.

#### **88200100      TRAFFIC SIGNAL BACKPLATE**

This work shall consist of furnishing and stalling a traffic signal backplate in accordance with Sections 882 and 1078.03 of the Standard Specifications for Road and Bridge Construction and the following exceptions.

The traffic signal backplate shall be of the same material as the traffic signal heads as specified on the plans.

**Basis of Payment:** This item will be paid for at the contract unit price each for TRAFFIC SIGNAL BACKPLATE for supplying and installing the traffic signal backplate to the satisfaction of the Engineer.

#### **X8800101      PEDESTRIAN PUSH-BUTTON, SPECIAL**

This work shall be in accordance with Sections 888 and 1074 of the Standard Specifications except as modified herein.

The Contractor shall install the proposed pedestrian pushbuttons and signs on the traffic signal mast arm poles and posts. The proposed pedestrian pushbuttons and signs shall be installed so that the arrow on the sign corresponds to the associated street crossing and crosswalk.

The pedestrian push-buttons shall be ADA audible pedestrian type push-buttons. The accessible pedestrian signal system shall be the latest version of the 2-wire Navigator II system manufactured by Polara Engineering, Inc.

The pedestrian push-button station shall have a standard black finish

The pedestrian pushbutton installation shall include all crossing signs and hardware required to mount the pedestrian pushbutton. All hardware shall be of stainless steel construction. All bolts shall be 1/4" Hex Head and no self-tapping/drilling screws will be allowed.

**Basis of Payment:** This work shall be paid for at the contract unit price each for PEDESTRIAN PUSH BUTTON, SPECIAL and shall be payment in full for all labor, equipment, and materials required to supply and install the pedestrian push buttons described above, complete.

**X8211285 LUMINAIRE, LED, HORIZONTAL MOUNT, 285 WATT**

This work shall consist of furnishing and installing the luminaire in accordance with Section 821 of the Standard Specifications, details in the plans, and the following additions or exceptions.

Materials: the full cut-off luminaire shall have a structured LED array to provide 9500 lumens at 5700K. Distribution shall be asymmetric medium. Luminaire shall utilize a 4-bolt slip filter with +/-5 degrees of adjustment for leveling. Provide luminaire with optional level and tool less entry. Luminaire shall be suitable for use on a 120 volt system. It shall not have an individual photocell. The luminaire shall have a black finish.

The luminaire shall be the Evolve LED series manufactured by GE Lighting Systems, catalog number ERS2-0-GX-EX-5-57-1-BLCK-E-L.

**Basis of Payment:** This work will be paid for at the contract unit price each for LUMINAIRE, LED, HORIZONTAL MOUNT, 285 WATT, which price shall include all labor, equipment, and material necessary to complete the work as specified.

**81028350 UNDERGROUND CONDUIT, PVC, 2" DIA.**

**81028370 UNDERGROUND CONDUIT, PVC, 3" DIA.**

**81028390 UNDERGROUND CONDUIT, PVC, 4" DIA.**

This work shall consist of furnishing and installing PVC underground conduit of the size and type specified in accordance with section 810 of the Standard Specification and the following additions or exceptions. All conduits installed pavement shall be Schedule 80 PVC.

Polyethylene duct shall be used for conduit that is augured at the locations shown on the plans. The substitution of HDPE conduit for PVC conduit is acceptable under the discretion of the Engineer.

When PVC conduit is required to be spliced to steel conduit sections, a heavy wall set screw connector with PVC female adapter shall be installed and sealed by duct tape and plastic seal.

A ¼" polypropylene pull rope shall be installed in all conduit runs exceeding 20 feet and all empty conduits. A minimum of 2 feet of rope shall be provided at each end of a conduit run.

Intercepting existing conduit, including all required adapters, shall be included in the cost of the respective conduit pay item, and no additional compensation will be allowed.

**Basis of Payment:** This work will be paid for at the contract unit price per foot for UNDERGROUND CONDUIT, of the type and size specified, which price shall be labor, equipment, and material necessary to complete the work as specified. Backfilling of conduit trenches will not be paid for separately.

### **X0327515 THERMAL VEHICLE DETECTION SYSTEM**

This work shall consist of furnishing and installing thermal traffic cameras of the quantity and locations specified in the plans, rack mounted video detection systems, a 10" color video monitor, and associated equipment to provide a traffic detection system for vehicles and bicycles.

The thermal traffic cameras shall be the FLIR SR-334TR traffic cameras. Camera brackets for mounting on the mast arms and coaxial cable to the controller shall be provided and installed according to the manufacturer recommendations. The coaxial cable between the camera and the video processor shall be a continuous unbroken run.

The vehicle detection system shall be the Auto scope Rack Vision Terra MVP. The number of rack mounted vehicle detectors shall equal the number of cameras specified in the plans.

Installation and Training: The supplier of the vehicle detection system shall supervise the installation and testing of the system. The supplier shall also provide training to personnel of the City of Urbana in the operation, set up, and maintenance of the thermal vehicle detection system.

Method of Measurement: Furnishing and installing a complete and operational video detection system will be measured on an each basis per intersection. The work shall include furnishing and installing the number of thermal traffic cameras specified in the plans, camera brackets, rack mounted vehicle detectors equal to the number of cameras specified in the plans, interface panel, 10" color monitor, power supplies, circuit breakers, connectors, cable, and all associated equipment for a complete and operational system. The work shall also include installation supervision and training for City personnel by the supplier of the system.

**Basis of Payment:** This work will be paid for at the contract unit price each for THERMAL VEHICLE DETECTION SYSTEM, which price shall be considered payment in full for all labor, equipment, material, and training necessary to perform the work as specified. All cable required for the installation of the system shall be included in the cost of the THERMAL VEHICLE DETECTION SYSTEM.

### **89502375 REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT**

This work shall be in accordance with Section 895 of the Standard Specifications except as modified herein.

The Contractor shall remove all wires pertaining to existing traffic signals, all signal posts and poles,

mast arms, corresponding foundations, signal heads, electrical cable grounding, and cabinet at the intersection of Green Street and Lincoln Avenue, except as noted in the plans. The controller, pedestrian pushbutton stations, conflict voltage monitor, walk/don't walk pedestrian signal heads at this intersection shall be returned to the City of Urbana to a location specified by the Public Works Department Operations Manager who can be contacted at 217-384-2342. This work shall be included in the bid price for this pay item.

The Contractor shall remove signal equipment as specified on the plans, along with all wires and concrete foundations pertaining to the items listed on the plans at the intersection of Green Street and Wright Street.

The Contractor shall remove signal equipment as specified on the plans, along with all wires pertaining to existing traffic signal posts and inductive loop detectors, to be removed at the intersection of Green Street and Goodwin Avenue. The inductive loop detectors shall be returned to the City of Urbana to a location specified by the Public Works Department Operations Manager who can be contacted at 217-384-2342. This work shall be included in the bid price for this pay item.

The Contractor shall dispose of all other items off of the right-of-way and reflect the salvage value of this equipment in the unit bid price for this pay item.

Method of Measurement: All traffic signal equipment to be removed including but not limited to handholes, signal posts, mast arms, concrete foundations, cable, pedestrian signal heads, and vehicle signal heads for a particular intersection will be paid for as each (per intersection).

**Basis of Payment:** The above work will be paid for at the contract unit price each (per intersection) for REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT and shall be payment in full for removing, disposing of, and transporting the equipment described above, complete. No additional compensation will be allowed.

#### **85000200 MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION**

The Contractor shall maintain the existing traffic signals located at Green Street and Wright Street, Green Street and Goodwin Avenue, and Green Street and Lincoln Avenue during construction, except as shown in the plans. Changes to the signal timing and sequencing may be required during construction.

The maintenance and possible timing changes shall be included in the bid price for this pay item.

**Basis of Payment:** The above work will be paid for at the contract unit price each (per intersection) for MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION.

#### **86200200 UNINTERRUPTABLE POWER SUPPLY, STANDARD**

The following models of Uninterruptable Power Supply (UPS) are approved for use:

Alpha Novus XFM 1100  
Techpower Development M-E XL 1000

The Contractor shall be responsible for providing UPS that are sized appropriately for the intersection load. The total system load shall not exceed the manufacturer's specifications.

The battery backup system for the proposed traffic signal cabinet shall be installed as follows:

- The BBS shall be fully integrated into the proposed traffic signal cabinet by the cabinet supplier at their facility prior to shipping the system to the Contractor
- The cabinet light, ventilation fans, heater strips, and service receptacle shall be wired to a separate circuit that will not be powered by the battery backup system
- A hole of sufficient size for the cables will be drilled into the side of the cabinet to accommodate the battery backup system cables and harnesses from the BBS cabinet. The hole shall be free of sharp edges and equipped with a plastic or rubber grommet.
- The manual by-pass switch shall be installed in the controller cabinet.

GENERAL REQUIREMENTS: The Battery Back-up System (BBS) shall include, but not be limited to the following: inverter/charger, power transfer relay, batteries, battery cabinet, a separate manually operated non-electronic bypass switch and all necessary hardware and interconnect wiring. The BBS shall provide reliable emergency power to a traffic signal in the event of a power failure or interruption. The transfer from utility power to battery power and vice versa shall not interfere with the normal operation of traffic controller, conflict monitor/malfunction management unit or any other peripheral devices within the traffic controller assembly.

The BBS shall provide power for full run-time operation for an "LED-only" intersection (all colors red, yellow, and green) or flashing mode operation for an intersection using Red LED's. As the battery reserve capacity reaches 50%, the intersection shall automatically be placed in all-red flash. The BBS shall allow the controller to automatically resume normal operation after the power has been restored. The BBS shall log an alarm in the controller for each time it is activated.

All Battery Backup Systems shall include four batteries.

The BBS shall be designed for outdoor applications, and shall meet the environmental requirements of, "NEMA Standards Publication No. TS 2 – Traffic Controller Assemblies," or applicable successor NEMA specifications, except as modified herein.

The BBS shall conform to the following specifications:

1.1        OPERATION

- 1.1        The BBS shall be on line and provide voltage regulation and power conditioning when utilizing utility power.
- 1.1.1     The BBS shall provide a minimum two (2) hours of full run-time operation and four (4) hours all-red flash operation for an "LED-only" intersection (minimum 700W/1000VA active output capacity, with 80% minimum inverter efficiency).
- 1.19      The BBS shall be equipped with an integrated safety switch that will interrupt inverter output

power in the event of a cabinet knockdown. The safety switch may be either internal to the inverter/charger or externally mounted inside of the BBS cabinet. The safety switch shall be designed to interrupt output power in the event that the charger/inverter is tilted more than twenty degrees on any axis. The switch shall be mechanically latching to ensure that power is not automatically restored to the BBS until the charger/inverter has been "reset". The switch shall also be resettable and reusable unless it has been physically damaged.

- 1.2 The maximum transfer time from loss of utility power to switchover to battery backed inverter power shall be 150 milliseconds.
- 1.3 The BBS shall provide the user with 4-sets of normally open (NO) and normally closed (NC) single-pole double-throw (SPDT) relay contact closures, available on a panel-mounted terminal block, rated at a minimum 120V/1A, and labeled so as to identify each contact. For typical configuration, see the plan detail sheet.
  - 1.3.1 A first set of NO and NC contact closures shall be energized whenever the unit switches to battery power. Contact shall be labeled or marked "On Batt."
  - 1.3.2 The second set of NO and NC contact closures shall be energized whenever the battery approaches approximately 40% of remaining useful capacity. Contact shall be labeled or marked "Low Batt."
  - 1.3.3 The third set of NO and NC contact closures shall be energized two hours after the unit switches to battery power. Contact shall be labeled or marked "Timer."
  - 1.3.4 The fourth set of NO and NC contact closures shall be energized in the event of inverter/charger failure, battery failure or complete battery discharge. Contact shall be labeled or marked "BBS Fail or Status."
  - 1.3.5 A surge suppression unit shall be provided for the output power if available as an option by the BBS manufacturer.
- 1.4 Operating temperature for both the inverter/power transfer relay and manual bypass switch shall be -37 °C to +74 °C.
- 1.5 The Power Transfer Relay shall be rated at 240VAC/30AMPS minimum and Manual Bypass Switch shall be rated at 240VAC/20 amps, minimum.
- 1.55 The manual bypass switch shall be wired to provide power to the BBS when the switch is set to manual bypass.
- 1.6 The BBS shall use a temperature-compensated battery charging system. The charging system shall compensate over a range of 2.5 – 4.0 mV/°C per cell.
  - 1.6.1 The temperature sensor shall be external to the inverter/charger unit. The temperature sensor shall come with 2 meters (6'6") of wire.
- 1.7 Batteries shall not be recharged when battery temperature exceeds 50°C ± 3°C.
- 1.8 BBS shall bypass the utility line power whenever the utility line voltage is outside of

the following voltage range: 100VAC to 130VAC ( $\pm$  2VAC).

- 1.9 When utilizing battery power, the BBS output voltage shall be between 110 VAC and 125 VAC, pure sine wave output,  $\pm$  3% THD, 60Hz  $\pm$  3Hz.
- 1.10 BBS shall be compatible with Illinois DOT's traffic controller assemblies utilizing NEMA TS 1 or NEMA TS 2 controllers and cabinet components for full time operation.
- 1.11 When the utility line power has been restored at above 105 VAC  $\pm$  2 VAC for more than 30 seconds, the BBS shall dropout of battery backup mode and return to utility line mode.
- 1.12 When the utility line power has been restored at below 125VAC  $\pm$  2 VAC for more than 30 seconds, the BBS shall dropout of battery backup mode and return to utility line mode.
- 1.13 BBS shall be equipped to prevent a malfunction feedback to the cabinet or from feeding back to the utility service.
- 1.14 In the event of inverter/charger failure, battery failure or complete battery discharge, the power transfer relay shall revert to the NC state, where utility line power is reconnected to the cabinet. The BBS shall always revert back to utility line power and shall be designed to revert back to utility line power in the event of a BBS fault condition.
- 1.15 Recharge time for the battery, from "protective low-cutoff" to 80% or more of full battery charge capacity, shall not exceed twenty (20) hours.
- 1.16 When the intersection is in battery operation, the BBS shall bypass all internal cabinet lights, ventilation fans, heater strips, and service receptacles.
- 1.17 The manual bypass switch shall be wired to provide power to the BBS when the switch is set to manual bypass.
- 1.18 A blue LED indicator light shall be mounted on the front of the traffic signal cabinet or on the side of the BBS cabinet facing traffic and shall turn on to indicate when the cabinet power has been disrupted and the BBS is in operation. The light shall be a minimum 1" diameter, be viewable from the driving lanes, and shall be large enough and visible enough to be seen from 200 ft. away.
- 1.19 All 36 volt and 48 volt systems shall include an external component that monitors battery charging to ensure that every battery in the string is fully charged. The device shall compensate for the effects of adding a new battery to an existing battery system by ensuring that the charge voltage is spread equally across all batteries. All cables, harnesses, cards, and other components that are required to provide the functionality described above shall be included in the unit bid price for the battery backup system.
- 1.20 The BBS shall be equipped with an integrated safety switch that will interrupt inverter output power in the event of a cabinet knockdown. The safety switch may be either internal to the inverter/charger or externally mounted inside of the BBS cabinet. The safety switch shall be designed to interrupt output power in the event that the charger/inverter is tilted more than



twenty degrees on any axis. The switch shall be mechanically latching to ensure that power is not automatically restored to the BBS until the charger/inverter has been "reset". The switch shall also be resettable and reusable unless it has been physically damaged.

## 2.0 MOUNTING AND CONFIGURATION

### 2.1 GENERAL

- 2.1.1 Inverter/Charger Unit shall be rack or shelf-mounted.
- 2.1.2 (Reserved).
- 2.1.3 All interconnect wiring provided between Power Transfer Relay, Bypass Switch and Cabinet Terminal Service Block shall be no greater than two (2) meters (6'6") of #10 AWG wire.
- 2.1.4 Relay contact wiring provided for each set of NO/NC relay contact closure terminals shall be #18 AWG wire.
- 2.1.5 All necessary hardware for mounting (shelf angles, rack, etc.) shall be included in the bid price of the BBS. The swing-trays shall be screwed to the Type IV or Type V NEMA cabinets using continuous stainless steel or aluminum piano hinge. All bolts/fasteners and washers shall meet the following requirements:

### 2.3 EXTERNAL BATTERY CABINET

- 2.3.1 The external cabinet shall be a rated NEMA Type 3R Cabinet.
- 2.3.2 Inverter/Charger and Power Transfer Relay shall be installed inside the external battery cabinet and the manually operated Bypass Switch shall be installed inside the existing Traffic Signal Cabinet.
- 2.3.3 Batteries shall be housed in the external cabinet which shall be NEMA Standard rated cabinet mounted to the side of the Type IV or Type V Cabinet (see plan sheets for details). This external battery cabinet shall conform to the IDOT Standard Specifications for traffic signal cabinets for the construction and finish of the cabinet.
- 2.3.4 The external battery cabinet shall mount to the Type IV or Type V NEMA Cabinet with a minimum of four (4) bolts to the satisfaction of the Engineer.
- 2.3.5 The dimensions of the external battery cabinet shall be 25" (L) x 16" (W) x 41" (H) and installed in accordance with the plan sheet cabinet detail and this specification. Additionally, the external battery cabinet shall be black and matched in color to the traffic signal cabinet.
- 2.3.6 The cabinet shall include heater mats for each battery shelf and/or battery. If the BBS charger/inverter does not have facilities to accommodate heater mat connections, thermostatically controlled heater mats shall be provided with the system. The heater mat thermostat shall be a separate thermostat (from the ventilation fan thermostat) and be adjustable from 0°F to 32°F for heater mat turn-on.
- 2.3.7 A warning sticker shall be placed on the outside of the cabinet indicating that there is an Uninterruptible Power Supply inside the cabinet.

- 2.3.8 The external battery cabinet shall be ventilated through the use of louvered vents (2), filters, and one thermostatically controlled fan as per NEMA TS 2 Specifications. The cabinet shall include a cleanable or replaceable cabinet filter.
- 2.3.9 External battery cabinet fan shall be AC operated from the same line output of the Manual Bypass Switch that supplies power to the Type IV or Type V Cabinet.
- 2.3.10 The BBS with external battery cabinet shall come with all bolts, conduits and bushings, gaskets, shelves, and hardware needed for mounting. The external battery cabinet shall have a hinged door opening to the entire cabinet. The cabinet shall include a bottom constructed from the same material as the cabinet.
- 2.3.11 The external cabinet shall be equipped with a power receptacle to accommodate the inverter/charger. The receptacle shall be wired to the line output of the manual bypass switch.

### 3.1 MAINTENANCE, DISPLAYS, CONTROLS AND DIAGNOSTICS

- 3.2 The BBS shall include a display and /or meter to indicate current battery charge status and conditions.
- 3.3 The BBS shall have lightning surge protection compliant with IEEE/ANSI C.62.41.
- 3.4 The BBS shall be equipped with an integral system to prevent battery from destructive discharge and overcharge.
- 3.5 The BBS and batteries shall be easily replaced with all needed hardware and shall not require any special tools for installation.
- 3.6 The BBS shall be equipped with an RS-232 port.
- 3.7 The BBS shall include a resettable front-panel event counter display to indicate the number of times the BBS was activated and a front-panel hour meter to display the total number of hours the unit has operated on battery power.
- 3.8 Manufacturer shall include two (2) sets of equipment lists, operation and maintenance manuals, and board-level schematic and wiring diagrams of the BBS, and the battery data sheets. Manufacturer shall include any software needed to monitor, diagnose, and operate the BBS. The manufacturer shall include any required cables to connect to a laptop computer.
- 3.8 The BBS shall include a data cable for the serial connection to the RS232 port and diagnostic software if it is available as an option with the unit.
- 3.9 Two copies of the owner/maintenance manuals shall be provided with the BBS.

### 4.1 BATTERY SYSTEM

- 4.2 Individual batteries shall be 12V type and shall be easily replaced and commercially available off the shelf.

- 4.3 The batteries shall be premium gel type with a 5 year full replacement warranty.
- 4.4 Batteries used for BBS shall consist of a minimum of four (4) to eight (8) batteries with a cumulative minimum rated capacity of 240 amp-hours.
- 4.5 Batteries shall be deep cycle, completely sealed, silver alloy VRLA (Valve Regulated Lead Acid) requiring no maintenance with maximum run time.
- 4.6 Batteries shall be certified by the manufacturer to operate over a temperature range of – 40°C to +71°C.
- 4.7 The batteries shall be provided with appropriate interconnect wiring and corrosion-resistant mounting trays and/or brackets appropriate for the cabinet into which they will be installed.
- 4.8 Batteries shall indicate maximum recharge data and recharging cycles.
- 4.9 Battery interconnect wiring shall be via modular harness. Batteries shall be shipped with positive and negative terminals pre-wired with red and black cabling that terminates into a typical power-pole style connector. Harness shall be equipped with mating power-pole style connectors for batteries and a single, insulated plug-in style connection to inverter/charger unit. Harness shall allow batteries to be quickly and easily connected in any order and shall be keyed and wired to ensure proper polarity and circuit configuration.
- 4.9 Battery terminals shall be covered and insulated so as to prevent accidental shorting.
- 5.0 QUALITY ASSURANCE
- 5.1 BBS shall be manufactured in accordance with a manufacturer quality assurance (QA) program. The QA program shall include two types of quality assurance: (1) Design quality assurance and (2) Production quality assurance. The production quality assurance shall include statistically controlled routine tests to ensure minimum performance levels of BBS units built to meet this specification and a documented process of how problems are to be resolved.
- 5.2 QA process and test results documentation shall be kept on file for a minimum period of seven years.
- 5.3.1 Battery Backup System designs not satisfying design qualification testing and the production quality assurance testing performance requirements described below shall not be labeled, advertised, or sold as conforming to this specification.

#### 5.4 DESIGN QUALIFICATION TESTING

The manufacturer, or an independent testing lab hired by the manufacturer, shall perform design Qualification Testing on new BBS designs, and when a major design change has been implemented on an existing design. A major design change is defined as a design change (electrical or physical) which changes any of the performance characteristics of the system, or results in a different circuit configuration.

- 5.4.1 Burn In. The sample systems shall be energized for a minimum of 5 hours, with full load of 700 watts, at temperatures of +74°C and -37°C., excluding batteries, before performing any design qualification testing.
- 5.4.2 Any failure of the BBS, which renders the unit non-compliant with the specification after burn-in, shall be cause for rejection.
- 5.4.3 For Operational Testing, all specifications may be measured including, but not limited to:
  - 5.4.3.1 Run time while in battery backup mode, at full load.
  - 5.4.3.2 Proper operation of all relay contact closures (“On-Batt”, “Low-Batt”, “Timer” and “BBS-Fail”).
  - 5.4.3.3 Inverter output voltage, frequency, harmonic distortion, and efficiency, when in battery backup mode.
  - 5.4.3.4 All utility mode – battery backup mode transfer voltage levels. See BBS Spec 1.8, 1.11 and 1.12.
  - 5.4.3.5 Power transfer time from loss of utility power to switchover to battery backed inverter power.
  - 5.4.3.6 Backfeed voltage to utility when in battery backup mode.
  - 5.4.3.7 IEEE/ANSI C.62.41 compliance.
  - 5.4.3.8 Battery charging time.
  - 5.4.5.9 Event counter and runtime meter accuracy.

## 5.5 PRODUCTION QUALITY CONTROL TESTING

- 5.5.1 Production Quality Control tests shall consist of all of the above listed tests and shall be performed on each new system prior to shipment. Failure to meet requirements of any of these tests shall be cause for rejection. The manufacturer shall retain test results for seven years.
- 5.5.2 Each BBS shall be given a minimum 100-hour burn-in period to catch any premature failures.
- 5.5.3 Each system shall be visually inspected for any exterior physical damage or assembly anomalies. Any defects shall be cause for rejection.

## 6.0 WARRANTY

Manufacturers shall provide a minimum two (2) year factory-repair warranty for parts and labor on the BBS from date of acceptance by the State. Batteries shall be warranted for full replacement for five (5) years from date of purchase. The warranty shall be included in the total bid price of the BBS.

The Contractor shall furnish a warranty certificate for each Battery Backup System that

includes the equipment description and details, serial numbers, effective dates, and the details of the warranty regarding materials and labor. The warranty period shall begin on the date of installation and the warranty certificate shall reflect this date.

Basis of Payment: The above work will be paid for at the contract unit price each for UNINTERRUPTABLE POWER SUPPLY shall be payment in full for all labor, materials, and equipment required to provide, install, and test the battery backup system described above, complete.

## **ROADWAY LIGHTING SPECIFICATIONS**

### **81028350 UNDERGROUND CONDUIT, PVC, 2" DIA.**

### **81028400 UNDERGROUND CONDUIT, PVC, 5" DIA.**

#### **Description**

This work shall consist of furnishing and installing conduit of the type and size specified in accordance with Section 810 of the Standard Specifications and the following additions or exceptions.

All conduits installed below pavement shall be Schedule 80 unless otherwise directed by the Engineer.

The substitution of HDPE conduit of similar schedule for PVC conduit shall be permitted with no change in compensation. The substitution of galvanized steel conduit for PVC conduit shall be permitted with no change in compensation.

When PVC conduit is required to be spliced to steel conduit sections, a heavy wall set screw connector with PVC female adapter shall be installed and sealed by duct seal and plastic tape.

When HDPE conduit is required to be spliced to steel conduit sections, a suitable threaded connector shall be installed.

Intercepting existing conduit, including all required adapters, shall be included in the cost of the respective conduit pay item, and no additional compensation will be allowed.

A ¼" polypropylene pull rope shall be installed in all conduit runs. A minimum of 2 feet of rope shall be provided at each end of a conduit run.

#### **Basis of Payment**

This work will be paid for at the contract unit price per foot for UNDERGROUND CONDUIT, PVC, of the size specified, which price shall include all labor, equipment, and material necessary to complete the work as specified.

Backfilling of conduit trenches with earth, screenings/sand, or controlled low-strength material will not be paid for separately but shall be included in the contract unit price per foot for UNDERGROUND CONDUIT.

### **81400700 HANDHOLE, PORTLAND CEMENT CONCRETE**

#### **Description**

This work shall consist of furnishing and installing precast concrete handholes in accordance with Section 814 of the Standard Specifications and the following additions or exceptions.

The handhole cover shall have the words "STREET LIGHTING" cast into the cover. Composite concrete handholes shall not be allowed.

#### **Basis of Payment**

This work will be paid for at the contract unit price each for HANDHOLE, PORTLAND CEMENT CONCRETE, which price shall include all labor, equipment, and material necessary to complete the

work as specified.

**81500120 GULFBOX JUNCTION, COMPOSITE CONCRETE**

Description

This work shall consist of furnishing and installing a gulfbox junction in accordance with Section 815 of the Standard Specifications and the following additions or exceptions.

The gulfbox shall be composite concrete and manufactured by Armorcast Products Company. The gulfbox dimensions shall be 13"W x 24"L x 12"D. The gulfbox cover shall be of the same material as the gulfbox. The gulfbox cover and collar shall be standard concrete grey color in sidewalks and shall be the manufacturer's dark green color in grass areas.

Junction boxes used for the roadway lighting system shall have the words "STREET LIGHTING" cast into the cover. Junction boxes used for MTD Shelter or Kiosk power shall have the word "ELECTRIC" cast into the cover. Junction boxes used for the communication system shall have the word "COMMUNICATION" cast into the cover.

Basis of Payment

This work will be paid for at the contract unit price each for GULFBOX JUNCTION, COMPOSITE CONCRETE, which price shall include all labor, equipment, and material necessary to complete the work as specified.

**81702120 ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 8**

**81702130 ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 6**

**81702140 ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 4**

**ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 1**

Description

This work shall be performed in accordance with Section 817 of the Standard Specifications and the following additions or exceptions.

Revise the second sentence of the first paragraph of Article 1066.02 to read:

"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."

Add the following to Article 1066.03 of the Standard Specifications:

"The cable shall be rated 600 volts and shall be UL Listed Type RHH/RHW/USE."

All electric cable shall be tagged with wiring identification markers at each point of access. All handholes, gulfbox junctions, junction boxes, pole handholes, and controller cabinets shall be considered as points of access. Wiring identification markers shall be in accordance with Article 1066.07 of the Standard Specifications.

Basis of Payment

This work will be paid for at the contract unit price per foot for ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C, of the size specified, which price shall include all labor, equipment, and material necessary to complete the work as specified.

**83000400 LIGHT POLE, ALUMINUM, 30 FT. M.H., 10 FT. DAVIT ARM**

**X1400092 LIGHT POLE, ALUMINUM, 30 FT. M.H., 10 FT. DAVIT ARM - TWIN**

Description

This work shall consist of furnishing and installing davit arm light poles and twin davit arm light poles, complete with all hardware and accessories, in accordance with Section 830 of the Standard Specifications, the details in the plans, and the following additions or exceptions.

Materials

The light pole shall consist of a round tapered 4 bolt anchor base pole with minimum 4 foot radius curved davit arm(s). Light poles shall be manufactured by Hapco, Valmont.

All poles shall be designed and manufactured to withstand the increased wind load generated by the installation of banners 30 inches wide by 72 inches high with a mounting height of 15 feet to the bottom of the banner bracket. Poles with a single davit shall include one banner. Poles with twin davits shall include two banners. The Contractor or the pole manufacturer shall submit a letter signed and sealed by a structural engineer stating that the poles can withstand the increased wind load generated by the installation of banners on the poles. The minimum wall thickness specified below is a minimum thickness. The Contractor shall increase wall thickness as required to withstand wind loading. Banner arms shall not be included with the poles but will be furnished and installed by others.

The pole shaft shall be spun tapered from all new seamless 6063 alloy aluminum tubing and shall be heat treated to T6 temper, with an 8 inch outside diameter at the pole base for a 30 foot mounting height. The pole wall thickness shall be 0.188 inch minimum for single davit arm poles and 0.250 inch minimum for twin davit arm poles and shall be increased as required to withstand wind loading. Each shaft shall have a specially tapered pole top tenon to accept the davit arm(s). The pole shaft shall be fitted with an internally mounted vibration damper.

The davit arm member(s) shall be conically tapered from 4½ inch outside diameter to 2¾ inch outside diameter with a minimum 0.188 inch wall 6063 alloy extruded aluminum tube. The fixture end of the arm(s) shall be a 2¾ inch outside diameter (2 inch pipe size) tenon. The davit arm(s) shall have an 8 foot 11 inch rise and a 10 foot span providing a + 3 degree tilt. The davit arm(s) shall slip into a tapered pole top tenon and be fastened with two stainless steel ¾ inch through bolts.

The pole shall include a peripherally reinforced flush covered handhole centered 18 inches above the bottom of the base. The handhole cover shall match the pole finish and be secured with stainless steel Allenhead (not pinned) fasteners. The handhole opening shall be oriented 180 degrees from the single davit arm or 90 degrees from the twin davit arms.

The anchor base shall be cast from A356 alloy aluminum. The anchor base shall be heat treated to a T6 condition. The anchor base casting and shaft shall be joined by a continuous circumferential weld at the outside top and inside bottom of the anchor base. The completed assembly shall be heat treated to a T6 temper after all structural welding is completed. Nut covers manufactured from A356 alloy



aluminum shall be included with each anchor base. Bolt openings shall be slotted to accommodate an 11 inch to 12 inch bolt circle for an 8 inch outside diameter at the pole base.

The davit arm(s), aluminum pole, and all mounting hardware shall have a factory applied powder coating, black in color. Powder coated poles shall be polyester powder coated in a smooth black finish with a UV resistant powder designed for outdoor use without color fade. The polyester powder coating process shall have pre-treatment steps that ensure complete cleaning and adherence of the coating materials. The polyester powder coating shall be electrostatically applied thermosetting polyester resin powder coating to a minimum thickness of 100 microns. The manufacturer shall coat poles in its own facility. Out-sourcing of the powder coating process shall not be allowed.

The standard product warranty for the davit arm light poles and accessories shall be full parts and labor at the job site for one-year following the date of final completion. In addition to the standard product warranty, all surfaces featuring a powder-coat finish shall carry a full 5-year Finish Warranty. The coatings on all new poles shall carry this 5-year Finish Warranty from the date of shipment. The Finish Warranty shall provide for the full cost of refinishing in the event of a coating failure. The Contractor or the pole manufacturer shall submit full warranty information with a specific letter for this work, detailing the warranty terms and conditions in accordance with this special provision. The Finish Warranty shall provide protection against:

1. Peeling and Cracking.
2. Fading and Tint: UV damage and fading of more than 5% of the original color (tint).
3. Discoloration: Discoloration in excess of 5 E units (CIE 1976 CIELAB) as measured using procedure ASTM D 2244, latest revision, comparing an unexposed sample to an exposed surface after removal of dirt and chalk.
4. Gloss retention: In accordance with procedure ASTM D 523, latest revision, comparing an unexposed sample to an exposed surface after removal of dirt and chalk.
5. Corrosion and lack of adhesion: Corrosion and lack of adhesion as measured using procedure ASTM D 610, latest revision, based on the complete product assembly (for the purpose of this warranty, this procedure applies to both aluminum and steel).

Poles shall be delivered with a factory applied shipping wrap of cardboard or other material to fully protect against scratches and coating stain. Poles shall be blocked and bundled in groups of multiple poles, or use other equivalent means to prevent shifting and damage during transport.

The Contractor shall provide a sticker permanently attached to the light pole below the handhole indicating the circuit and pole number as shown on the plans. After assembly, a stainless steel mesh shall be placed to enclose the void between the foundation and the pole base as specified in Article 877.03 of the Standard Specifications. The stainless steel mesh and band at the pole base shall be painted black.

#### Basis of Payment

This work will be paid for at the contract unit price each for LIGHT POLE, ALUMINUM, 30 FT. M.H., 10 FT. DAVIT ARM, or LIGHT POLE, ALUMINUM, 30 FT. M.H., 10 FT. DAVIT ARM - TWIN, which prices shall include all labor, equipment, and material necessary to complete the work as specified.

**83600200 LIGHT POLE FOUNDATION, 24" DIAMETER**

Description

This work shall consist of constructing concrete light pole foundations in accordance with Section 836 of the Standard Specifications, the details in the plans, and as directed by the Engineer.

The Contractor shall coordinate the bolt circle diameter of the foundation with the light poles to be installed on the foundation.

The grounding electrode for the foundation shall be installed in the junction box adjacent to the foundation to be provided for the light pole. Refer to the specification for JUNCTION BOX (SPECIAL) for additional information.

Basis of Payment

This work will be paid for at the contract unit price per foot for LIGHT POLE FOUNDATION, 24" DIAMETER, which price shall include all labor, equipment, and material necessary to complete the work as specified, including all anchor bolts.

The grounding electrode for the foundation shall be included in the cost of the junction box.

**84200500 REMOVAL OF LIGHTING UNIT, SALVAGE**

**84200600 REMOVAL OF LIGHTING UNIT, NO SALVAGE**

Description

This work shall consist of the removal and salvage or disposal of existing lighting units in accordance with Section 842 of the Standard Specifications and the following additions or exceptions.

Removal of existing lighting units shall include the pole, arm, luminaire, pole wiring, and associated hardware and appurtenances. Removal of existing light pole foundations will be paid for separately.

Removal of Lighting Unit, Salvage

Existing lighting units shall remain the property of the City of Urbana and shall be delivered by the Contractor to a location designated by the Engineer.

Removal of Lighting Unit, No Salvage

Existing lighting units shall become the property of the Contractor and shall be disposed of by the Contractor in accordance with Article 202.03 of the Standard Specifications.

Basis of Payment

This work will be paid for at the contract unit price each for REMOVAL OF LIGHTING UNIT, SALVAGE, or REMOVAL OF LIGHTING UNIT, NO SALVAGE, which prices shall include all labor, equipment, and material necessary to complete the work as specified.

**84200804 REMOVAL OF POLE FOUNDATION**

Description

This work shall consist of the removal and disposal of existing light pole foundations in accordance with Section 842 of the Standard Specifications and the following additions or exceptions.

Concrete foundations shall be removed to a point at least two feet below grade or at least one foot below any proposed construction. All portions of the existing foundation below this elevation that interfere in any way with the proposed construction shall be removed to the satisfaction of the Engineer, and no additional compensation will be allowed. Removed material shall be disposed of by the Contractor in accordance with Article 202.03 of the Standard Specifications.

Steel helix foundations shall be removed and cleaned to expose the foundation for inspection by the Engineer. Those foundations deemed not reusable by the Engineer shall become the property of the Contractor and shall be disposed of by the Contractor in accordance with Article 202.03 of the Standard Specifications. Those foundations deemed reusable by the Engineer shall be thoroughly cleaned, both inside and outside, and shall be reinstalled at the locations shown on the plans in accordance with Section 836 of the Standard Specifications and as directed by the Engineer.

Portions of the existing cables and conduits that interfere in any way with the proposed construction shall be removed. Existing cables that do not interfere with the proposed construction shall be abandoned in place unless otherwise directed by the Engineer. Existing conduits that do not interfere with the proposed construction shall be capped and abandoned in place unless otherwise directed by the Engineer. Removal of the existing cables and conduits shall be included in the cost of Removal of Pole Foundation, and no additional compensation will be allowed.

Voids created by the removals shall be backfilled with controlled low-strength material unless otherwise directed by the Engineer. All required excavation and backfill shall be included in the cost of Removal of Pole Foundation.

#### Basis of Payment

This work will be paid for at the contract unit price each for REMOVAL OF POLE FOUNDATION, which price shall include all labor, equipment, and material necessary to complete the work as specified, including all excavation and backfill.

### **84400105      RELOCATE EXISTING LIGHTING UNIT**

#### Description

This work shall consist of removing an existing lighting unit and reinstalling it on a proposed foundation in accordance with Sections 817 and 844 of the Standard Specifications, the details in the plans, and the following additions or exceptions.

Where indicated in the plans, existing lighting units shall be removed complete, including the light pole, pole wiring, luminaire arm, and luminaire. The existing lighting unit shall be stored until reinstallation. The Contractor shall be responsible for any damage to the lighting unit caused during removal, storage, or reinstallation, including any required replacement of existing materials.

Where indicated in the plans, the existing luminaire shall be replaced with a new luminaire in accordance with Section 821 of the Standard Specifications, the details in the plans, and the technical specifications. The existing luminaire that was replaced with a new luminaire shall become the property of the Contractor and shall be disposed of by the Contractor in accordance with Article 202.03 of the Standard Specifications.

The existing light pole shall be reinstalled on a proposed foundation as shown on the plans. The

existing pole wiring, fuse holders, and fuses shall remain in the existing pole. The proposed electric cables shall be spliced to the existing pole wiring in the existing pole handhole in accordance with Section 817 of the Standard Specifications and the details in the plans.

Basis of Payment

This work will be paid for at the contract unit price each for RELOCATE EXISTING LIGHTING UNIT, which price shall include all labor, equipment, and material necessary to complete the work as specified. Junction boxes, conduit, electric cables required to extend wiring to the new pole location, removal of the existing foundation, and construction of the proposed foundation will be paid for separately.

**84500110      REMOVAL OF LIGHTING CONTROLLER**

Description

This work shall consist of the removal and disposal of an existing pole-mounted lighting controller in accordance with Section 845 of the Standard Specifications and the following additions or exceptions.

The Contractor shall coordinate with the City of Urbana and Ameren Illinois for disconnection of the existing lighting controller. The City of Urbana will remove the series lighting switchgear (oil switch, constant current transformer, circuit protector and Hand-Off-Auto switch enclosure and the Contractor shall remove the pole. The Contractor shall dispose of the removed equipment in accordance with Article 202.03 of the Standard Specifications.

Basis of Payment

This work will be paid for at the contract unit price each for REMOVAL OF LIGHTING CONTROLLER, which price shall include all labor, equipment, and material necessary to complete the work as specified.

**84500120      REMOVAL OF ELECTRIC SERVICE INSTALLATION**

Description

This work shall consist of the removal and disposal of an existing electric service installation in accordance with Section 845 of the Standard Specifications and the following additions or exceptions.

The Contractor shall coordinate with the City of Urbana and Ameren Illinois for disconnection of the existing electric service installation. The Contractor shall dispose of the removed equipment in accordance with Article 202.03 of the Standard Specifications.

Voids created by the removals shall be backfilled with controlled low-strength material unless otherwise directed by the Engineer. All required excavation and backfill shall be included in the cost of Removal of Electric Service Installation.

Basis of Payment

This work will be paid for at the contract unit price each for REMOVAL OF ELECTRIC SERVICE INSTALLATION, which price shall include all labor, equipment, and material necessary to complete the work as specified, including all excavation and backfill.

**X0327739 MISCELLANEOUS ELECTRICAL WORK**

**Description**

This work shall consist of penetrating existing University of Illinois buildings for proposed fiber optic connections in accordance with University of Illinois at Urbana-Champaign Facilities Standard 27-00-00-04 "Telecomm. Typ. Underground Bldg. Entrances & Conduit Profiles", the details in the plans, and the following additions.

**Construction Requirements**

The Contractor will be required to coordinate all building penetrations with an authorized University of Illinois Representative (Owner) and the Engineer. The Contractor will be responsible for obtaining the most recent standard drawings and details from the Owner prior to starting any work.

Where electrical conduits pass through concrete foundation walls, the end of the rigid steel conduit shall project inside of the building not less than 8-inches from the face of the wall as directed. All voids created by the conduit entrance shall be sealed to the satisfaction of the Owner.

Outdoor conduits entering the building shall have an upward slope. The exterior of the raceway shall be sealed at the foundation wall and the interior of the raceway shall also be sealed, with or without wiring installed. This is to prevent water from entering the building. The contractor will be responsible for any water damage to the existing building at his/her own expense.

The fiber optic connections located inside of University owned buildings shall be performed by University of Illinois forces and the Contractor will be required to subcontract this work with the Owner. The Contractor will be responsible for the entire length of fiber optic from the MTD equipment location to the interior termination point. Required length of fiber optic cable will be provided to the Contractor by the Owner.

The Contractor shall coordinate this work with University of Illinois Technology Services' assistant manager, Brian Cockerham. Office address is 2434 Digital Computer Lab, MC-256, 1304 W. Springfield Avenue, Urbana, Illinois. Office phone is (217) 333-0547.

**Basis of Payment**

This work will be paid for at the contract lump sum price for MISCELLANEOUS ELECTRICAL WORK, which the price shall include all labor, equipment, material, coordination and subcontracting necessary to complete the work as specified herein.

Fiber optic terminations inside the buildings will not be paid for separately. The University of Illinois Technology Services will provide the Contractor a written estimate which the Contractor shall reflect in his/her contract lump sum price for the said work. No additional compensation will be allowed.

**X1700001 DRILL EXISTING MH, HEAVY DUTY HANDHOLE, OR MEDIAN WALL  
JUNCTION BOX**

**Description**

This work shall consist of drilling a hole in an existing electric manhole for installing a new conduit in accordance with Section 879 of the Standard Specifications and the following additions or exceptions.

Any excavation required to access the manhole wall shall be backfilled with controlled low-strength

material unless otherwise directed by the Engineer. All required excavation and backfill shall be included in the cost of Drill Existing Manhole, Heavy Duty Handhole, or Median Wall Junction Box.

Basis of Payment

This work will be paid for at the contract unit price each for DRILL EXISTING MANHOLE, HEAVY DUTY HANDHOLE, OR MEDIAN WALL JUNCTION BOX, which price shall include all labor, equipment, and material necessary to complete the work as specified, including all excavation and backfill.

**X6050040    REMOVING MANHOLES, SPECIAL**

Description

This work shall consist of the removal and disposal of an existing electric manhole in accordance with the applicable portions of Section 895 of the Standard Specifications and the following additions or exceptions.

The electric manhole shall be removed in its entirety. Portions of the existing cables and conduits that interfere in any way with the proposed construction shall be removed. Existing cables that do not interfere with the proposed construction shall be abandoned in place unless otherwise directed by the Engineer. Existing conduits that do not interfere with the proposed construction shall be capped and abandoned in place unless otherwise directed by the Engineer. Removal of the existing cables and conduits shall be included in the cost of Removing Manholes, Special, and no additional compensation will be allowed.

Removed material shall be disposed of by the Contractor in accordance with Article 202.03 of the Standard Specifications.

Voids created by the removals shall be backfilled with controlled low-strength material unless otherwise directed by the Engineer. All required excavation and backfill shall be included in the cost of Removing Manholes, Special.

Basis of Payment

This work will be paid for at the contract unit price each for REMOVING MANHOLES, SPECIAL, which price shall include all labor, equipment, and material necessary to complete the work as specified.

**X8040102    ELECTRIC SERVICE INSTALLATION, SPECIAL**

Description

This work shall consist of installing an electric service installation in accordance with Section 804 of the Standard Specifications, the details in the plans, and the following additions or exceptions.

Materials

The Contractor shall provide a 200A, 3 phase, 4 wire, feed through meter socket and install on the north wall adjacent to the west door of Room 44 in the Mechanical Engineering Building, in accordance with Prairieland Energy requirements. Service size shall be as shown on the plans.

The Contractor shall provide a fused disconnect switch located at Lighting Controller #29, in accordance with Article 1086.01 of the Standard Specifications and the details in the plans.

The Contractor shall provide 3" conduit from the controller location to an adjacent manhole as shown in the plans.

The Contractor shall provide approximately 60' of 3" rigid galvanized steel conduit within Room 44 of the Mechanical Engineering Building. The Contractor shall route the conduit from the duct bank entrance into Room 44, up to the ceiling and over to the meter base on the north wall of Room 44. Provide bushings on the 3" conduit at the duct bank entrance into the room.

The Contractor shall provide approximately 20' of 3" rigid galvanized steel conduit from the meter base on the north wall adjacent to the west door, up to the ceiling and over to existing Unit Substation #1 within Room 44 of the Mechanical Engineering Building.

The Contractor shall provide approximately 120' of 4#4/0 (total of 480'), 1#4G (total of 120') continuously and without splices from Lighting Controller #29 through the conduit, duct bank and interior conduit to the meter base in Room 44 of the Mechanical Engineering Building.

The Contractor shall provide approximately 25' of 4#4/0 (total of 100'), 1#4G (total of 25') continuously and without splices from the meter base through the interior conduit to a spare 3P, 400A breaker in Unit Substation #1 located in Room 44 of the Mechanical Engineering Building.

The Contractor shall terminate the wiring at the meter base and on the spare 3P, 400A breaker in Unit Substation #1.

The Contractor shall adjust the trip settings on the existing spare 3P, 400A breaker to 200 amps.

The Contractor shall notify Prairieland Energy a minimum of 10 business days in advance for the required shut-down of Unit Substation #1 to make the final connection to the spare 3P, 400A breaker. The shut-down shall occur at a time when classes are not in session.

The Contractor shall be responsible for coordinating all requirements and work for the service installation with Prairieland Energy and shall adhere to latest standards as provided by Prairieland Energy.

The Contractor shall coordinate all requirements and fees for the electric service installation with Prairieland Energy. No additional compensation will be allowed for work required for the electric service or utility connection fees, even though not explicitly shown on the plans or specified herein.

Basis of Payment

This work will be paid for at the contract unit price each for ELECTRIC SERVICE INSTALLATION, SPECIAL, which price shall include all labor, equipment, and material necessary to complete the work as specified, including all service conduits, service conductors, meter sockets, ground rods, and other equipment required by the utility company. No additional compensation will be allowed.

**X8130110    JUNCTION BOX (SPECIAL)**

Description

This work shall consist of furnishing and installing a junction box in accordance with Section 815 of the Standard Specifications and the following additions or exceptions.

The junction box shall be composite concrete and manufactured by Armorcast Products Company. The junction box dimensions shall be 12"W x 12"L x 12"D. The junction box cover shall be of the same material as the junction box. The junction box cover and collar shall be standard concrete grey color in sidewalks and shall be the manufacturer's dark green color in grass areas.

Junction boxes used for the roadway lighting system shall have the words "STREET LIGHTING" cast into the cover. Junction boxes used for MTD Shelter or Kiosk power shall have the word "ELECTRIC" cast into the cover. Junction boxes used for the communication system shall have the word "COMMUNICATION" cast into the cover.

The grounding electrode for the light pole foundation shall be installed in the junction box adjacent to the foundation to be provided for the light pole. The grounding electrode shall be a 5/8" diameter x 10' long copper-clad steel ground rod in accordance with Section 806 of the Standard Specifications. The grounding electrode conductor shall be connected by hydraulic crimp connections to the grounding electrode in the junction box.

#### Basis of Payment

This work will be paid for at the contract unit price each for JUNCTION BOX (SPECIAL), which price shall include all labor, equipment, and material necessary to complete the work as specified. The grounding electrode and hydraulic crimp connections shall be included in the cost of the junction box.

### **X8130125 REMOVE EXISTING JUNCTION BOX**

#### Description

This work shall consist of the removal and disposal of existing junction boxes in accordance with the applicable portions of Section 895 of the Standard Specifications and the following additions or exceptions.

The junction box shall be removed in its entirety. Portions of the existing cables and conduits that interfere in any way with the proposed construction shall be removed. Existing cables that do not interfere with the proposed construction shall be abandoned in place unless otherwise directed by the Engineer. Existing conduits that do not interfere with the proposed construction shall be capped and abandoned in place unless otherwise directed by the Engineer. Removal of the existing cables and conduits shall be included in the cost of Remove Existing Junction Box, and no additional compensation will be allowed.

Removed material shall be disposed of by the Contractor in accordance with Article 202.03 of the Standard Specifications.

Voids created by the removals shall be backfilled with controlled low-strength material unless otherwise directed by the Engineer. All required excavation and backfill shall be included in the cost of Remove Existing Junction Box.

#### Basis of Payment

This work will be paid for at the contract unit price each for REMOVE EXISTING JUNCTION BOX, which price shall include all labor, equipment, and material necessary to complete the work as specified.



**X8211125 LUMINAIRE, LED, HORIZONTAL MOUNT, SPECIAL**

**Description**

This work shall consist of furnishing and installing luminaires in accordance with Section 821 of the Standard Specifications, the details in the plans, and the following additions or exceptions.

**Materials**

The full cut-off luminaire shall utilize a 4-bolt slip fitter with +/-5 degrees of adjustment for leveling. Provide luminaire with optional level and tool-less entry. Luminaire shall be suitable for use on a 208 volt system. The luminaire shall have a black finish.

Refer to the Roadway Lighting Plans for the location of each luminaire type.

**A. Luminaire Type 3**

The luminaire shall have a structured LED array to provide 25,400 initial lumens at 5,700K and 525mA drive current. Distribution shall be narrow asymmetric medium. The luminaire shall not have an individual photocell.

The luminaire shall be the Evolve LED series manufactured by GE Lighting Systems, catalog number ERS4-0-T3-B1-5-57-1-BLCK-E-L. Comparable products from Cree/BetaLED or Philips Lumec may be considered for approval subject to compliance with the specified requirements.

**B. Luminaire Type 3P**

The luminaire shall have a structured LED array to provide 25,400 initial lumens at 5,700K and 525mA drive current. Distribution shall be narrow asymmetric medium. The luminaire shall be furnished with a photocell receptacle and a photocell as shown in the plans. The luminaire shall be installed with the davit arm and pole located near the proposed lighting controller #29 location just west of the Goodwin Avenue and Green Street intersection.

The photocell shall not be wired to the individual luminaire; instead, the photocell shall be wired to the lighting contactors located in the proposed lighting controller #29 cabinet as shown in the plans.

The luminaire shall be the Evolve LED series manufactured by GE Lighting Systems, catalog number ERS4-0-T3-B1-5-57-2-BLCK-E-L. Comparable products from Cree/BetaLED or Philips Lumec may be considered for approval subject to compliance with the specified requirements.

**C. Luminaire Type 4**

The luminaire shall have a structured LED array to provide 24,800 initial lumens at 5,700K and 525mA drive current. Distribution shall be asymmetric forward. The luminaire shall not have an individual photocell.

The luminaire shall be the Evolve LED series manufactured by GE Lighting Systems, catalog number ERS4-0-T3-D1-5-57-1-BLCK-E-L. Comparable products from Cree/BetaLED or Philips Lumec may be considered for approval subject to compliance with the specified requirements.

D. Luminaire Type 4P

The luminaire shall have a structured LED array to provide 24,800 initial lumens at 5,700K and 525mA drive current. Distribution shall be narrow asymmetric medium. The luminaire shall be furnished with a photocell receptacle and a photocell as shown in the plans. The luminaire shall be installed with the signal mast arm located in the southwest quadrant of the Lincoln Avenue and Green Street intersection.

The photocell shall not be wired to the individual luminaire; instead, the photocell shall be wired to the lighting contactor located in the proposed traffic signal controller cabinet located in the southwest quadrant of the Lincoln Avenue and Green Street intersection as shown in the plans.

The luminaire shall be the Evolve LED series manufactured by GE Lighting Systems, catalog number ERS4-0-T3-D1-5-57-2-BLCK-E-L. Comparable products from Cree/BetaLED or Philips Lumec may be considered for approval subject to compliance with the specified requirements.

Basis of Payment

This work will be paid for at the contract unit price each for LUMINAIRE, LED, HORIZONTAL MOUNT, SPECIAL, which price shall include all labor, equipment, and material necessary to complete the work as specified, including all photocell receptacles and photocells. See the Roadway Lighting Plans for the quantities of each type of luminaire.

The lighting contactors will be paid for separately but shall be included in the cost of the respective controller pay item. The electric cable required to wire the photocell to the lighting contactor will be paid for separately.

**X8250505 LIGHTING CONTROLLER, SPECIAL**

Description

This work shall consist of furnishing and installing a lighting controller in accordance with Section 825 of the Standard Specifications, the details in the plans, and the following additions or exceptions.

Materials

The lighting controller cabinet shall be an aluminum Type III cabinet, single door, painted green in accordance with Article 1068.01 of the Standard Specifications. The controller and cabinet shall be manufactured by Excel Ltd. using Square D parts unless otherwise specified. Provide a concrete Type D foundation for the lighting controller. The foundation shall be in accordance with Standard 878001 and Section 878 of the Standard Specifications.

Provide all control components as shown on the plans and as specified herein.

Panelboard Interior: Provide panelboard interior with main breaker and bus ratings as shown in the plans. Panelboard interior shall have copper bus and shall be service entrance rated. Provide bolt on circuit breakers, quantity, rating, and number of poles as shown in the plans. Panelboard interior shall include an equipment ground bus, bonded to controller cabinet, and manufactured by Square D.

HOPT Switch: Provide Hand-Off-Photocell-Timer switch in controller cabinet as shown in the plans. Switch shall be connected such that the lights are on in the "Hand" position, are off in the "Off" position, are controlled by the photocell in the "Photocell" position, and are controlled by the timer in the "Timer" position.

Light, Switch, and GFCI: Provide a light fixture with clear globe and protective guard mounted from top of cabinet. Lamp shall be a 26 watt, spiral fluorescent lamp. Provide a 120VAC, 20A, single pole switch, plunger type, mounted such that it turns on the controller light when door is opened. Provide 120VAC, 20A, Ground Fault Circuit Interrupting duplex receptacle.

Photocell: Photocell shall be provided on an adjacent roadway luminaire and wired to the lighting controller.

Lighting Contactors: Provide quantity of lighting contactors as shown in the plans. Lighting contactors shall be a minimum of 2 pole, 30 amp, 240VAC with 120VAC electrically held coil, and manufactured by Square D.

Surge Arrestor: Provide surge arrestor capable to withstand a surge current up to 20,000A (8 x 120 microseconds) and repetitive surges of 200A for a minimum of 10,000 occurrences. Response time shall be less than 50 nanoseconds. Current drain shall be less than 100 microamperes. Surge arrestor leads shall not be spliced and shall be as short as possible.

Astronomical Clock: The timer shall be a Tork DZS200BP type timer with battery memory backup.

Terminal Strips: Provide terminal strips as shown on the plans for all incoming wiring. Quantity of terminals shall be such that there is a minimum of 100% spare terminals. Provide separate terminal strips for power, neutral, and ground wiring as required.

Terminal Block: Provide separate terminal block for control wiring.

All equipment listed herein and shown on the plans shall be mounted to a steel installation mounting plate to be installed in the controller cabinet.

Provide all wiring required in the controller cabinet to connect the control components as indicated in the plans. All wiring in the controller cabinet shall be neatly trained and bundled. All wiring shall be clearly marked at each termination.

#### Basis of Payment

This work will be paid for at the contract unit price each for LIGHTING CONTROLLER, SPECIAL, which price shall include all labor, equipment, and material necessary to complete the work as specified, including the controller cabinet and concrete foundation, all control components shown in the plans and specified above, all interconnecting wiring, and installation.

**X8360120 LIGHT POLE FOUNDATION, SPECIAL**

Description

This work shall consist of furnishing and installing a metal light pole foundation in accordance with Section 836 of the Standard Specifications, the details of Highway Standard 836001, the details in the plans, and the following additions or exceptions.

The bolt circle diameter of the metal foundation shall accommodate the bolt circle diameter of the light pole to be installed on the foundation. The top plate dimensions of the metal foundation shall accommodate the bolt circle diameter and the anchor base dimensions of the light pole to be installed on the foundation.

The grounding electrode for the foundation shall be installed in the junction box adjacent to the foundation to be provided for the light pole. Refer to the specification for JUNCTION BOX (SPECIAL) for additional information.

Basis of Payment

This work will be paid for at the contract unit price each for LIGHT POLE FOUNDATION, SPECIAL, which price shall include all labor, equipment, and material necessary to complete the work as specified, including all anchor bolts.

The grounding electrode for the foundation shall be included in the cost of the junction box.

**XX003303 CONCRETE LIGHT POLE**

Description

This work shall consist of furnishing and installing a prestressed concrete light pole in accordance with Section 830 of the Standard Specifications, the details in the plans, and the following additions or exceptions.

Materials

The spun-cast prestressed concrete light pole shall have a slightly tapered, octagonal shaft and an architectural details step base. The concrete pole shall be arranged for direct embedded installation. Provide the pole with a premium graffiti-resistant coating black in color. The concrete pole shall have an overall length of 17'-4" with a pole height of 13'-0" and a 4'-4" embedded depth. The pole base O.D shall be 14" and the pole top O.D shall be 5-1/8". The weight of the pole shall be 625 pounds.

The pole shall be the Traditional Victorian VI series with Amersfield coating as manufactured by Ameron Pole Products, catalog number VEK-4.0-6PA-10. Comparable product from King Luminaire/StressCrete Group, Belmont model, may be considered for approval subject to compliance with the specified requirements.

Basis of Payment

This work will be paid for at the contract unit price each for CONCRETE LIGHT POLE, which price shall include all labor, equipment, and material necessary to complete the work as specified.

**XX007797 LUMINAIRE (SPECIAL)**

Description

This work shall consist of furnishing and installing a luminaire in accordance with Section 821 of the Standard Specifications, the details in the plans, and the following additions or exceptions.

Materials

The octagonal style luminaire shall have a structured LED array to provide 6,865 initial lumens at 4,500K. Distribution shall be Type 3. Luminaire shall be furnished flat frosted acrylic lens panels and with a slip fitter suitable for use on concrete pedestrian pole. Provide luminaire with matching capital and cast aluminum spiked finial. Luminaire shall be suitable for use on a 208 volt system. It shall not have an individual photocell. The luminaire shall have a black textured finish.

The luminaire shall be Main Street LED series manufactured by Sternberg Lighting, catalog number MS805BLED-4A1R-45-T3-MDL03-SV2. Comparable product from King Luminaire/StressCrete Group, K56 Cleveland LED series, may be considered for approval subject to compliance with the specified requirements.

Basis of Payment

This work will be paid for at the contract unit price each for LUMINAIRE (SPECIAL), which price shall include all labor, equipment, and material necessary to complete the work as specified.

**XX008068 LUMINAIRE INSTALLATION, TYPE 1**

Description

This work shall consist of furnishing and installing a luminaire in accordance with Section 821 of the Standard Specifications, the details in the plans, and the following additions or exceptions.

Materials

The full cut-off luminaire shall have a structured LED array to provide 19,400 initial lumens at 5,700K and 525mA drive current. Distribution shall be narrow asymmetric medium. Luminaire shall utilize a 4-bolt slip fitter with +/-5 degrees of adjustment for leveling. Provide luminaire with optional level and tool-less entry. Luminaire shall be suitable for use on a 208 volt system. It shall not have an individual photocell. The luminaire shall have a black finish.

The luminaire shall be the Evolve LED series manufactured by GE Lighting Systems, catalog number ERS3-0-N3-B1-5-57-1-BLCK-E-L. Comparable products from Cree/BetaLED or Philips Lumec may be considered for approval subject to compliance with the specified requirements.

Basis of Payment

This work will be paid for at the contract unit price each for LUMINAIRE INSTALLATION, TYPE 1, which price shall include all labor, equipment, and material necessary to complete the work as specified.

**XX008069 LUMINAIRE INSTALLATION, TYPE 2**

Description

This work shall consist of furnishing and installing a luminaire in accordance with Section 821 of the Standard Specifications, the details in the plans, and the following additions or exceptions.

### Materials

The full cut-off luminaire shall have a structured LED array to provide 18,900 initial lumens at 5,700K and 525mA drive current. Distribution shall be asymmetric forward. Luminaire shall utilize a 4-bolt slip fitter with +/-5 degrees of adjustment for leveling. Provide luminaire with optional level and tool-less entry. Luminaire shall be suitable for use on a 208 volt system. It shall not have an individual photocell. The luminaire shall have a black finish.

The luminaire shall be the Evolve LED series manufactured by GE Lighting Systems, catalog number ERS3-0-N3-D1-5-57-1-BLCK-E-L. Comparable products from Cree/BetaLED or Philips Lumec may be considered for approval subject to compliance with the specified requirements.

### Basis of Payment

This work will be paid for at the contract unit price each for LUMINAIRE INSTALLATION, TYPE 2, which price shall include all labor, equipment, and material necessary to complete the work as specified.

## **XX009128 FIBER OPTIC CABLE IN CONDUIT, SPECIAL**

### Description

This work shall be performed in accordance with Section 871 of the Standard Specifications and the following additions or exceptions.

#### Fiber Optic Indoor/Outdoor Cable

The multi-mode in-building fiber optic cable shall consist of 50/125 micron laser optimized fiber optimized for 850/1300 nanometer operation manufactured by Corning Cable Systems. It is designed for high performance laser-based 10 Gigabit Ethernet. It has an engineered loss of 3.0 db/KM at 850 nanometer operation with a bandwidth of 1500 MHz and 1.5 db/KM at 1300 nanometer operation with a bandwidth of 500 MHz. The minimum effective modal bandwidth is 2000 MHz. The specifications represent a FREEDM One Cable with a NEC rated CM flame retardant, UV-resistant, indoor/outdoor cables designed for aerial, duct and direct-buried applications with no need for a transition splice when entering the building. . Substitutions will not be allowed.

The single mode in-building fiber optic cable shall be manufactured by Corning Cable Systems. The specifications represent a gel free, MIC cable, with a NEC rated CM flame retardant sheath designed for riser applications. It has an engineered loss of 1/.75 db/KM for 1310/1550 nanometer operation. Substitutions will not be allowed.

Plastic wire ties shall not be used with fiber optic cable. Velcro wire wraps shall be used to prevent excessive crimping of the fiber.

All fiber runs shall be continuous without splices between termination sites. Each fiber run shall be terminated at the MTD-owned information kiosk and the interior of the University-owned building. A separate fiber run shall be provided for each information kiosk.

The Contractor shall coordinate this work with University of Illinois Technology Services' assistant manager, Brian Cockerham. Office address is 2434 Digital Computer Lab, MC-256, 1304 W. Springfield Avenue, Urbana, Illinois. Office phone is (217) 333-0547 or private utilities depending on the location.

Basis of Payment

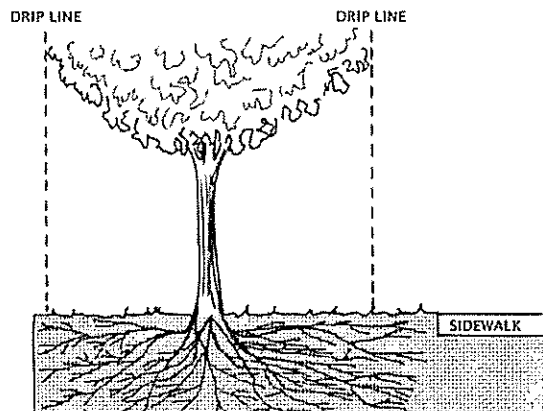
This work will be paid for at the contract unit price per foot for FIBER OPTIC CABLE IN CONDUIT, SPECIAL, which price shall include all labor, equipment, material and coordination necessary to complete the work as specified.

## LANDSCAPING SPECIFICATIONS

### TREE ROOT CARE

This work shall consist of excavating, root pruning, trenching, tunneling, backfilling, fertilizing, watering, and grading conducted within the Protected Root Zone (PRZ) of a tree which roots interfere with construction operations.

The PRZ shall be defined as the entire ground area within the dripline of a tree (See figure below).



### Trunk Flare/Root and Sidewalk Conflicts

Trunk flare and/or root and sidewalk conflicts shall be resolved using the following methods as determined by the Engineer:

1. Method 1. When Right-of-Way allows, adjust the sidewalk away from the tree trunk flare and/ or surface root. Ideal minimum spacing between the tree trunk flare and/ or surface root and the sidewalk is one (1) foot. The sidewalk width shall never be less than four (4) feet.
2. Method 2. Raise the grade of the sidewalk. All sidewalk slopes shall be according to accessibility standards, the Illinois Accessibility code, and as shown in the plans.
3. Method 3. Root Prune in accordance with the specifications that follow.

### Utility Installations

Utility Installations that require trenching and tunneling within the PRZ shall be performed as follows:

In accordance with the City of Urbana Right-of-Way Standard "Tree Protection Zone"  
Trenches shall be in line with tree trunk whenever possible.

All trench sides likely to have bisecting roots shall be targeted for pre-excavation root pruning.

Trenches shall be immediately backfilled after construction completion, as determined by the Engineer, to prevent drying out of roots.



### **Raising Existing Grades**

Raising of the existing grade shall not exceed six (6) inches without prior approval from the City of Urbana Arborist.

Where practical, raising of the existing grade shall be accomplished with fill material composed of the existing soil.

Where fill material must be brought into the construction site the following materials shall be used:

- (1) Beneath Sidewalks. A non-Limestone aggregate meeting CA 11, CA 15, or CA 16 gradation shall be used beneath all sidewalks within the PRZ. The minimum width of aggregate shall be one (1) foot wider than the sidewalk (6 inch + Width<sub>Sidewalk</sub> + 6 inch).
- (2) General. Topsoil shall be used wherever aggregate shall not be used as a fill material.

### **Root Pruning**

Root Pruning shall be performed as follows:

Only roots that will interfere with construction operations shall be cut.

Roots larger than a 2 inch diameter shall not be pruned without prior approval by the City Arborist.

Roots shall be pruned 6 inches closer to the tree than the limits of excavation. The depth of root pruning shall be the smaller of the following:

- the depth of the planned excavation or
- 24 inches

Roots shall be pruned between October 15 and June 15, when the trees are dormant, whenever possible.

Excavation within the PRZ shall be conducted by hand, with the use of an approved Air Spade, an approved wet vacuum, or other approved similar equipment.

Roots shall be cut off cleanly by hand or by an approved mechanical root pruning saw specifically designed to cleanly cut roots. This work shall be performed prior to excavation where noted on the plans, or as directed by the Engineer. Whenever roots of plant material to remain are exposed during construction, the damaged root ends are to be removed by cutting them off cleanly. Axes, other such chopping tools, shovels or other tools designed for digging shall not be used to cut roots.

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

### **Fertilizing and Watering**

Fertilizer and watering after root pruning, trenching, and tunneling shall be as follows:

- (1) Fertilizer Nutrients. Fertilizer nutrients shall be applied between October 15 and June 15, when the trees are dormant, whenever possible. A fertilizer with a 1:1:1 ratio of Nitrogen:Potassium:Phosphorus fertilizer nutrients shall be applied.

Application shall be accomplished by an approved method of uniform surface application on all pervious surfaces within the PRZ of each tree. Fertilizer shall be applied at the rate of 5 lb (2 kg) of nutrients per 1000 sq ft (90 sq m).

- (2) Supplemental Watering. In case of inadequate rainfall, as determined by the Engineer, supplemental water shall be applied after construction completion, as determined by the Engineer. The water shall be applied at the rate of 2 gal/sq yd (9 L/sq m) of surface area within the root zone of plant material having sustained damage to the root zone. Subsequent weekly watering shall be applied if deemed necessary by the Engineer.

This work shall include all equipment, materials, application of fertilizer nutrients, supplemental watering, labor, and transportation of and disposal of any removed material required. This work shall not be measured for payment or paid for separately, but shall be considered incidental to the various pay items of the proposed construction involved and no additional compensation will be allowed.

**20101000      TEMPORARY FENCE**

Description

Work under this item must be performed in accordance with Section 201 of the detailed specifications of the Standard Specifications for Road and Bridge Construction and subsequent special provisions.

Material

Revise Article 201.05(a) Protection of Existing Plant Material/Temporary Fencing:

The Contractor shall manually erect a temporary fence as designated on the plans or where directed by the Engineer. The temporary fence shall be 6' high chain link fence with direct buried posts placed a maximum of 10' apart.

**21101615      TOPSOIL FURNISH AND PLACE 4"**

**21101685      TOPSOIL FURNISH AND PLACE 24"**

**25200110      SODDING, SALT TOLERANT**

**25200200      SUPPLEMENTAL WATERING**

Description

This work shall consist of preparing the seedbed, excavating, stockpiling, transporting, and placing the topsoil and sod as required. The work shall be in accordance with the applicable articles of Sections 211 and 252 of the Standard Specifications except as modified herein.

The areas for sodding shall be any area disturbed beyond the existing condition by the Contractor's construction operations. The plan quantity for sodding includes the entire area within the construction limits. The Contractor is advised that payment for sodding will be made for only those areas which were necessarily disturbed by construction operations as determined by the Engineer. Turfed areas which are needlessly disturbed by construction operations shall be sodded as directed by the Engineer

at the Contractor's expense.

To prevent erosion and to satisfy the requirements of the NPDES permit, sodding should be completed as soon as possible after the completion of each stage of the project. The Engineer shall determine if temporary seeding should be done or if the permanent sodding should be done at the completion of each stage of construction. The sodding times shall be in accordance with Article 252.04 of the Standard Specifications or as directed by the Engineer. The Contractor will be responsible for the sodded areas until they are fully established, which may require re-sodding of any bare or dead areas until growth is established. The Contractor shall maintain the sodded areas until such time as the requirements of the NPDES permit are satisfied.

#### Materials

All materials shall meet the requirements of Sections 211 and 252 of the Standard Specification except for the following:

The topsoil shall meet the requirements of Article 1081.05(a) of the Standard Specifications except that the topsoil shall be sifted and all deleterious material removed including dirt clods greater than 1" in diameter.

#### Construction Requirements

Before any sodding begins, the Contractor shall be responsible for the removal of all debris and other deleterious material that would interfere or complicate the future maintenance of the restored surfaces and adjacent areas. After cleanup and power raking of the area to be sodded has occurred, all areas to be sodded shall have a minimum of 4" of agricultural grade topsoil applied. All areas prepared and ready for sodding shall be inspected and approved by the Engineer prior to any sod application.

Five (5) Supplemental Waterings shall be applied under this contract for sodded areas as directed by the Engineer. One application of water will be required every two days or as directed by the Engineer. Depending upon weather conditions, more or fewer supplemental waterings may be necessary. All watering described shall be done with a spray application. Water shall be applied at the rate of two (2) gallons per square yard per application. An open-ended hose will not be acceptable. The method of watering shall meet the acceptance of the Engineer.

After the sodded areas are established the site shall be mowed as directed by the Engineer. The mowing shall be in accordance with Article 250.10 of the Standard Specifications.

#### Measurement and Payment

This work will be measured and paid for at the contract unit price per square yard for TOPSOIL FURNISH AND PLACE, of the specified thickness, and per square yard for SODDING, SALT TOLERANT in accordance with Sections 211 and 252 of the Standard Specifications. The supplemental watering will be measured and paid for at the contract price per unit for SUPPLEMENTAL WATERING, with one unit equaling 1000 gallons of water applied.

Any additional sodding of bare areas after the initial sodding operation will not be paid for separately, but will be considered as included in the cost of the sodding pay items. The plan quantity for sodding includes the entire area within the construction limits. The Contractor is advised that payment for sodding will be made for only those areas which were necessarily disturbed by construction operations as determined by the Engineer. Turfed areas beyond the construction limits which are unnecessarily disturbed by construction operations shall be sodded as directed by the Engineer at the Contractor's expense.

**X0327802 PLANTING SOIL MIX FURNISH AND PLACE 12”**

**Description:**

This item shall consist of furnishing, transporting and placing Planting Soil in areas as described herein and per the direction of the Engineer.

General Requirements: The Contractor shall supply and install Planting Soil for installation of trees, shrubs, and herbaceous plants in landscaped areas.

A composition report, test report, sample and request for material inspection form shall be supplied to the Engineer for approval prior to performing any work.

Soils report: Submit results of laboratory soil tests for topsoil for planting. Contractor shall provide soil tests prior to delivery to the site. Employ an independent testing lab using methods approved by the Association of Agricultural Chemists to test two samples of topsoil mixture. Soil mix sample: One (1) quart of each proposed soil mix and product information.

**Materials**

Soil Mixes: Planting Soil in all planting beds shall consist of 30% sand with grain size 1/4-1/2 mm, clean and not silty, 50% topsoil and 20% peat moss. This mixture shall be used for tree, shrub, ground cover and perennial areas, or other areas specified. Planting soil mixture shall have a pH value range of 5.5 to 7.0. If the Planting Soil does not fall within the required pH range, limestone or aluminum sulfate shall be added to bring the pH within the specified limit.

**Measurement and Payment**

PLANTING SOIL shall be measured for payment in place and in units of square yards of PLANTING SOIL, which price shall include all labor, materials, equipment and tools necessary to complete the item described above. This item will not be paid by Load Tickets.

**XX005967 TOPSOIL (PLANTING MIXTURE)**

**Description**

Work under this item must be performed in accordance with Section 2111 of the detailed specifications of the Standard Specifications for Road and Bridge Construction and subsequent special provisions.  
Measurement and Payment

**Basis of Payment**

This work will be paid for at the contract unit price per cubic yard (cubic meter) for TOPSOIL (PLANTING MIXTURE).

**K0012990 PERENNIAL, ORNAMENTAL TYPE, GALLON POT**

**K0013000 PERENNIAL PLANTS, PRAIRIE TYPE, 2” DIAMETER BY 4” DEEP PLUG**

Add the following to Article 254.07 Planting Procedures:

When planting perennials in bed areas shown on the plans or as directed by the Engineer, the following work shall be performed prior to placement of mulch:

- Spade a planting bed edge at approximately a 45 degree angle and to a depth of approximately 3-inches (75 mm) around the perimeter of the perennial bed. Remove any debris created in the spade edging process and dispose of as specified in Article 202.03.
- Fertilizer nutrients shall be added and applied to the perennial beds at a 5:3:2 ratio as follows:

Nitrogen Fertilizer Nutrients	90 lbs/acre (100 kg/ha)
Phosphorus Fertilizer Nutrients	54 lbs/acre (60 kg/ha)
Potassium Fertilizer Nutrients	36 lbs/acre (40kg/ha)

This fertilizer shall be tilled and cultivated into the soil to a depth of 6-inches (150 mm) and will not be paid for separately but shall be included in the planting pay item.

- Planting beds shall use PLANTING SOIL as defined in Special Provisions item X0327814

Delete the first sentence of Article 254.08 Mulching and substitute the following:

Within 24 hours, the entire perennial plant bed shall be mulched to a depth of with 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 not to bury leaves, stems, or vines under mulch material.

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.

A2006524 TREE, QUERCUS BICOLOR, (SWAMP WHITE OAK), 3"-4" CALIPER, BALLED AND BURLAPPED

A2002924 TREE, CELTIS OCCIDENTALIS (COMMON HACKBERRY), 3"-4" CALIPER, BALLED AND BURLAPPED

A2004628 TREE, GLEDITSIA TRIACANTHOS VAR. INERMUS (THORNLESS COMMON HONEYLOCUST), 3-4" CALIPER, BALLED AND BURLAPPED

A2001722 TREE, ACER SACCHARUM 'BAILSTA' (FALL FIESTA MAPLE), 2.5" CALIPER BALLED AND BURLAPPED

B2001167 TREE, CERCIS CANADENSIS (EASTERN REDBUD), 8' HIGH, BALLED AND BURLAPPED

XX006570 TREE (SPECIAL)

TREE, ACER SACCHARUM 'GREEN MOUNTAIN' (GREEN MOUNTAIN SUGAR MAPLE), 3"-4" CALIPER BALLED AND BURLAPPED

TREE, EUCOMMIA ULMOIDES (HARDY RUBBER TREE), 3-4" CALIPER, BALLED AND BURLAPPED

TREE, ULMUS 'FRONTIER' (FRONTIER ELM), 3-4" CALIPER, BALLED AND BURLAPPED

TREE, TILIA TOMENTOSA (SILVER LINDEN), 3"-4" CALIPER, BALLED AND BURLAPPED

XX008639 SHRUBS (SPECIAL)

SHRUB, HYDRANGEA ARBORESCENS (SMOOTH HYDRANGEA) #5 CONTAINER

SHRUB, SPIRAEA X CINEREA 'GREFSHEIM' (GREFSHEIM SPIRAEA) # 5 CONTAINER

This work shall consist of planting woody plants as specified in Section 253 of the Standard Specifications with the following revisions:

Delete the third sentence of Article 253.07 and substitute the following:

The Contractor shall place the marking flags, clearly labeled with the common name, for each individual tree and outline each area for mass or solid planting. The Engineer will contact the Roadside Development Unit at (847) 705-4171, at least 72 hours prior to any digging to verify the layout.

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

Trees and shrubs shall be thoroughly watered with a method approved by the Engineer. Place backfill in 6 inch-thick layers. 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.

Add the following to Article 253.10(e):

Spade a planting bed edge at approximately a 45 degree angle and to a depth of approximately 3-inches (75 mm) around the perimeter of the tree bed. Remove any debris created in the spade edging process and disposed of as specified in Article 202.03.

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. No weed barrier fabric will be required for tree and shrub planting. Pre-emergent Herbicide will be used instead of weed barrier fabric. The Pre-emergent Herbicide shall be applied prior to mulching. Mulch shall not be in contact with the base of the trunk.

Delete Article 253.12 and substitute the following:

Any paper or cardboard trunk wrap must be removed before placing the tree in the tree hole in order to inspect the condition of the trunks. "A layer of commercial screen wire mesh shall be wrapped around the trunk of all deciduous trees. All other plants planted individually shall be similarly wrapped when directed by the Engineer. The screen wire shall be secured to itself with staples or single wire strands tied to the mesh. Trees shall be wrapped at time of planting, before the installation of mulch. The lower edge of the screen wire shall be in continuous contact with the ground and shall extend up to the lowest major branch.

Add the following to Article 253.13 Bracing:

Trees required to be braced shall be braced within 24 hours of planting.

**Method of Measurement.**

Trees and shrubs will be measured for payment in place as individual plants. Only acceptable plants will be measured for payment. This work will be paid for at the contract unit price per EACH for several kinds and sizes of TREES and SHRUBS.

**K1005481 SHREDDED BARK MULCH, 3"**

Description

This item shall consist of furnishing, transporting and placing shredded hardwood bark mulch in areas as described on plans and details and as per the direction of the Engineer.

Material

The Contractor shall supply and install shredded hardwood bark mulch, as required to mulch around trees, shrubs, and herbaceous plants in landscaped areas.

The Contractor shall remove all litter and plant debris before mulching. The Contractor shall repair grade by raking in topsoil as needed, before mulching. Care shall be taken not to bury leaves, stems, or vines under mulch material.

All finished mulch areas shall be left smooth and level to maintain a uniform surface and appearance. All work areas shall be cleaned of debris and mulch, prior to leaving the site.

Hardwood bark mulch shall be clean, finely shredded mixed-hardwood bark, not to exceed two (2) inches in its largest dimension, free of foreign matter, sticks, stones, and clods. All hardwood mulch shall be processed through a hammermill. Hardwood bark not processed through a hammermill shall not be accepted.

A composition report, test report, sample and request for material inspection form shall be supplied to the Engineer for approval prior to performing any work.

Place mulch layer around plants as follows:

Perennials, including: bulbs, ground cover, vines, grasses:

Three (3) inches deep – keep mulch away from crowns of plants.

Shrubs, including shrubs and roses:

Three (3) inches deep – keep mulch away from stems, crown, or neck of shrub.

Trees, shade and ornamental:

Three (3) inches deep – keep mulch away from the trunk of the tree.

#### Method of Measurement

MULCH shall be measured for payment in place and in units of SQUARE YARDS of mulch installed, as described herein and which price shall include all labor, materials, equipment and tools necessary to complete the item described above. This item will not be paid by Load Tickets.

#### Z0003855 BICYCLE RACKS

##### Description:

This item must consist of furnishing and installing new bicycle racks.

##### Materials:

Bicycle Rack - The bicycle rack must be fabricated from steel tube with an outside diameter of 1.90", 1 ½" X 2" in size with 0.148" wall thick. The tubing must be bent in a one piece width as shown on the contract documents. The bicycle racks must not be welded in sections.

The coating must be applied only after the bicycle rack has been fabricated.

Finish – galvanized or stainless steel

Texture – regular grain

Grass – semi-Matte

Hardness, shore A-95 +/- 3

Tensile strength – 1800 PSI MIN

Mildew resistant additive

U.V. screening additive



Resistant to color change  
Resistance to abrasion when used as intended  
Primer – entire part

The final product will be rejected if the product is damaged due to the fabrication and/or shipping.

Submittals

Bicycle Rack- Shop drawings or catalog cut.  
Fastener - 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.

Samples: Submit 3-12" long samples of the tubing with finish coat.

Construction Requirements: Bicycle Racks must be located according to the plans and as designated by the Engineer. Embed the bicycle rack to concrete slabs. Locations of racks to be verified in the field. Drilling through rebar, furnishing electricity, traffic control and shims are incidental to bicycle rack installation

Measurement and Payment

BICYCLE RACKS will be paid for at the contract unit price for each BICYCLE RACK, which will include furnishing and installing new BICYCLE RACKS with mounting hardware and concrete slabs.

**XX006739 CONCRETE PAVER TYPE A**

**XX006740 CONCRETE PAVER TYPE B**

Description:

Contractor must provide all equipment and materials, and do all work necessary to construct the CONCRETE PAVERS as indicated on the Drawings and as specified. Price includes but is not limited to jointing and bedding sand, concrete underlayment, geotextile fabric and aggregate subbase.

Materials

Samples:

Contractor must submit to the Engineer a minimum of 25 square feet of unit pavers for approval. Submittal shall indicate the full range of unit pavers in the specified color.

Pavers:

UNIT PAVERS basis of design shall be as manufactured by Unilock Chicago, Inc., 301 East Sullivan Road, Aurora, Illinois 60505, (630) 892-9191; Other acceptable manufacturers are Tectura Pavers, PO Box 1520, Wausau, WI 54402, (800) 388-8728; and Hanover Pavers, 5000 Hanover Road, Hanover, PA 17331, (717)637-0500.

1. UNIT PAVERS shall be:
  1. Type A: Brussels Block Finish: Standard, Sizes: 8" x 6.75" x 2.75", and 6.75" x 4" x 2.75" nominal sizes. Pattern H, and as shown on plans, Color: Sandstone
  2. Type B Unigranite Finish: Natural split face, Size: 6" x 6" x 2.75" nominal, Radial Running bond, as shown on plans, Color: Dark Charcoal
  3. Pavers shall conform to severe freeze-thaw test requirements set forth in ASTM C 1645-06 on sampling and testing interlocking concrete paving units.
  4. Pigment in concrete pavers shall conform to ASTM C 979. ACI Report No. 212.3R provides guidance on the use of pigments.

Paver Setting Bed and Joint Material:

Sand: Dry sand conforming to ASTM C-144 with all particles passing the No. 16 sieve.  
Sand shall be, Color: Tan

GEOTEXTILE FABRIC

This fabric will be installed at locations shown on the drawings and must comply with the requirements of Section 1080.02 Geotextile Fabric

Portland Cement Concrete Underlayment:

The Portland Cement Concrete Underlayment shall be in accordance with Standard Specification Article 424.

Construction Requirements:

- A. All pavers shall be installed per the respective manufacturer's recommendations.
- B. No paver setting work shall be performed when the underlayment has free moisture, ice, or snow, or when the underlayment is frozen.
- C. Concrete underlayment shall be sound, clean, and free from debris and materials or substances which will hinder the setting bed. The top surface of concrete underlayment slab shall not vary more than one half (1/2) inch of its proposed elevation.

Paver Cutting:

- A. To reduce dust during paver installation, unit pavers shall only be cut using wet saws. No dry cutting permitted.
- B. Cut pavers shall be placed in areas shown on the details in the plans. "L" shaped pavers shall be avoided where possible.
- C. Pavers shall be cut radially when joints between pavers on curves exceed 1/8 inch.
- D. Radial cut pavers shall be created by trimming both sides of paver.

**Paver Placement:**

- A. Place pavers by hand in straight courses with hand tight joints and uniform top surface. Good alignment shall be kept and patterns shall be as shown on plans and details.
- B. Protect the alignment and elevations of the newly laid pavers with plywood sheeting at all times. Advance the plywood as work progresses and maintain plywood protection over all areas subject to movement of materials, workers, and equipment.
- C. Pavers shall be cut only when necessary and used in courses as indicated on plans and details.
- D. Joints in the underlayment, if any, shall not reflect up through the setting bed and paver system.
- E. When all pavers are installed, apply joint sand to paving and sweep into all joints until joints are completely filled. Sweep clean the entire surface and remove all excess sand. Do not allow traffic on pavers prior to joints being filled.
- F. Protect newly laid pavers, slabs and curbs with plywood panels on which workers stand. Advance protective panels as work progresses but maintain protection in areas subject to continued movement of materials and equipment to avoid creating depressions or disrupting alignment of installed pavers, slabs or curbs.
- G. Replace cracked or chipped unit pavers at no additional cost to the Owner.

**Method of Measurement:**

CONCRETE PAVERS TYPE A AND B will be measured for payment in place and the area computed in square feet. CONCRETE PAVERS will be paid for at Contract Unit Price per square foot for which such price shall include all labors, materials and equipment necessary to perform the work as herein specified. Joint and setting bed sand and geotextile and Portland cement concrete underlayment shall be included in the Contract Unit Price.

**XX001249 ORNAMENTAL FENCE**

**Description**

This work shall consist of furnishing and erecting metal railings, and furnishing, erecting, maintaining, and removing temporary steel railings. Adhere to appropriate portions of section 509 of the standard specifications.

**SUBMITTALS**

Product Data: Submit complete printed data.

Include gate hardware.

Shop Drawings: Submit complete fabrication and installation drawings. Show location of fencing and gates posts, and details of post installation, expansion joints, and welding details.

Descriptive Data: Submit detailed description of entire coating process including metal preparation and coating.

Include experience of applicators.

Test Reports: Submit design mix for ready mixed concrete and delivery tickets.

Samples: Submit one (1) sample, approximately 4" long of rails and picket having proposed finish system in black.

### QUALITY ASSURANCE

Installer Qualifications: Engage an experienced Installer who has at least three years' experience and has completed at least five fence projects with similar material and scope to that indicated for this Project with a successful construction record of in-service performance.

### PROJECT CONDITIONS

Field Measurements: Verify layout information for fencing shown on the Drawings in relation to the property survey and structures. Verify dimensions by field measurements.

### WARRANTY

Provide a warranty on the ornamental fencing system including installation, materials and workmanship for five years except for the coating, which shall be warranted for a period of ten years including cracking, peeling, blistering, and corrosion.

### Materials

#### FENCE SECTIONS AND POSTS

Material Configuration: Use only materials, which are smooth and free of surface blemishes including, pitting, seam marks, roller marks, rolled trade names and roughness.

Steel Plates, Shapes and Bars: ASTM A-36.

Bolts: Tamper-resistant design, coated to match fence.

Material sizes as follows:

Pickets: 5/8" solid bars @ 4-3/4" C/C

Rails : 1-1/2"x1/2"x1/8" Channel

Line Posts: 2-1/2 x 2-1/2" x 11 Gauge Square Tube with spot welded steel cap

End, Corner: 4" x 4" x 11 Gauge Square Tube with spot welded steel caps

Bolts: 3/8" x 1/2" Cup Head, coated to match fence.

Nuts: Security type tamperproof design, coated to match fence

Brackets: 2" x 3/4" x 1" wide x 1/4" thick angle section welded to post

Fabricate of welded construction, to forms and profiles indicated. Provide for field connections of panels to posts to be bolted with tamper-resistant bolts.

Fabricate true to line and square with accurate angles and surfaces and straight edges. Weld corners and seams continuously, complying with AWS recommendations using MIG or TIG welding process. Grind exposed welds smooth and flush to match and blend with adjoining surfaces.

Provide for anchorage of panels to posts by welding of angle brackets drawings with full penetration continuous weld by Mig or Tig method. Provide anchorage of steel caps to posts with a full penetration weld by Mig or Tig method 1" long on the 2 sides of the post as the angle brackets.

Expansion Joints: Provide slotted post tabs with plastic washers between post tab and panel tab.

Fabricate joints in a manner to exclude water or provide weep holes where water may accumulate.

### FINISH

Surface Preparation:

Blast fabricated assemblies and accessories to near white no more than 8 hours prior to the coating process. Clean in a heated two-stage process including spray washing and cleaning, utilizing a total immersion cleaning process each stage utilizing a heated alkaline cleaner to remove all grease, dirt or other contaminants.

Rinse by totally immersing assemblies and assemblies in a continuously overflowing rinse tank and then totally immerse in a continuously overflowing conditioner to prepare surface for coating.

Coating:

Totally immerse assemblies and accessories in a heated zinc phosphate solution.

Rinse by total immersion in a continuously overflowing rinse tank to remove excess zinc phosphate solution.

Totally immerse in a continuously overflowing tank containing PPG Powercron 590 (or equivalent) heavy metal free cationic Electrodeposition coating. Rinse by total immersion in a continuously overflowing tank to remove excess coat solution.

Final rinse, dry, and inspect each assembly and accessory.

Apply two uniform color coats by Polyester TGIC Powder Coating by means of electrostatic deposition to a total thickness of 8 mils.

Color: Black

Apply a final coat of clear UV stabilized Polyester TGIC Powder.

Between each of the powder coats, cure by heating to the manufacturer's recommended temperature and hold until the cure is complete. Monitor temperature in the curing oven so that the temperature held within the coating manufacturers recommended temperature range.

#### CONCRETE

Provide 3000 PSI air entrained ready-mixed concrete conforming to ASTM C-94-, maximum 3" slump.

#### Construction Requirements

##### INSTALLATION

Excavation: Drill or hand-excavate (using post-hole digger) to uniform diameters at the spacing required, in firm, undisturbed or compacted soil.

Remove from the site the same day as it was dug to an approved dumpsite.

If not indicated on Drawings, excavate holes for each post to not less than four times the largest cross section of post.

Unless otherwise indicated, excavate hole depths approximately 3 inches lower than post bottom, with bottom of posts set not less than 36 inches below finish grade surface.

Setting Posts: Center and align posts in holes at correct height, 3" above bottom of excavation unless otherwise indicated.

Place concrete around posts and vibrate or tamp for consolidation.

Check each post for vertical top alignment, and hold in position during placement and finishing operations. Protect portion of posts above ground from concrete splatter.

Unless otherwise indicated, extend concrete footings 2 inches above grade and trowel to a crown to shed water.

Install fencing plumb, level, true to line and location, and secure

Gates: Install gates plumb, level, and secure for full opening without interference. Adjust hardware for smooth operation and lubricate where necessary.

#### COATING REPAIR

In general, field repairs to damaged coating will not be allowed. In most cases, the part is to be returned to the shop for coating as specified. From time to time for the convenience of the Board and at the direction of the Owners representative, field repairs of the coating may be allowed. The area to be painted shall be cleaned of all debris and dirt; care shall be taken to avoid damaging the good, factory applied coating. Prime the repair area with a good quality epoxy primer such as Sherwin-

Williams Dura Pox B70-710. Finish with two coats of a compatible urethane finish such as Sherwin-Williams Centurion B65-700 (color to match original finish).

**PROHIBITED PROCESS**

Do not cut or weld any portion of the fencing system after the factory coating has been applied.

Measurement and Payment

This work will be measured for payment in place in feet. The length measured will be the overall length along the top longitudinal railing member through all posts and gaps. 509.10 This work will be paid for at the contract unit price per foot for ORNAMENTAL FENCE, of the type specified.

## TRANSIT SPECIFICATIONS

### 50900805 PEDESTRIAN RAILING

#### Description

This work shall consist of constructing pedestrian railing in accordance with Section 509 of the Standard Specifications and the detail drawings shown in the plans. The railing system shall be galvanized and painted.

#### Painting Requirements

All weld flux and other contaminants shall be mechanically removed. All surfaces shall be degreased, cleaned, and air dried to assure all moisture is removed. All galvanized exterior surfaces shall be coated with a urethane or triglycidyl isocyanurate (TGIC) polyester powder to a dry film thickness of 2.0 mils. The painting shall be in accordance with the applicable Articles of Sections 506 and 509 of the Standard Specifications. The paint finish shall be the powder type and the color shall be black. Any damage to the finish after leaving the shop facility shall be repaired to the satisfaction of the Engineer using a method approved by the Engineer.

#### Measurement and Payment

This work will be measured for payment at the contract unit price per foot for PEDESTRIAN RAILING which price shall include all labor, equipment and materials, including rails, posts, anchor devices and painting.

### 50901760 PIPE HANDRAIL

#### Description

This work shall consist of furnishing and installing pipe handrail in accordance with the details shown in the plans, the applicable Articles of Section 509 of the Standard Specifications, and the following additions or exceptions. The pipe handrails included railings, posts and base flange anchors shall be galvanized and painted.

#### Painting Requirements

Paint shall match finish specified for pedestrian and ornamental railings. All weld flux and other contaminants shall be mechanically removed. All surfaces shall be degreased, cleaned, and air dried to assure all moisture is removed. All galvanized exterior surfaces shall be coated with a urethane or triglycidyl isocyanurate (TGIC) polyester powder to a dry film thickness of 2.0 mils. The painting shall be in accordance with the applicable Articles of Sections 506 and 509 of the Standard Specifications. The paint finish shall be the powder type and the color shall be black. Any damage to the finish after leaving the shop facility shall be repaired to the satisfaction of the Engineer using a method approved by the Engineer.

Pipe handrail anchor hardware that is fastened to the concrete shall be stainless steel.

#### Measurement and Payment

This work will be measured and paid for at the contract unit price per foot for PIPE HANDRAIL, which price shall include all labor, equipment, and material necessary to complete the work as specified, including all rails, posts, anchor devices, and painting.

**X6061700 COMBINATION CONCRETE CURB AND GUTTER, TYPE B (SPECIAL)**

**Description**

This work shall consist of constructing Portland Cement Concrete transit curb and gutter adjacent to the proposed transit station platforms or sidewalks. The work shall be completed in accordance with applicable Section 606 of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified and as shown on the plans.

**Construction Requirements**

Dimensions of COMBINATION CONCRETE CURB AND GUTTER, TYPE B (SPECIAL) shall be as shown on the plans.

Where COMBINATION CONCRETE CURB AND GUTTER, TYPE B (SPECIAL) is construction adjacent to new Portland cement concrete pavement, tie bars shall be installed at right angles to the roadway centerline at the depth, dimensions, and spacing shown in the construction drawings. Tie bars shall be included in the cost of COMBINATION CONCRETE CURB AND GUTTER, TYPE B (SPECIAL). Refer to Article 606.07 of the Standard Specifications.

**Method of Measurement**

The COMBINATION CONCRETE CURB AND GUTTER, TYPE B (SPECIAL) will be measured for payment in feet along the flowline of the gutter. Transitional Concrete Transit Curb and Gutter will be measured per Article 606.14.

**Basis of Payment**

This work will be paid for at the contract unit price per foot for COMBINATION CONCRETE CURB AND GUTTER, TYPE B (SPECIAL), which price shall include all materials, labor and equipment to perform the work.

**INFORMATION KIOSK**

The Champaign-Urbana Mass Transit District (CU-MTD) will provide and install information kiosks for the project. Kiosk details as shown in the plans are for information purposes only. The Contractor shall coordinate the proposed conduit feeds with the CU-MTD and as directed by the Engineer. The Contractor shall notify the Engineer and CU-MTD a minimum of 30 days in advance of the anticipated completion date of the proposed conduit feeds for the information kiosks. Additional coordination efforts by the Contractor shall be included in the cost of the proposed conduits and no additional compensation will be allowed.

**XX008263 PORTLAND CEMENT CONCRETE PLATFORM (SPECIAL)**

**Description**

This work shall consist of constructing a Portland Cement Concrete Transit Platform consisting of a thickened edge Portland cement concrete sidewalk, prepared aggregate base, including reinforcing, expansion and contraction joints, and specified concrete finishing. The work shall be completed in accordance with the applicable portions of Sections 301, 420, and 424 of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified and as detailed in the plans.



### Construction Requirements

The transit platform cross section shall be continuous and uniform along the full length of the platform. The portion of the platform abutting the paved roadway surface may be placed monolithically with the COMBINATION CONCRETE CURB AND GUTTER, TYPE B (SPECIAL) section as shown in the plans and shall be constructed with a thickened edge with a depth equal with the bottom of the adjacent pavement thickness. The contractor may also propose an optional construction joint at the location shown in the plans. If the optional construction joint is installed, the epoxy coated tie bars connecting the platform to the curb and gutter section must be installed at right angles to the platform edge at the depth and spacing shown in the plans. The optional construction joint and associated tie bars will not be paid for separately but if used, shall be included in the cost of PORTLAND CEMENT CONCRETE PLATFORM (SPECIAL).

Portions of the platform not abutting roadway pavement, but adjacent to other paved surfaces, such as sidewalk or bike path, shall be constructed with a thickened edge. The depth of the thickened edge shall be such that the overlap between the platform section and the adjacent paved section shall be a minimum of 4 inches, or to the depth shown in the plans, whichever is greater. Preformed joint filler, as detailed in the plans, shall be installed where the platform abuts other paved surfaces.

Joints in the concrete transit platform shall be in continuation of the joints in the adjacent Portland cement concrete pavement or curb and gutter, unless otherwise shown on the plans or directed by the Engineer. Transverse contraction joints shall be constructed in accordance with Section 420.05 (c), omitting load transfer devices. Expansion joints shall be constructed in accordance with Section 420.05 (d), omitting dowel bar assemblies, and Section 424.07.

### Method of Measurement

The PORTLAND CEMENT CONCRETE PLATFORM (SPECIAL) shall be measured for payment in square feet of flat surface area. Vertical surfaces will not be measured for payment.

### Basis of Payment

This work will be paid for at the contract unit price, per square foot, for PORTLAND CEMENT CONCRETE PLATFORM (SPECIAL).

The furnishing and installation of detectable warnings shall be paid for separately as DETECTABLE WARNINGS.

### **XX009125 BUS SHELTER, TYPE 1**

### **XX009127 BUS SHELTER, TYPE 2**

### **XX009132 BUS SHELTER, TYPE 4**

### Description

This work will consist of furnishing and installing bus shelters in locations shown on the plans, details and as specified herein.

### Submittals

Submit with manufacturer's technical data, installation instructions for each manufactured product, including certification that each product complies with specified requirements, manufacturer's project references, and manufacturer's warranty.

### General Requirements

The bus shelters shall be acquired from:

Brasco International  
32400 Industrial Dr.  
Madison Heights, MI 48071  
800-893-3665  
sales@brasco.com  
www.brasco.com

Model: "ECLIPSE EC-Series Transit Shelter". See plans for locations and sizes of the bus shelters.

#### Product Specifications

Design and fabrication of 4' x 8' (Type 1A), 5' x 12' (Type 1), 9' x 24' (Type 2), 9' x 48' (Type 4), 9' x 72' (Type 6), and 9' x 132' (Type 11) Passenger Waiting Shelters, and related Site Furnishings.

#### RELATED WORK

- A. Concrete and Installation (by others)

#### REFERENCES

- The Aluminum Association – Aluminum Design Manual 2010
- American Welding Society – AWS D1.2/D1.2M: 2008
- ASCE 7 2010 Minimum Design Loads for Buildings and Other Structures
- ASTM B 209 Specification for Aluminum and Aluminum Alloy - Sheet and Plate
- ASTM B221 Specification for Aluminum and Aluminum Alloy – Extruded Bars, Rods, Wire, Profiles, and Tubes
- ANSI Z97.1-1975 Safety Glazing Materials Used in Buildings
- Americans with Disabilities Act of 1990 (ADA)

#### SUBMITTALS

- A. Product Data - Manufacturers' brochures, specifications, and installation instructions.
- B. Shop drawings of the complete shelter layout, includes cut section and connection details.
- C. Submit structural engineering design documents bearing the seal of a structural engineer registered in the state of the project.
- D. Manufacturer's statement of certification that materials meet or exceed all applicable loadings (wind load, live load, dead load, snow load) for the project location in accordance with IBC 2006, and ASCE 7-05.
- E. Samples of shelter finish.

#### QUALITY ASSURANCE

- A. Shelter shall be designed to comply with local building codes.
- B. Shelter manufacturer shall have a minimum of 10 years' experience in designing, fabrication, and installing the specified shelter.

#### DELIVERY AND STORAGE

- A. Roof, Walls and other components shall be assembled to the maximum extent possible in clearly labeled crates and cartons.
- B. Store Materials in clean, dry area in accordance with manufacturer's instructions. Keep materials in original, unopened containers and packaging until installation. Do not store in direct contact with the sun or rain.

#### WARRANTY

Manufacturer warrants that shelter shall be free from defect in parts and manufacture for a period of one year.

Manufacturer shall maintain inventory of replacement parts for ten years after delivery of shelter.

#### Product Requirements

##### MANUFACTURER

Shelters shall be models(s): EC0408, EC0512, EC0924, EC0948, EC0972, EC09132 as manufactured by Brasco International, Inc.

##### MATERIALS

- A. All extruded aluminum components shall be 6063T5 Custom aluminum extrusion, with recessed pockets to accept glazing and concealed connections.
- B. Components shall be sized to comply with the load requirement for the project and shall not be less than the dimensions shown on the plan.

##### COLUMNS

- A. Rear columns shall be 6" dia. X .250" wall thickness.
- B. Front columns shall be 4.5" dia. X .250" wall thickness.
- C. Columns contain four integral glazing pockets for gasket and 3/8" wall glazing.
- D. The columns are trimmed with flush snap-in covers to conceal structural fasteners where glazing isn't captured.

##### HORIZONTAL BEAMS

- A. The horizontal rear wall header beam shall be 4.5" dia. x .250 wall thickness with four integral glazing pockets for the 5' deep shelters. The horizontal rear wall header beam shall be 6" dia. x .250 wall thickness with four integral glazing pockets for the 9' deep shelters. The Intermediate header beam shall be 4.5" diam. X .250" wall thickness with four integral glazing pockets for 9' deep shelters.
- B. Horizontal lower sill beams shall be 2.5" dia. x .125 wall thickness with two integral glazing pockets.
- C. Rear header beam shall be continuous welded to attachment sleeves.
- D. The horizontal beams are trimmed with flush snap-in covers to conceal structural fasteners where glazing isn't captured.

##### ROOF

- A. Roof shall be assembled to the maximum extent possible in clearly labeled crates and cartons.
- B. Roof assembly will be field attached to columns with concealed fasteners.
- C. Rafters shall be Arch Design, minimum 3/8" thick aluminum with welded keyway for attachment to header beam.
- D. Roof Glazing shall be .125" aluminum with a matching powder coat painted finish
- E. Roof material shall be captured with channels at front and back of roof. There should also be pressure caps with vinyl gasket at each rafter for proper engagement.

##### FASTENERS

- A. All fasteners shall be stainless steel, aluminum, or a combination of both. Zinc plated fasteners

shall not be accepted.

- B. Ground attachment anchors shall be sized to meet wind load requirements, and shall be Stainless Steel.

#### WALL PANELS

- A. Wall panels shall be 3/8" Clear Tempered Safety Glass. Glass shall be contained in to the gasketed integral pockets of the columns, header beam and sill beams.

#### FINISHES

All aluminum surfaces shall be Traffic Black Powder Coat Painted Finish – RAL 9017.

#### OPTIONS

- A. 6' Eclipse Bench – see bench specification
- B. 10' Lean Rail – see lean rail specification
- C. LED Light – see led light specification.

#### Construction Requirements

Prior to installation, contractor shall complete construction of the transit platforms or sidewalks at the shelter locations as detailed in the plans. Contractor shall coordinate installation of the shelters with the Champaign-Urbana Mass Transit District.

#### Method of Measurement

This work will be measured for payment per each for BUS SHELTER, of the TYPE specified.

#### Basis of Payment

This work shall be paid for at the contract unit price per each for BUS SHELTER, of the TYPE specified, which the price shall include all materials, equipment, and labor necessary to complete the work as specified.

## ILAWC GENERAL WATER MAIN REQUIREMENTS

### ILAWC SECTION 01300 – SUBMITTALS

#### PART 1: GENERAL

##### 1.01 CONSTRUCTION SCHEDULE

- A. Prepare and submit detailed progress schedules, schedule of values and shop drawing and sample submittal schedules to the Engineer for approval in accordance with Paragraphs 2.06 of the General Conditions. The schedule shall be in bar graph form and shall include, as a minimum, the following separate activities:
1. Physical construction (identifying mobilization, demobilization, setup time, lags, etc.).
  2. Issuance by Contractor of purchase orders for material and equipment and submittal of shop drawings and samples to the Engineer.
  3. Review by Engineer for each submittal of samples and shop drawings. Unless otherwise approved by the Engineer, allow ten (10) working days for Engineer to review each submittal.
  4. Fabrication time for materials and equipment.
  5. Delivery of materials and equipment.
  6. Installation of materials and equipment.
  7. Testing, start-up and training for individual pieces of equipment or entire systems as appropriate.
  8. Weather affected activities.
  9. Outages or interruptions of Owner's facilities required to perform work.
  10. Demolition or removal work under this Contract.
- B. Activity durations shall represent the best estimate of elapsed time considering the scope of the Work involved in the activity and the resources planned for accomplishing the activity expressed in working days.
- C. Activity descriptions shall clearly define the scope of work associated with each activity.
- D. Detail the construction work schedule to an extent that progress can be readily monitored on a weekly basis. In general, the construction work shall be detailed such that no construction activity shall have duration greater than fifteen (15) work days. As a minimum, each activity shall be coded by:
1. Activity type (i.e., submittal, Engineer's review, material order material delivery, pilot hole drilling, well testing, development, etc.).
  2. Responsibility (i.e., Contractor, subcontractor A, subcontractor B, Owner, Engineer, etc.).
  3. Area (i.e., Pilot Wells, Production Wells, sitework, etc.).
- E. Develop the construction schedule as necessary to properly control and manage the project. The above schedule development requirements are a minimum.

- F. The preliminary progress schedule shall be submitted in a bar graph format and shall include, as a minimum, a graphic representation of all significant activities and events involved in the construction of the project. The graphic representation and statement must clearly depict and describe the sequence of activities planned by the Contractor, their interdependence and the times estimated to perform each activity.

#### **1.02 FINALIZING SCHEDULES**

- A. Prepare to present and discuss at the preconstruction meeting, the schedules submitted in accordance with this specification. Unless additional information is required to be submitted by the Contractor, the Engineer will, within 15 working days of the preconstruction conference, provide comments to the Contractor. Then resubmit the affected schedules addressing the Engineer's comments.
- B. Approval of the final schedules by the Engineer is advisory only and shall not relieve the Contractor of responsibility for accomplishing the work within the Contract Times. Omissions and errors in the approved schedule shall not excuse performance less than that required by the Contract. Approval by the Engineer in no way makes the Engineer an insurer of the success of those schedules or liable for time or cost overruns flowing from shortcomings in such schedules.

#### **1.03 REQUIREMENTS FOR CONFORMING TO SCHEDULE**

- A. Take such steps as will be necessary to improve progress, if, in the opinion of the Engineer, the Contractor falls behind the progress schedule. Engineer may require Contractor to increase the number of shifts and/or overtime operations, days of work, and/or the amount of construction planned, and to submit for approval such supplementary schedule or schedules as may be deemed necessary to demonstrate the manner in which the agreed rate of progress will be regained, all without additional cost to the Owner. An updated cash flow schedule will be required in this occurrence and will be provided with the supplementary schedules referenced above.

#### **1.04 UPDATING SCHEDULES**

- A. Submit to the Engineer monthly updates of the schedules required per this specification section. Be prepared to discuss the monthly update and the subsequent monthly job meeting if such meetings are to be held.
- B. Progress and shop drawing schedule updates shall reflect the progress to date by providing actual start dates for activities started, actual finish dates for completed activities, and identifying out of sequence work, schedule logic changes and any circumstances or events impacting the current schedule. The updates shall also contain the Contractor's best estimate of the remaining duration for activities not complete as of the date of the update. All graphic presentations and other information required per the initial submittal of these schedules shall be provided with each update.
- C. The cash flow schedules shall be updated to reflect any changes.

#### 1.05 ADJUSTMENT OF PROGRESS SCHEDULE AND CONTRACT TIMES

- A. If the Contractor desires to make changes in the method of operating which affect the approved progress schedule, notify the Engineer in writing stating what changes are proposed and the reason for the change. If the Engineer approves these changes, revise and submit for approval, without additional cost to the Owner, all of the affected portions of the schedule.
- B. Shop drawings and samples which are not approved on the first submittal or within the schedule time shall be immediately rescheduled, as well as any work which fails to pass specified tests or has been rejected.
- C. The Contract Times will be adjusted only for causes specified in the General Conditions. In the event the Contractor requests an adjustment of the Contract times, furnish such justification and supporting evidence as the Engineer may deem necessary for a determination as to whether the Contractor is entitled to an adjustment of Contract Times under the provisions of the General Conditions. The Engineer will, after receipt of such justification and supporting evidence, make findings of fact and will advise the Contractor in writing. If the Engineer finds that the Contractor is entitled to any adjustment of the Contract Times, the Engineer's determination as to the total number of days adjustment shall be based upon the currently approved progress schedule and on all data relevant to the adjustment. The Contractor acknowledges and agrees that actual delays in activities which, according to the progress schedule, do not affect the Contract completion date shown by the critical path in the schedule will not be the basis for an adjustment of Contract Times.
- D. From time to time it may be necessary for the progress schedule and/or Contract Times to be adjusted by the Owner to reflect the effects of job conditions, weather, technical difficulties, strikes, unavoidable delays on the part of the Owner, and other unforeseeable conditions which may indicate schedule and/or Contract Times adjustments. Under such conditions, the Engineer shall direct the Contractor to reschedule the work and/or Contract Time to reflect the changed conditions. Revise the construction schedule accordingly. No additional compensation shall be made to the Contractor for such changes except as provided in the General Conditions. Unless otherwise directed, take all possible actions to minimize any extension to the Contract Times and any additional cost to the Owner.

#### 1.06 CASH FLOW SCHEDULE

- A. In addition to the Construction Schedule required above, submit to the Engineer, for approval, a Cash Flow Schedule. The Cash Flow Schedule shall show the amounts of money by months, which will be required to reimburse the Contractor for Work performed during each month of the Contract Time. The sum of all the monthly cash requirements shall equal the total price of the Contract. The monthly cash requirements shall be proportioned with the aid of the Construction Schedule.
- B. The approved Cash Flow Schedule will be used by the Owner to program funds for progress payments to the Contractor. Monthly payments will be made to the Contractor in accordance with the Contract Agreement, but at no time will the

aggregate amount of payments exceed the accumulated amount of payments for the same period of the Cash Flow Schedule.

#### **1.07 SHOP DRAWINGS**

- A. Promptly supply to the Engineer for approval, shop drawings with details and schedules for all items as noted in the Drawings and/or Specifications and/or required by the Engineer. Submittals are required for all equipment and materials to be installed on the job.
- B. Five (5) copies of all drawings, schedules and brochures shall be submitted for approval. Black line prints, blue line prints or reproducible transparencies are required. Blueprints (white lines on a blue background) are not acceptable. Each submittal shall have the job name on it.
- C. Submittals smaller than 8-1/2 by 11 inches shall be secured to paper 8-1/2 by 11 inches.

#### **1.08 SAMPLES**

- A. When required by the Engineer or where noted in other Sections of these Specifications, samples of materials shall be submitted for approval.

#### **1.09 PRE-CONSTRUCTION VIDEO/ELECTRONIC PHOTOS**

- A. Prior to mobilization at the site, furnish to the Engineer two copies of a video recording of all planned construction areas, material storage areas, areas adjacent to these areas, including but not limited to, streets, driveways, sidewalks, curbs, ditches, fencing, railing, visible utilities, retaining structures and adjacent building structures. One copy shall be on DVD and one on a flash drive. The purpose of the video is to document existing conditions and to provide a fair measure of required restoration. Care should be taken to record all existing conditions which exhibit deterioration, imperfections, structural failures or situations that would be considered substandard. Notify the Engineer when the video is to be taken to provide the Engineer an option to be on site during the documenting of the project area.
- B. The video shall be high quality, color and in an approved electronic format. Temporary lighting shall be provided as necessary to properly video areas where natural lighting is insufficient (indoors, shadows, etc.). The video shall include an audio soundtrack to provide the following information:
  - 1. Detailed description of location being viewed referenced to Contract Drawings (i.e., well location, building designation, pipeline route etc.)
  - 2. Direction (N, S, E, W, looking up, looking down, etc.) of camera view
  - 3. Date, time, temperature, environmental conditions during recording.

Where required by Engineer, electronic photographs of specific locations shall be provided to supplement the electronic video.



- C. Any areas not readily visible by video/photo methods shall be described in detail. Unless otherwise approved by Engineer, video shall not be performed during inclement weather or when the ground is covered partially or totally with snow, ice, leaves, etc.
- D. As many recordings or photos as are necessary to satisfy the requirements of this section shall be prepared. The original documents shall be submitted to the Engineer accompanied by a detailed log of the contents of each DVD. The log should include location descriptions with corresponding file name to facilitate the quick location of information contained on the DVDs. The DVDs will be maintained by the Engineer during construction and may be viewed at any time by Contractor upon request. Upon final acceptance, the DVDs will become the permanent property of the Owner.

#### 1.10 PROGRESS PAYMENTS

- A. The detailed arrangement for submittal of progress payments shall be discussed at the preconstruction meeting. In general, progress payments shall be submitted monthly in a format acceptable to the Engineer. The progress payment request shall be based on the unit prices and should provide the percentage of completion, total dollar value completed, dollar value completed prior to the current payment, and the amount requested for this progress payment for each line item contained in the schedule of values. Progress payment requests for material and/or equipment suitably stored but not yet incorporated into the work shall be accompanied by a copy of the appropriate manufacturers invoice, shipping order, bill of lading, etc. and the progress payment amount shall be the direct cost to the Contractor, or subcontractor, for such material and/or equipment. Payment will not be made to the Contractor if, upon inspection by the Engineer, it is determined that the material and/or equipment does not conform to the requirements of the Contract Documents including proper storage, receipt of approved shop drawings, receipt of any special guarantees, Bonds, insurance coverage, any evidence of damage or imperfections, etc.

#### 1.11 CONTRACTOR'S DAILY REPORTS

- A. If requested by the Engineer or the Resident Project Representative, prepare and submit daily reports containing the following information:
  - 1. The number of craftsmen and hours worked of each subcontractor,
  - 2. The number of hours worked by each trade,
  - 3. The number of hours worked of each type of equipment,
  - 4. A description of work activities performed,
  - 5. A description of any material or equipment deliveries,
  - 6. Description of obstructions encountered,
  - 7. The temperature and weather conditions.
  - 8. Downtime due to equipment failure.
  - 9. Detail cause for work delays.
- B. The daily reports shall be submitted on a daily basis, by the end of the next business day.

- C. Information provided on the daily report shall not constitute notice of delay or any other notice required by the Contract Documents. Notice shall be as required therein.

#### **1.12 OPERATING AND MAINTENANCE INSTRUCTION MANUALS**

- A. Prepare complete written maintenance and operating instructions covering any equipment provided under this Contract. Divide the operating instructions into basic sections according to type of equipment.
- B. Instructions shall describe all equipment and controls, their purpose, and their operation and use. Include maintenance checklists for use by the Owner's personnel and a complete listing of replacement parts with pertinent information relative to ordering such parts.
- C. Submit instructions in duplicate draft form for review by the Engineer at least eight weeks prior to initial operation and in final form within thirty days after return of one copy of the draft with the Engineer's notations.
- D. Prior to release of Final Payments, revise and resubmit copies of the instructions to accord with any changes in procedures or equipment made during start-up or initial operation. Resubmittals are also required for changes made during the guarantee period.

#### **1.13 REQUIREMENTS FOR AMERICAN WATER ASSET VALUES**

- A. Provide a breakdown of the contract amount by Property Units in accordance with the list of Property Units that can be provided as requested. This process requires that the contractor assign the full cost of the project to lengths of pipe (by material and size), length of services (by material and size), hydrants, valves (by size), manholes and other fixtures (air relief valves, blowoffs, etc.) in the project. The submission must be approved by the Engineer to verify that the breakdown is realistic and reflects submitted contract unit prices.

#### **1.14 AS BUILTS**

Where identified as a product of the work, provide as built drawings adhering to the criteria provided here and that found in the special conditions.

- A. Templates - All measurements and information shall be recorded on templates provided. No other backgrounds, templates nor formats will be accepted for the As-Built submission.
- B. Recording the Information - Provide the Record As-Built information in both 'Electronic and Hard' copy mediums, with the exception of the Field Sketches. The Field Sketches are not required to be in the electronic format. The electronic medium format shall be in AutoCAD 2000 or later. The base drawing shall be drawn in Model Space at a scale of 1 to 1, in real world coordinates and all plotting, labeling and dimensioning shall be drawn from Paper Space. Templates shall not be modified or resized due to

Optical Scanning requirements. The layering convention and color scheme shall follow the samples provided.

- C. Coordinates – Provide the required survey coordinates in the State Plane Coordinate System unless otherwise noted. The drawing features included shall be as noted below (See 'Pipeline As-Built Drawing Procedure').
- D. Submitting the Information - When the Record information is ready, submit 'Hard' copies of all the information, including sketches to the Engineer for approval. The electronic information shall be burned on a CD (CD-RW). The CD shall have an all white label with the following information on the upper half of the label in Arial 12 font:  
Illinois American Water, Champaign District,  
MCORE P-1  
1406 Cardinal Ct, Urbana IL 61801
- E. The Information Process - The Engineer will approve the submission or 'red line' any information needing to be corrected or added, and return it for resubmission. When the submittal is approved by the Engineer, provide two CD-RW's each containing all approved Record As-Built information in a clear face hard plastic CD jacket and one hard copy of all approved Record As-Built information (binder clipped together, not bound)

Initial submission must be provided within (14) calendar days of the 'Construction Completion' date, not including the restoration work. The Engineer will return the submission within (7) calendar days of receipt. The approved final submission must be provided within twenty-eight (28) calendar days from the 'Construction Completion' date, not including the restoration work.

- F. General information required - At a minimum, all As-Built record drawings shall contain the following information:
  - 1. North Arrow with North at the top of the drawing
  - 2. Face of curb lines, easement lines, edge of pavement (EOP) or right-of-way lines
  - 3. Business Unit (BU) Number (data provided by Engineer)
  - 4. Plate Map number (data provided by Engineer)
  - 5. All objects located shall be referenced to other objects with (3) perpendicular measurements. All such measurements shall be from permanent existing structures, such as catch basins, manholes, buildings, etc. (no utility poles)
  - 6. The proposed pipeline 'line' designation shall be shown in bold or heavier line style per template and sample.
- G. Pipeline information required - At a minimum, all As-Built record drawings shall contain the following information:
  - 1. Title Block Information completed (note, any street with work performed in it must have its name included in the title block)
  - 2. Each drawing shall include only the work along one street block (transmission mains excluded). And include the intersecting street corners with the distance to the center line of each intersection. Include Match Lines if multiple drawings are required.

3. If more than one drawing is required, include an overall site plan of the whole project with a drawing key
  4. Pipe diameter and material
  5. Bill of Materials with arrow identifying where installed
  6. Date the water main was put 'In-service' (data provided by Engineer)
  7. Include valve, hydrant and tap/service identifying numbers for each (data provided by Engineer)
  8. Reference the Point of Connection where the new main pipeline connects to existing Owner facilities and provide dimensions to nearest existing appurtenance
  9. If project continues from an existing stub, a dimension from the center line of the nearest street intersection and existing line valve shall be included. Provide coordinates for the referenced existing valve.
  10. If the project is a continuation of a previous project, reference the previous project reference number
  11. All Valves, tees, horizontal/vertical bends, and the start and end of the new water main shall be located with coordinates in the specified format.
  12. All connections, wet cuts and fittings not required to have coordinates shall be dimensionally located
  13. Indicate abandoned pipe with type of material and length (if applicable)
  14. Indicate and locate buried valves (if applicable) with coordinates in the specified format.
  15. Provide measurement from face of curb or edge of pavement at every 250 foot maximum along the pipeline
  16. At abrupt changes in pipe elevation, provide a referenced drawing showing the profile of the work and list the material used
  17. Provide the depth from finish grade to top of pipe every 100 lf, and at the start and end of the new water main
  18. Name of Contractor and Construction Inspector (full last name) on the project (locate in title block)
- H. Transmission Pipeline Information - Transmission Mains are typically 16" in diameter and larger; however, the Engineer may classify some 12" diameter pipe projects as a transmission main. Transmission main as-built drawings shall include all relevant information noted above and the following:
1. Title Sheet to include at a minimum:
    - a. American Water District & Project name
    - b. Project Business Unit Number (data provided by Engineer)
    - c. Design Consultant Engineering Company name
    - d. Project date
    - e. County and Town
    - f. List of drawings
    - g. Drawing key with corresponding drawing reference
  2. Include both Pipeline plan and profile views, and include both on the same sheet. Provide a detail sheet copying all valve cards (data provided by Engineer) listed those included and not included on the plan/profile sheets
  3. Include drawing details of all interconnections

4. Provide the Manufacturer data for the pipe, fittings and appurtenances on the drawings
  5. Show and identify all restraint locations
  6. Include valves, bends, tees, and top of main elevation every 300 foot maximum with coordinates in the specified format.
- I. Connection (Tap and Service) Drawing Information - Service drawings are required where services currently do not exist. This drawing can be incorporated into the Pipeline Drawing noted above. Service drawings shall be on the 11" x 17" template. The drawing shall contain the general information above and the following additional information:
1. Title Block information completed
  2. Every service connection, service valve or curb stop, if installed, shall be located dimensionally with separate measurements for both the corporation and curb/meter box
  3. Valves shall be located with coordinates in the format specified
  4. Identify the main pipeline size, type and location from nearest face of curb or edge of pavement
  5. Tap number and house address shall be clearly shown at each location
  6. Show the size, length and service material
  7. Match lines and/or drawing key if more than one sheet
- J. Field Sketches - Some items installed required separate detailed field sketches. This includes the following
1. Valves (including Valves for Blow-offs) - Valve location measurements and information shall be shown on an 8½" x 11" sketch. Separate sketches are required for each valve, regardless of their proximity to each other. The sketch should be an enlarged and more detailed version of what is depicted on the Pipeline drawing. Any 'Blow-offs' installed with the work shall be shown in detail on a Valve sketch with the same level of information as a valve. At a minimum, all Valve sketches shall contain the following:
    - a. Manufacturer, type, open direction and number of turns (confirm open direction upon delivery)
    - b. Main Pipeline type and size
    - c. Valves and Blow-offs shall be located with NJSPCS NAD 83 coordinates
    - d. Valve identifying number (data provided by Engineer)
    - e. Identify other valves, hydrants, fittings and blow-offs within the immediate vicinity
    - f. Identify permanent existing structures
    - g. At least (3) tie down measurements to valve from permanent existing structures including catch basins, manholes, buildings, curbs, etc. (no utility poles)
  2. Hydrant - Submit hydrant location measurements and information on an 8½" x 11" sketch. Each 'hydrant' shall have a separate sketch. The sketch should

be an enlarged and more detailed version of what is depicted on the Pipeline drawing. At a minimum, all Hydrant sketches shall contain the following:

- a. Manufacturer and hydrant number (data provided by Engineer)
  - b. Bill of Material
  - c. Hydrant valves shall be located with NJSPCS NAD 83 coordinate
  - d. Record flow test results on sketch. If no test was required record static pressure (data provided by Engineer)
  - e. Main Pipeline and lateral type and size
  - f. Identify other valves, hydrants, fittings and blow-offs within the vicinity
  - g. Identify permanent existing structures
  - h. If an existing hydrant was relocated, reference the old hydrant number and its BU (data provided by Engineer)
3. Tap (Service Connections Installed) -Tap location measurements and information shall be shown on an 8½" x 11" sketch. Each 'service' shall have a separate Tap sketch. The sketch should be an enlarged and more detailed version of what is depicted on the Pipeline drawing / Service drawing. At a minimum, all Tap sketches shall contain the following:
- a. Locate dimensionally the identified Service/Tap
  - b. Sketch shall be oriented with the building receiving the service at the top of the sketch.
  - c. Locate dimensionally the tapped water main from nearest face of curb or EOP
  - d. Locate dimensionally the curb/meter box from nearest curb or EOP
  - e. Tap identifying number (data provided by Engineer)
  - f. House address number and Lot & Block number when applicable (data provided by Engineer)
  - g. Length of 'Service'
  - h. Valve ID Number (data provided by Engineer)
  - i. Valves shall be located with NJSPCS NAD 83 coordinates
  - j. Service to Service dimensions if less than 100 feet
  - k. Identify anything that is underground within (6) feet of the service tap (i.e. blow-offs, chlorine tap, electric, gas, etc.)
  - l. Separate measurements for both the corporation and curb/meter box
  - m. At least (3) tie down measurements to curb/meter box from permanent existing structures including catch basins, manholes, buildings, curbs, etc. (no utility poles)
  - n. When a service is renewed, the sketch should be labeled "Renew and Increase" and the customer's size and type of material should be recorded
  - o. Bill of Material used
  - p. Depth of service at curb

## **PART 2: PRODUCTS**

### **2.01 TESTING DATA CERTIFICATES**

- A. Product testing shall comply with all respective AWWA standards. The certificates of compliance shall be electronically scanned and submitted by E-mail to the Engineer or by submitting the hard copy originals to the Engineer.

**PART 3: EXECUTION - Not Used.**

END OF SECTION

**ILAWC SECTION 02020 - DEWATERING**

**PART 1: GENERAL**

**1.01 GENERAL**

- A. Should water be encountered, furnish and operate pumping equipment of sufficient capacity to dewater the trench. Dewater the trench so that the laying and joining of pipe is made in a dry environment so as to prevent water from entering the pipe during construction.
- B. No additional sum will be allowed for any reasonably anticipated dewatering operation, overtime, equipment rental or any other expense incurred due to the occurrence of ground water, surface water or water from possible leakage of existing buildings, structures and piping in the vicinity of the Contractor's operations. If Contractor believes unreasonable, unanticipated wet conditions exist, immediately contact Engineer to decide appropriate measures and to determine whether Contractor is entitled to additional compensation.
- C. Convey all trench water to a natural drainage channel or storm sewer without causing any property damage. Discharge shall be in strict accordance with state and/or local requirements.
- D. Dispose of silt and debris which accumulates during construction in strict accordance with state and/or local requirements.

**1.02 PERMITS**

- A. The Contractor shall obtain and pay for any permits required for dewatering and disposal.

**PART 2: PRODUCTS Not Used**

**PART 3: EXECUTION Not Used**

END OF SECTION

**ILAWC SECTION 02220 - CASING INSTALLATION**

**PART 1: GENERAL**

**1.01 GENERAL REQUIREMENTS**

- A. The installation of casing pipe shall conform to these Specifications and any Federal, State or local Highway requirements or applicable Railroad requirements whichever may be more restrictive.

**1.02 SUBMITTALS**

- A. Submit details of proposed jacking or boring pits to the Engineer showing locations, dimensions, and details of sheeting and shoring required, if requested.

**PART 2: PRODUCTS**

**2.01 MATERIAL**

- A. Casing pipe shall be bare wall steel pipe with a minimum yield strength of 35,000 psi and a minimum wall thickness as listed below:

Casing Outside Diameter <u>Inches</u>	Highway Crossings Casing Wall Thickness <u>Inches</u>	Railroad Crossings Casing Wall Thickness <u>Inches</u>
8.625	0.250	0.250
10.75	0.250	0.250
12.75	0.250	0.250
14	0.250	0.281
16	0.250	0.281
18	0.250	0.312
20	0.312	0.344
24	0.312	0.406
30	0.375	0.469
36	0.500	0.532
42	0.500	0.563
48	0.625	0.625
54	0.625	0.688
60	0.625	0.750
66	0.625	0.813
72	0.750	0.875

Smooth wall steel plates with a nominal diameter of over 54 inches shall not be permitted. The inside diameter of the casing pipe shall be: at least four (4) inches greater than the outside diameter of the carrier pipe joints or couplings for carrier pipe less than six (6) inches in diameter; and at least six (6) inches greater than the outside diameter of the carrier pipe joints or couplings for carrier pipe six (6) inches and greater in diameter.



### **PART 3: EXECUTION**

#### **3.01 ALIGNMENT AND GRADE**

- A. Locate pipelines to cross roadways or tracks at approximately right angles where practicable, but preferably at not less than 45 degrees. Do not place pipelines in culverts or under bridges where there is a likelihood of their restricting the area required for the purposes for which the bridges or culverts were built, or of endangering the foundations. Install the casing pipe on an even grade for its entire length and sloped to one end or as noted in a profile plan if provided. Satisfy a maximum tolerance of 1.5% (18" in one hundred feet) with the desired location of the casing or as otherwise required by regulation or specified on the plans, whichever is more restrictive.

#### **3.02 WELDING**

- A. Connect steel casing sections by welding. Welding shall conform to AWWA Standard C206.

#### **3.03 PROTECTION AT ENDS OF CASING**

- A. Block up both ends of casings in such a way as to prevent the entrance of foreign material, but to allow leakage to pass in the event of a carrier break.

#### **3.04 DEPTH OF INSTALLATION**

- A. Unless the depth of casing pipe is specifically specified on the drawings, the casing pipe depth shall be in accordance with highway or railroad requirements.

#### **3.05 CASING INSULATORS**

- A. The carrier pipe and casing shall be separated by an insulator. The insulator spacing shall be installed to support the weight of the pipe and contents. As a minimum, an insulator shall be placed a maximum of 3 foot from each side of a joint and evenly spaced along the carrier pipe with 3 insulators per each length of carrier pipe. Timber skids are not allowed. Casing insulators shall be sized according to the manufactures specifications for pipe sizes from the following list of approved manufactures and casing types.
  - 1. Cascade Water Works Manufacturing Company (Stainless Steel only).
  - 2. Pipeline Seal and Insulator, Inc. (Carbon Steel with polyvinyl chloride or the Ranger II model).
  - 3. Advanced Products and Systems, Inc. (Model SI).
  - 4. Power Seal Pipeline Products Corp. (Model 4810).
  - 5. RACI (polyethylene model F-60 for 12-inch carrier pipe and smaller). RACI shall not be used for carrier pipe larger than 12-inch.
- B. At the sole discretion of the Engineer, alternate manufactures in lieu of those described above and new or improved products by the same manufactures may be permitted.

To seek approval, adequately describe any proposed alternate product and submit the same with shop drawings and specifications to the Engineer. The Contractor cannot proceed to employ said alternate products prior to receiving written approval from the Engineer.

### 3.06 INSTALLATION

- A. Refer to Standard Detail in the drawings for a typical casing installation detail. Install casing pipes by one of the following methods:

1. Jacking

This method shall be in accordance with the current American Railway Engineering Association Specifications, Chapter 1, Part 4, "Jacking Culvert Pipe Through Fills", except that steel pipe shall be used with welded joints. Conduct this operation without hand mining ahead of the pipe and without the use of any type of boring, auguring or drilling equipment. Design the bracing, backstops, and jacks so that the jacking can progress without stoppage (except for adding lengths of pipe).

2. Drilling

This method employs the use of an oil field type rock roller bit, or a plate bit made up of individual roller cutter units, welded to the pipe casing being installed. Turn the pipe for its entire length from the drilling machine to the head to give the bit the necessary cutting action against the ground being drilled. Inject high density slurry (oil field drilling mud) through a supply line to the head to act as a cutter lubricant. Inject this slurry at the rear of the cutter units to prevent any jetting action ahead of the pipe. Advance the drilling machine on a set of steel rails (thus advancing the pipe) by a set of hydraulic jacks. The method can be used to drill earth or rock.

3. Boring

This method consists of pushing the pipe into the fill with a boring auger rotating within the pipe to remove the soil. When augers or similar devices are used for pipe placement, the front of the pipe shall be provided with mechanical arrangements or devices that will positively prevent the auger and cutting head from leading the pipe so that there will be no unsupported excavation ahead of the pipe. The auger and cutting head arrangement shall be removable from within the pipe in the event an obstruction is encountered. The over-cut by the cutting head shall not exceed the outside diameter of the pipe by more than one-half inch. The face of the cutting head shall be arranged to provide reasonable obstruction to the free flow of soft or poor material.

If an obstruction is encountered during installation that stops the forward action of the pipe, and if it becomes evident that it is impossible to advance the pipe, operations will cease and the pipe shall be abandoned in place and filled completely with grout.

Bored or jacked installations shall have a bore hole essentially the same as the outside diameter of the pipe. Grout any voids that develop. Also grout around the casing pipe when the bore hole diameter is greater than the outside diameter of the pipe by more than 1 inch.

4. Directional Drilling – see Specification 02458

This process employs a drilling bit that is guided through soil to create a round cavity, which will stay intact with suitable soils and conditions for at least several days. Consequently, soil testing may be required by the Engineer. Test hole and ream as required. The drill head is propelled and remains linked to the rig by adding segments of rod as the head proceeds forward. After the hole has been completed the drill bit is removed and a pulling adaptor is attached to the drilling stem and pipe is secured to the adaptor.

As the adaptor is pulled back to the rig, segments of drill rod are removed. Pipe is either a continuous fused material or segments of restrained pipe are added as the adaptor is pulled back to the rig. The selection of pipe material and restraints, if required must be approved by the Engineer. The process continues until the adaptor returns to the rig and all of the water main is in place.

This process may be employed only if approved by Engineer and governing transportation and or regulating authority). The drilled opening and pipe inserted cannot be less than 3 inches in tolerance. Circulate grout in annular space completely. Alignment and grade must be maintained and the drilled hole must be controllable using steering technology. Use radio equipment to track. Provide report of depth and location at 20 foot intervals during installation and submit as a report.

END OF SECTION

**ILAWC SECTION 02558 - IDENTIFICATION/LOCATION GUIDE**

**PART 1: GENERAL**

**1.01 SCOPE**

- A. Furnish and install identification tape and location wire over the centerline of buried potable water mains, hydrant branches, and trenched services as indicated in this specification or noted in the drawings.

**PART 2: PRODUCTS**

**2.01 IDENTIFICATION TAPE**

- A. Identification Tape for Pipe

Identification tape shall be manufactured of polyethylene with a minimum thickness of 4-mils and shall have a 1-mil thick metallic foil core. The tape shall be highly resistant to alkalis, acid and other destructive agents found in soil. Tape width shall be a minimum of 3 inches and a maximum of 6 inches and shall have the background color specified below, imprinted with black letters. Imprint shall be as specified below and shall repeat itself a minimum of once every 2 feet for entire length of the tape.

- B. Tape background colors and imprints shall be as follows:

Imprint

Background Color

“CAUTION CAUTION - WATER LINE BURIED BELOW” Blue

- C. Identification tape shall be “Terra Tape” as manufactured by Reef Industries, Inc., Houston, TX.

## 2.02 LOCATION WIRE

- A. Location (Tracer) Wire for Polyvinyl Chloride and HDPE pipe (and other pipe where noted in the drawings or identified in special conditions)

Location wire shall be a direct burial #12 AWG Solid (.0808” diameter), 21% conductivity annealed copper-clad high carbon steel strength tracer wire, 380# average tensile break load, 30 mil. High molecular weight-high density blue polyethylene jacket complying with ASTM D1248, 30 volt rating. The wire shall be contiguous except at test stations, valve boxes, and where splicing is required. All splices shall be encased with a 3M-Gel Pack model No. 054007-09053. Wire insulation shall be highly resistant to alkalis, acid and other destructive agents found in soil.

- B. Location Wire shall be from Copperhead Industries, LLC, part number 1230B-HS.
- C. If directional drilling is used for this project please refer to specification 02458 for the product description of location wire to be used with the directional drilling.

## 2.03 RESTRAINED JOINT MARKING TAPE

- A. Joint restraint tape is specifically to warn Water Company workers/contractors that the water main is joint restrained. It is not to be used in place of regular marking tape.
- B. Restrained Joint Marking Tape (for with mains that are restrained joint as directed by the Engineer) shall be polyethylene 4-mil thick and 2 ½-inches wide with blue lettering on white background color and imprinted with the words “RESTRAINED JOINT” every 2 foot. The tape shall have an adhesive backer. The tape shall be highly resistant to alkalis, acid and other destructive agents found in soil.
- C. Restrained Joint Gasket indicator tape shall be part number 515401-010 manufactured by St. Louis Paper & Box Company located at 3843 Garfield, St. Louis, MO 63113.

## PART 3: EXECUTION

### 3.01 INSTALLATION OF IDENTIFICATION TAPE

- A. Install the identification tape with all buried potable water lines in accordance with the manufacturer’s installation instructions and as specified.
- B. Install identification tape one foot above the top of the pipe.

### 3.02 INSTALLATION OF LOCATION (TRACER) WIRE

- A. Install location wire with buried water lines in accordance with the manufacturer's installation instructions and as specified in Contract Documents.
- B. Install the location wire directly on top of the buried pipe.
- C. In all pipe installations, loop the location wire up into a Tracer Wire Access Box not the valve boxes for connection to a locating device. The wire shall be one continuous piece from access box to access box up to 1250 feet maximum.

### 3.03 INSTALLATION OF RESTRAINED JOINT MARKING TAPE

- A. Install the joint marking tape by adhering directly to the pipe as it is installed. The marking tape shall be installed along the entire length of pipe, including around the circumference of the bells of all fittings and valves. The pipe must be free of any foreign matter along the surface of the pipe for the marking tape installation. If clear polywrap is used, the restrained joint tape can be applied on the top of the pipe so long as it is visible. Otherwise the joint marking tape shall be applied on top of the polywrap and secured so the tape is not shifted by backfilling.
- B. The tape does not adhere in wet or cold conditions. The tape should be stored in temperatures above 50 degrees F until the time of application. The pipe must be free of frost and moisture along the surface of the pipe receiving the tape.

END OF SECTION

## ILAWC SECTION 03300 - CAST-IN-PLACE CONCRETE

### PART 1: GENERAL

#### 1.01 SCOPE OF WORK

- A. Provide concrete for thrust blocking, manhole bases, pipe encasement, curbs, sidewalks and pavement in accordance with this Specification Section.

### PART 2: PRODUCTS

#### 2.01 MATERIALS

- A. Portland Cement shall be Type I or Type III and conform to "Specification for Portland Cement" ASTM C150.
- B. Air-Entraining Agent from approved manufacturer shall be added in accordance with manufacturer's directions to the normal Portland cement to entrain 4½ percent air ± 1 percent with all other ingredients and strength as specified. Air-entraining admixtures shall conform to "Specifications for Air-Entraining Admixtures for Concrete" ASTM C260.

- C. Concrete Aggregates shall conform to "Specifications for Concrete Aggregates" ASTM C33. Coarse aggregates shall be a maximum of 1½ inches in size in footings and plain concrete. Pea gravel shall be used for sections 3 inches or less in thickness.
- D. Water used in mixing concrete shall be clean and free from injurious amounts of oils, acids, alkalis, organic materials, or other deleterious substances. In effect, the water used shall be potable water.
- E. Reinforcing Bars shall be billet steel grade (60,000 psi minimum yield) conforming to the requirements of ASTM A615, Grade 60. Reinforcing bars shall be new stock, free from rust, scale, or other coatings that tend to destroy or reduce bonding.
- F. Welded Wire Mesh shall conform to "Specifications for Welded Steel Wire Fabric for Concrete Reinforcements" ASTM A185.
- G. Premolded Expansion Joint Material shall be provided where shown on the Drawings or directed by the Engineer. This non-extruding compressible joint material shall conform to the requirements of "Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction", ASTM D1751.

## 2.02 CONCRETE MIXES

Ready-mixed concrete shall conform to "Specifications for Ready-Mixed Concrete", ASTM C94.

- A. All concrete mixes shall produce a dense durable concrete. The minimum 28 day compressive strength of the concrete shall be:
- B. 3,000 psi - thrust blocking, sidewalks, curbs and pipe encasement. 4,000 psi - manhole bases and road pavement
- C. Water/cement ratio for the concrete shall not exceed a maximum as shown in Table 4.4 of the ACI Standard 318 latest edition, Building Code Requirements For Reinforced Concrete, when strength data from field experience or trial mixtures are not available. A workable concrete with minimum slump of 3 inches and a maximum slump of 5 inches shall be produced without exceeding the water/ cement ratio.

## PART 3: EXECUTION

### 3.01 FORMWORK

- A. Build all forms mortar tight and of sufficient rigidity to prevent distortion due to the pressure of the concrete and other loads incidental to the construction operations. Construct and maintain forms so as to prevent warping and the opening of joints.
- B. The forms shall be substantial and unyielding. Design the forms so that the finished concrete conforms to the proper dimensions and contours. Design the forms to take into account the effect of the vibration of concrete during placement.

### 3.02 PLACING REINFORCING STEEL

- A. Place all steel reinforcement accurately in the positions shown on the plans. Secure the steel reinforcements firmly in place during the placing and setting of concrete. When placed in the work, it shall be free from dirt, detrimental rust, loose scale, paint, oil or other foreign material. When spacing between crossing tie bars is one foot more, tie all bars at all intersections. When spacing is less than one foot in each direction tie alternate intersections of bars.
- B. Maintain distances from the forms by means of stays, blocks, ties, hangers or other approved supports. Continuous high chairs will not be permitted. Furnish all reinforcement in full lengths as indicated on the plans. Splicing of bars will not be permitted without the approval of the Engineer, except where shown on the plans. Stagger splices as far apart as possible. Unless otherwise shown on the plans, bars shall be lapped 36 diameters to make the splice.
- C. Lap welded wire mesh at least 1½ meshes plus end extension of wires but not less than twelve (12) inches in structural slabs. Lap welded wire mesh at least ½ mesh plus end extension of wires but not less than six (6) inches in slabs on the ground.

### 3.03 CONVEYING AND PLACING CONCRETE

- A. Convey concrete from the mixer to the forms as rapidly as practical by approved methods which will prevent segregation and loss of ingredients.
- B. Clean formwork of dirt and construction debris, drain water, and remove snow and ice. After the forms have been inspected, deposit the concrete in approximately horizontal layers to avoid flowing along the forms. Place all concrete in the dry free from standing water. Deposit all concrete continuously or in layers of a thickness such that no concrete will be deposited on concrete which has hardened sufficiently to cause the formation of seams and planes of weakness within the sections. Place the concrete to create a monolithic structure the component parts of which are securely bonded together. Compact the concrete during placement by suitable means. Work the concrete around the reinforcement and embedded fixtures and into corners and angles of forms, taking care to avoid overworking which may result in segregation.
- C. Do not drop concrete into forms from a height greater than 5 feet. Use a spout to deposit concrete from a greater height; or, provide openings in the forms limit the height of drop. Obtain the approval of the Engineer before using any other method of placing concrete from a height greater than 5 feet.
- D. Direct concrete through chutes to prevent it from striking reinforcement or sides of the form above the level of placement. Avoid segregation and coating of the surfaces with paste which may dry before concrete reaches its level.
- E. Submit a concrete mix design to the Engineer for approval prior to placing any concrete by pumping.

### 3.04 THRUST BLOCKING

- A. See the thrust blocking details. Notify the Engineer whenever field conditions are noted which are more restrictive than the thrust block design data included on detail drawing 0201-0601-SD6.
- B. Construct blocking against the vertical face of undisturbed earth or sheeting left in place. Prevent the concrete from enclosing more than half the circumference of the pipe unless it is a straddle block. Keep the concrete away from joints or bolts in the piping.
- C. If thrust blocks are employed, place thrust blocking for hydrants to allow the hydrant to drain.

### 3.05 PLACING CONCRETE IN COLD WEATHER

- A. Follow the provisions of ACI 306, ACI 308 and Paragraph 3.8 when the ambient temperature is less than 40°F at time of placement or expected to be less than 40°F during the curing period.
- B. Control concrete setting time with the use of accelerating admixtures as required to facilitate placing and finishing operations. Do not use calcium chloride in excess of 2% by weight in the concrete free of steel reinforcement. Where steel reinforcement is employed and concrete with calcium chloride is permitted, contractor must use galvanized or coated steel satisfactory to the Engineer.
- C. Exposed subgrade, formwork and reinforcing shall be warmer than 33°F prior to placement of concrete.
- D. The temperature of the concrete during placing shall be between 55°F and 75°F. Maintain the temperature of the concrete between 55°F and 75°F for a minimum of 5 days by providing insulating blankets, heated enclosures, or other methods of thermal protection. Provide a means of maintaining atmospheric moisture when dry heat is used. Provide proper curing for a minimum of days or as approved by the Engineer.
- E. In case of low air temperatures (below 40°F), submit a plan to comply with this section. The Engineer may, at their discretion, raise the minimum limiting temperatures for water, aggregates and mixed concrete when temperatures drop below 40°F. Protect all earth supported concrete from damage due to frost heave.

END OF SECTION



**ILAWC SECTION 15000 - PIPING - GENERAL PROVISIONS**

**PART 1: GENERAL**

**1.01 DRAWINGS**

- A. Dimensions shown on Contract Drawings are approximate only. Verify all piping geometry in the field and to ensure proper alignment and fit of all piping consistent with the intent of the Contract Drawings. Submit field layout drawings as required for approval.

**PART 2: PRODUCTS**

**2.01 CONTRACTOR'S RESPONSIBILITY FOR MATERIAL**

- A. Examine all material carefully for defects. Do not install material which is known, or thought to be defective.
- B. The Engineer reserves the right to inspect all material and to reject all defective material shipped to the job site or stored on the site. Failure of the Engineer to detect damaged material shall not relieve the Contractor from his total responsibility for the completed work if it leaks or breaks after installation.
- C. Lay all defective material aside for final inspection by the Engineer. The Engineer will determine if corrective repairs may be made, or if the material is rejected. The Engineer shall determine the extent of the repairs.
- D. Classify defective pipe prior to Engineer's inspection as follows:
  - 1. Damage to interior and/or exterior paint seal coatings.
  - 2. Damage to interior cement-mortar or epoxy lining.
  - 3. Insufficient interior cement-mortar lining or epoxy thickness.
  - 4. Excessive pitting of pipe.
  - 5. Poor quality exterior paint seal coat.
  - 6. Pipe out of round.
  - 7. Pipe barrel area damaged to a point where pipe class thickness is reduced (all pipe).
  - 8. Denting or gouges in plain end of pipe (all pipe).
  - 9. Excessive slag on pipe affecting gasket seal (DI).
  - 10. Any visible cracks, holes.
  - 11. Embedded foreign materials.
  - 12. Non-uniform color, density and other physical properties along the length of the pipe.
- E. The Contractor shall be responsible for all material, equipment, fixtures, and devices furnished. These materials, equipment, fixtures and devices shall comply with the requirements and standards of all Federal, State, and local laws, ordinances, codes, rules, and regulations governing safety and health.
- F. Take full responsibility for the storage and handling of all material furnished until the

material is incorporated in the completed project and accepted by the Engineer. Contractor shall be solely responsible for the safe storage of all material furnished to or by him until incorporated in the completed project and accepted by the Engineer.

- G. Load and unload pipe, fittings, valves, hydrants and accessories by lifting with hoists or skidding to avoid shock or damage. Do not drop these materials. Pipe handled on skidways shall not be skidded or rolled against other pipe. Handle this material in accordance with AWWA C600, C605 or C906 whichever is applicable.
- H. Drain and store fittings and valves prior to installation in such a manner as to protect them from damage due to freezing of trapped water. Drain, store, and protect fittings and valves in accordance with Specification Section 01600.

## **2.02 PETROLATUM TAPE COATING**

- A. The tape coating shall be a cold applied, saturant tape made from either petrolatum or petroleum wax with a noncellulosic synthetic fiber fabric. The fabric shall be encapsulated and coated on both sides with the petrolatum or petroleum wax. The thickness of the tape shall be no less than 40 mil. The petrolatum or petroleum wax shall be at least 50% of the product by weight.
- B. The tape coating shall be supplied in sheets, pads or rolls. Pads and sheets shall be sized to fit the area that is to be covered, allowing for an overlap per AWWA Standards.

## **2.03 RUBBERIZED-BITUMEN BASED SPRAY-ON UNDERCOATING**

- A. Subject to approval by the ENGINEER, an alternative corrosion protection for exposed buried metal is an aerosol applied rubberized coating. The material shall be rapid dry and specifically designed for corrosion protection. 3M Rubberized Underseal Undercoating 08883. Follow manufacturer's recommendations for storage and application.

## **PART 3: EXECUTION**

### **3.01 INSTALLATION - GENERAL REQUIREMENTS**

- A. Lay and maintain all pipe to the required lines and depths. Install fittings, valves and hydrants in strict accordance with the Specifications at the required locations with joints centered, spigots home, and all valve and hydrant stems plumb. Do not deviate from the required alignment, depth or grade without the written consent of the Engineer.
- B. Buried steel lugs, rods, brackets, and flanged joint nuts and bolts are not permitted unless specifically shown on the drawings or approved in writing by the ENGINEER. Cover any and all buried steel lugs, rods, brackets, and flanged joint nuts and bolts with approved coating in accordance with AWWA Standard C217 prior to backfilling. Encase the same in polyethylene encased if the specifications require polyethylene encasement of the pipe.

- C. Lay all pipe to the depth specified. Measure the depth from the final surface grade to the top of the pipe barrel. The minimum pipe cover shall be as shown on the Drawings or as specified in the Specifications Special Conditions.
- D. Do not lay pipe in a wet trench, on subgrade containing frost, or when trench conditions are unsuitable for such work. If all efforts fail to obtain a stable dry trench bottom and the Engineer determines that the trench bottom is unsuitable for such work, the Engineer will order the kind of stabilization to be constructed, in writing. In all cases, water levels must be at least 6" below the bottom of the pipe. See section 02020, Dewatering.
- E. Thoroughly clean the pipes and fittings before they are installed. Keep these materials clean until the acceptance of the completed work. Lay pipe with the bell ends facing in the direction of laying, unless otherwise shown on the Drawings, or directed by the Engineer. Exercise care to ensure that each length abuts the next in such a manner that no shoulder or unevenness of any kind occurs in the pipe line.
- F. Do not wedge or block the pipe during laying unless by written order of the Engineer.
- G. Before joints are made, bed each section of pipe the full length of the barrel, at the required grade, and at the invert matching the previously laid pipe. Dig bell holes sufficiently large to permit proper joint making. Do not bring succeeding pipe into position until the preceding length is embedded and secure in place.
- H. Take up and relay pipe that is out of alignment or grade, or pipe having disturbed joints after laying. Take up, such in-place pipe sections found to be defective and replace them with new pipe. Take up, relaying, and replacement will be at the Contractor's expense.
- I. Place enough backfill over the center sections of the pipe to prevent floating. Take all other necessary precautions to prevent the floating of the pipeline by the accumulation of water in the trench, or the collapse of the pipeline from any cause. Place enough backfill over the center sections of the pipe to prevent floating. Should floating or collapse occur, restoration will be at the Contractor's expense.
- J. Bedding materials and concrete work for the pipe bedding and thrust restraint shall be as specified in Divisions 2, 3, and 15 as well as detail drawings.
- K. Prevent foreign material from entering the pipe while it is being placed. Do not place debris, tools, clothing, or other materials in the pipe during laying operations. Close all openings in the pipeline with watertight plugs when pipe laying is stopped at the close of the day's work, or for other reasons such as rest breaks or meal periods.
- L. Only cut pipe with equipment specifically designed for cutting pipe such as an abrasive wheel, a rotary wheel cutter, a guillotine pipe saw, or a milling wheel saw. Do not use chisels or hand saws. Grind cut ends and rough edges smooth. Bevel the cut end slightly for push-on connections as per manufacturer recommendations.
- M. In distributing material at the site of the Work, unload each piece opposite or near the

place where it is to be laid in the trench. If the pipe is to be strung out, do so in a straight line or in a line conforming to the curvature of the street. Block each length of pipe adequately to prevent movement. Block stockpiled pipe adequately to prevent movement. Do not place pipe, material, or any other object on private property, obstructing walkways or driveways, or in any manner that interferes with the normal flow of traffic.

- N. Exercise special care to avoid damage to the bells, spigots or flanged ends of pipe during handling, temporary storage, and construction. Replace damaged pipe that cannot be repaired to the Engineer's satisfaction, at the Contractor's expense.
- O. Remove all existing pipe, fittings, valves, pipe supports, blocking, and all other items necessary to provide space for making connections to existing pipe and installing all piping required under this Contract.
- P. Maintain the minimum required distance between the water line and other utility lines in strict accordance with all Federal, State, and local requirements and all right-of-way limitations.
- Q. Provide and install polyethylene encasement for ductile iron pipe as required by the Drawing or Specification Special Conditions. See Specification Section 15130 or 15131, as applicable.
- R. The maximum allowable deflection at the joints for push-on joint pipe shall be the lesser of manufacturer's recommendations or as described in the DIPRA Guideline, *Ductile Iron Pipe Joints and Their Uses*, as follows:

Size of Pipe	Deflection Angle	Maximum Deflection	
		(18-ft. Length)	(20-ft. Length)
3"-12"	5 degrees	19"	21"
14"-42"	3 degrees	11"	12"
48"-64"	3 degrees	N/A	12"

- S. Use short lengths of pipe (minimum length 3 feet, no more than three short sections), when approved by the Engineer, to make curves that cannot be made with full length sections of pipe without exceeding the allowable deflection. Making these curves will be at no additional cost to the Owner.
- T. Furnish air relief valve assemblies in accordance with detail drawings provided or as specified in the specification Special Conditions section. Engineer will provide standard detail for additional air release valve assemblies. Any deviation from the standard detail proposed by contractor must be approved in advance.
- U. Exercise particular care so that no high points are established where air can accumulate. Install an air release valve and manhole, as extra Work to the Contract, when the Engineer determines that unforeseen field conditions necessitate a change in the pipe profile that requires the installation of an air release valve and manhole. If the Contractor requests a change in the pipe profile solely for ease of construction, and the requested change requires the installation of an air release valve and manhole as

determined by the Engineer, the cost of furnishing and installing the air release valve and manhole will be at the expense of the Contractor.

### 3.02 CONSTRUCTION METHODS TO AVOID CONTAMINATION

- A. Heavy particulates generally contain bacteria and prevent even very high chlorine concentrations from contacting and killing such organisms. It is essential that the procedures of this Specification Section be observed to assure that a water main and its appurtenances are thoroughly clean for the final disinfection by chlorination.
- B. Take precautions to protect the interior of pipes, fittings, and valves against contamination. String pipe delivered for construction so as to keep foreign material out of the pipe. Close all openings in the pipeline with watertight plugs when pipe laying is stopped at the close of the day's work or for other reasons, such as rest breaks or meal periods. Use rodent-proof plugs approved by Engineer, where it is determined that watertight plugs are not practical and where thorough cleaning will be performed.
- C. Delay in placement of delivered pipe invites contamination. The more closely the rate of delivery is correlated to the rate of pipe laying, the lower the likelihood of contamination. Complete the joints of all pipe in the trench before stopping work. If water accumulates in the trench, keep the plugs in place until the trench is dry.
- D. When encountering conditions on pre-existing pipe that requires packing, employ yarning or packing material made of molded or tubular rubber rings, or rope of treated paper or other approved materials. Do not use materials such as jute, asbestos, or hemp. Handle packing material in a manner that avoids contamination.
- E. Do not use contaminated material or any material capable of supporting prolific growth of microorganisms for sealing joints. Handle sealing material or gaskets in a manner that avoids contamination. The lubricant used in the installation of sealing gaskets shall be suitable for use in potable water. Deliver the lubricant to the job in closed containers and keep it clean.
- F. If dirt enters the pipe, and in the opinion of the Engineer the dirt will not be removed by the flushing operation, clean the interior of the pipe by mechanical means, then swab with a 1% hypochlorite disinfecting solution. Clean using a pig, swab, or "go-devil" only when the Engineer has specified such and has determined that such operation will not force mud or debris into pipe joint spaces.
- G. If the main is flooded during construction, the flooded section must be isolated from the remainder of the installation as soon as practical. Submit a plan to the Engineer on correcting the condition and do not proceed until authorized by the Engineer. Replace or fully clean and disinfect the affected pipe at no additional cost to the Owner.

### 3.03 VALVE INSTALLATION

- A. Prior to installation, inspect valves for direction of opening, freedom of operation, tightness of pressure containing bolting, cleanliness of valve ports and especially of seating surfaces, handling damage, and cracks. Correct defective valves or hold for inspection by the Engineer.

- B. Set and join to the pipe in the manner specified in Specification Section 3.01. Provide valves with adequate support, such as crushed stone and concrete pads, so that the pipe will not be required to support the weight of the valve. Set truly vertical. After field installation of the valve all exposed ferrous restraint materials and external bolts except the operating nut shall receive a layer of petrolatum tape coating or, where approved, rubberized-bitumen based spray-on undercoating applied before backfill. If polyethylene is applied to the pipe, the entire valve shall be encased in polyethylene encasement prior to backfill. The polyethylene encasement shall be installed up to the operating nut leaving the operating nut exposed and free to be operated.
- C. Provide a valve box for each valve. Set the top of the valve box neatly to existing grade, unless directed otherwise by the Engineer. Do not install in a way that allows the transfer shock or stress to the valve. Center and plumb the box over the wrench nut of the valve. Do not use valves to bring misaligned pipe into alignment during installation. Support pipe in such manner as to prevent stress on the valve.
- D. Provide valve marking posts, when authorized by the Owner, at locations designated by the Engineer and in accordance with detail drawings. Payment will be made per post in accordance with supplemental unit price schedule.

#### **3.04 THRUST RESTRAINT**

- A. Provide all plugs, caps, tees, and bends (both horizontal and vertical) with concrete thrust blocking and/or restrained joint pipe as represented on the Drawings, or specified in the Specification Special Conditions.
- B. Place concrete thrust blocking between undisturbed solid ground and the fitting to be anchored. Install the concrete thrust blocking in accordance with Specification Section 03300 and standard details provided. Locate the thrust blocking to contain the resultant thrust force while keeping the pipe and fitting joints accessible for repair, unless otherwise shown or directed.
- C. Provide temporary thrust restraint at temporary caps and plugs. Submit details of temporary restraint to the Engineer for approval.
- D. At connections with existing water mains where there is a limit on the time the water main may be removed from service, use metal harnesses of anchor clamps, tie rods and straps; mechanical joints utilizing set-screw retainer glands; or restrained push-on joints as permitted by Engineer. No restraining system can be installed without the approval of the Engineer. Submit details of the proposed installation to the Engineer for approval. For pipe up to 12 inches in size, use a minimum of two 3/4-inch tie rods. If approved for use, install retainer glands in accordance with the manufacturer's instructions. Material for metal harnessing and tie-rods shall be ASTM A36 or A307, as a minimum requirement.
- E. Protection of Metal Harnessing: Protect ties rods, clamps and other metal components against corrosion by hand application of petrolatum tape and by encasement of the entire assembly with 8-mil thick (12 mil thick in corrosive soils) loose polyethylene film in accordance with AWWA C105. Apply tape on all exposed tie rods prior to installing

polyethylene.

END OF SECTION

## **ILAWC SECTION 15020 - DISINFECTING PIPELINES**

### **PART 1: GENERAL**

#### **1.01 SCOPE OF WORK**

- A. Flush and disinfect all pipelines installed under this Contract if indicated in the summary of work. This would include furnishing the necessary labor, tools, transportation, and other equipment for the operation of valves, hydrants, and blowoffs during the chlorination. Install, and if directed remove, all chlorination taps required for disinfection. The cost of this work shall be included in the bid item for pipe installation. The disinfection will be performed under the supervision of Owner.

#### **1.02 WORK BY OWNER**

- A. The Owner reserves the option to provide/furnish the chlorine and chlorination equipment. The Owner will furnish water for testing, flushing and disinfecting pipelines. The Owner or Engineer will also perform bacteriological testing and may collect the sample.

#### **1.03 PROTECTION**

- A. Chlorine disinfection and dechlorination shall be under the direct supervision of someone familiar with the physiological, chemical, and physical properties of the form of chlorine used. They shall be trained and equipped to handle any emergency that may arise. All personnel involved shall observe appropriate safety practices to protect working personnel and the public.
- B. The forwards of AWWA Standards B300 and B301 contain information and additional reference material regarding the safe handling of hypochlorites and liquid chlorine. The Contractor shall familiarize himself with this information prior to performing any disinfection work.

#### **1.04 REFERENCES**

- A. Refer to current AWWA Standard for Disinfecting Water Mains C651.

### **PART 2: PRODUCTS**

#### **2.01 MATERIALS AND EQUIPMENT**

- A. Furnish liquid chlorine and injection equipment and/or calcium hypochlorite (HTH) as needed to disinfect all pipelines and appurtenances.

- B. Liquid chlorine contains 100% available chlorine and is packaged in steel containers, usually of 100 lb, 150 lb, or 1 ton net chlorine weight. Liquid chlorine is to be furnished in accordance with AWWA B301.
- C. Calcium hypochlorite is available in granular form or in approximately 5-g tablets, and contains approximately 65% available chlorine by weight. The material should be stored in a cool, dry, and dark environment to minimize its deterioration. Do not use calcium hypochlorite intend for swimming pool disinfection, as this material (containing trichloroisocyanuric acid) has been sequestered and is extremely difficult to eliminate from the pipe after the desired contact time had been achieved.
- D. Calcium hypochlorite must conform to AWWA B300.

### **PART 3: EXECUTION**

#### **3.01 PREPARATION**

- A. All pipelines shall be pressure and leak tested, flushed, and cleaned of debris and dirt prior to application of the disinfectant. Flushing shall continue until the volume in the newly installed main has turned over at least one time unless the Engineer determines that conditions do not permit the required volume to be safely discharged to waste.

#### **3.02 APPLICATION OF DISINFECTANT**

- A. Methods to be used for disinfection are those detailed in ANSI/AWWA C651 Disinfecting Water Mains.

#### **3.03 WATER MAINS**

- A. Three (3) methods of chlorination are described below. The third method, using tablets of hypochlorite, is only permitted by expressed approval of the Engineer and under no circumstance allowed for projects of 2000 feet or more. Otherwise, information in the forward of AWWA Standard C651 will be helpful in determining the best method to be used.

##### Continuous Feed Method

###### 1. Set up

The continuous feed method consists of completely filling the main to remove all air pockets, flushing the completed main to remove particulates, and then refilling the main with chlorinated potable water. The potable water shall be chlorinated, so that after a 24-hour holding period in the main, there will be a free chlorine residual of not less than 10 mg/L in collected samples.

Chlorine can be applied in advance of preliminary flushing by swabbing joints with bleach or placing hypochlorite granules in the pipe in areas where contamination is suspected. In any such case, the contractor shall make sure and take appropriate action to make sure that the flushed water is dechlorinated.



Preliminary flushing. Prior to being chlorinated, fill the main to eliminate air pockets and flush to remove particulates. The flushing velocity in the main shall be not less than 2.5 fps unless the Engineer determines that conditions do not permit the required flow to be discharged to waste. Table 1 shows the rates of flow required to produce a velocity of 2.5 fps in pipes of various sizes.

NOTE: Flushing is no substitute for preventive measures during construction. Certain contaminants such as caked deposits resist flushing at any feasible velocity.

TABLE 1  
 Required Flow and Openings to Flush Pipelines  
 (40 psi Residual Pressure in Water Main)\*

Pipe Diameter (inches)	Flow required to produce 2.5 fps velocity in main (gpm)	Size of Tap. (inches)			2-1/2 in. Hydrant Outlets to Use
		1	1-1/2	2	
4	100	1	-	-	1
6	200	-	1	-	1
8	400	-	2	1	1
10	600	-	3	2	1
12	900	-	-	2	2
16	1600	-	-	4	2

\*With a 40 psi pressure in the main with the hydrant flowing to atmosphere, a 2½-inch hydrant outlet will discharge approximately 1,000 gpm and a 4½-inch hydrant outlet will discharge approximately 2,500 gpm.

† Number of taps on pipe based on discharging through 5 feet of galvanized iron pipe with one 90 degree elbow.

In mains of 24-inches or larger diameter, an acceptable alternative to flushing is to broom-sweep the main, carefully removing all sweepings prior to chlorinating the main.

2. Chlorinating the Main.

- a. Flow water from the existing distribution system or other approved source of supply at a constant, measured rate into the newly laid water main. In the absence of a meter, approximate the rate by placing a pitot gauge in the discharge or measuring the time to fill a container of known volume.
- b. At a point not more than 10 feet downstream from the beginning of the new main, dose the water entering the new main with chlorine fed at a constant rate such that the water will have not less than 25 mg/L free chlorine. Measure the chlorine concentration at regular

intervals to ensure that this concentration is provided. Measure chlorine in accordance with the procedures described in the current edition of the AWWA Manual M12 or of *Standard Methods for the Examination of Water and Wastewater*.

- c. Table 2 gives the amount of chlorine required for each 100 feet of pipe of various diameters. Solutions of 1 percent chlorine may be prepared with calcium hypochlorite. The solution requires 1 pound of calcium hypochlorite in 8 gallons of water.

**TABLE 2**  
 Chlorine Required to Produce 25 mg/L  
 Concentration in 100 feet of Pipe by Diameter

Pipe Diameter inches	100 Percent Chlorine lbs	1 Percent Chlorine Solutions gallons
4	0.013	0.16
6	0.030	0.36
8	0.054	0.65
10	0.085	1.02
12	0.120	1.44
16	0.217	2.60

- d. During the application of chlorine, position valves so that the strong chlorine solution in the main being treated will not flow into water mains in active service. Do not stop the chlorine application until the entire main is filled with heavily chlorinated water. Keep the chlorinated water in the main for at least 24 hours. During this time, operate all valves and hydrants in the section treated in order to disinfect the appurtenances. At the end of this 24-hour period, the treated water in all portions of the main shall have a residual of not less than 10 mg/L free chlorine.
- e. Hypochlorite solution may be applied to the water main with a gasoline or electrically powered chemical feed pump designed for feeding chlorine solutions. Feed lines shall be of such material and strength as to safely withstand the corrosion caused by the concentrated chlorine solutions and the maximum pressures that may be created by the pumps. Check all connections shall for tightness before the solution is applied to the main.
- f. If gaseous chlorine in solution is permitted by the Engineer and proposed by the contractor, the preferred equipment for the gas application employs a feed vacuum-operated chlorinator to mix the chlorine gas, in combination with a booster pump for injecting the chlorine gas solution water into the main to be disinfected. Direct feed chlorinators cannot be used. (A direct feed chlorinator is one which operates solely from the pressure in the chlorine cylinder.)

Slug Method

1. Setup

- a. The slug method consists of placing calcium hypochlorite granules in the main during construction; completely filling the main to eliminate all air pockets, flushing the main to remove particulates, and slowly flowing a slug of water containing 100 mg/L of free chlorine through the main so that all parts of the main and its appurtenances will be exposed to the highly chlorinated water for a period of not less than 3 hours.

2. Chlorinating the main.

- a. At the option of the OWNER, place calcium hypochlorite granules in the main during construction. The purpose of this procedure is to provide a strong chlorine concentration in the first flow of flushing water especially to fill annular spaces in pipe joints. Flush the main to eliminate air and remove particulates to include management of dechlorination and discharged water.
- b. At a point not more than 10 feet downstream from the beginning of the new main, dose the water entering the new main with chlorine fed at a constant rate such that the water will have not less than 100 mg/L free chlorine. Measure the chlorine concentration at regular intervals to ensure that this concentration is provided. Measure chlorine in accordance with the procedures described in the current edition of the AWWA Manual M12 or of *Standard Methods for the Examination of Water and Wastewater*. The chlorine shall be applied continuously and for a sufficient period to develop a solid column or "slug" of chlorinated water that will, as it moves through the main, expose all interior surfaces to a concentration of approximately 100 mg/L for at least 3 hours.
- c. The free chlorine residual shall be measured in the slug as it moves through the main. If at any time it drops below 50 mg/L, stop the flow, relocate the chlorination equipment to the head of the slug, and as flow is resumed, apply chlorine to restore the free chlorine in the slug to not less than 100 mg/L.
- d. As the chlorinated water flows past fittings and valves, operate related valves and hydrants so as to disinfect appurtenances and pipe branches.

Tablet Method

1. Setup

- a. The tablet method consists of adhering calcium tablets in the water main as it is being installed and then filling the main with potable water when installation is completed. This method may be used only if the pipes and appurtenances are kept clean and dry during

construction and with permission by the Engineer for short main installations.

2. Chlorinating the Main –

- a. Placing of calcium hypochlorite tablets - *Placing of calcium hypochlorite tablets.* During construction, 5-g calcium hypochlorite tablets shall be placed in each section of pipe. Also, one such tablet shall be placed in each hydrant, hydrant branch, and other appurtenance. The number of 5-g tablets required for each pipe section shall be  $0.0012 d^2L$  rounded to the next higher integer, where  $d$  is the inside pipe diameter, in inches, and  $L$  is the length of the pipe section, in feet. Table 1 shows the number of tablets required for commonly used sizes of pipe. The tablets shall be attached by a food-grade NSF approved adhesive. There shall be no adhesive on the tablet except on the broadside attached to the surface of the pipe and no adhesive applied or spilled on the pipe surface. Excess adhesive must be removed immediately using mechanical means or an NSF approved adhesive solvent. Attach all the tablets inside and at the top of the main, with approximately equal numbers of tablets at each end of a given pipe length. If the tablets are attached before the pipe section is placed in the trench, their position shall be marked on the section so it can be readily determined that the pipe is installed with the tablets at the top.

Pipe Diameter		Length of Pipe Section, ft (m)				
		13(4.0) or less	18(5.5)	20(6.1)	30(9.1)	40(12.2)
<i>in.</i>	<i>(mm)</i>	Number of 5-g Calcium Hypochlorite Tablets				
6	(150)	1	1	1	2	2
8	(200)	1	2	2	3	4
12	(300)	3	4	4	6	7
16	(400)	4	6	7	10	13

- b. *Filling and contact.* When installation has been completed, the main shall be filled with water at a rate such that water within the main will flow at a velocity no greater than 1 ft/s (0.3 m/s). Precautions shall be taken to ensure that air pockets are eliminated. This water shall remain in the pipe for at least 24 hours. If the water temperature is less than 41°F (5°C), the water shall remain in the pipe for at least 48 hours.

**3.04 DISPOSAL OF HEAVILY CHLORINATED WATER**

- A. Do not keep heavily chlorinated water in contact with pipe for more than 48 hours after the applicable retention period. In order to prevent damage to the pipe lining or corrosion damage to the pipe itself, flush the heavily chlorinated water from the main fittings, valves, and branches until chlorine measurements show that the concentration in the water leaving the main is no higher than that generally prevailing in the system or is acceptable for domestic use. Take all steps necessary to dechlorinate water where required per section 3.04B and 3.04C below. Contact the local sewer department to arrange for disposal of the heavily chlorinated water to the sanitary sewer if applicable.
- B. Neutralize the chlorine residual of the water being disposed of by treating with one of the chemicals listed in Table 3. Select an alternative disposal site if a sanitary sewer system is unavailable for disposal of the chlorinated water.
- C. The proposed alternative disposal site shall be inspected and approved of by the Engineer. Apply a reducing agent to the chlorinated water to be wasted to completely neutralize the chlorine residual remaining in the water. (See Table 3 for neutralizing chemicals. Do not overdose neutralizing chemicals as this may result in adverse environmental impacts. Only dose the amount required to neutralize the amount of chlorine present). Contact federal, state and local regulatory agencies, where necessary, to determine special provisions for the disposal of heavily chlorinated water.

Table 3  
 Pounds of chemicals required to neutralize various residual chlorine concentrations in 100,000 gallons of water.

Residual Chlorine Concentration	Sulfur Dioxide	Sodium Bisulfite	Sodium Sulfite	Sodium Thiosulfate	Ascorbic Acid
<u>mg/L</u>	<u>(SO<sub>2</sub>)</u>	<u>(NaHSO<sub>3</sub>)</u>	<u>(Na<sub>2</sub>SO<sub>3</sub>)</u>	<u>(Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> · 5H<sub>2</sub>O)</u>	<u>(C<sub>6</sub>O<sub>8</sub>H<sub>6</sub>)</u>
1	0.8	1.2	1.4	1.2	2.1
2	1.7	2.5	2.9	2.4	4.2
10	8.3	12.5	14.6	12.0	20.9
50	41.7	62.6	73.0	60.0	104.0

- D. Test for chlorine residual throughout the disposal process to be sure that the chlorine is neutralized
- E. Submit a plan of disposal of flushed water to the Engineer for approval

### 3.05 BACTERIOLOGICAL TESTING

- A. After final flushing and before the water main is placed in service, the new main needs to be sampled. If the first sample collected passes, then no further sampling is needed for that section of main as long as no samples fail between the water source and the sample collected. At least one set of samples shall be collected from every 1,200 feet, of the new water main, plus one set from the end of the line and at least one set from each branch when possible or as required by regulatory requirements and

as directed by IAWC.

1. If the first sample fails, then two consecutive sets of acceptable samples need to be collected from the new main. The second set of samples must be taken at least 24 hours after the first set of samples. The main should be flushed between collection of the first and second set of samples to clean the main before collecting the second sample.
- B. Samples shall be collected by a person knowledgeable in collecting samples for bacteriological sampling or arrange for the Owner to collect the sample. Coordinate with Owner and submit samples to the Owner for testing of bacteriological (chemical and physical) quality. Testing will be in accordance with Standard Methods of the Examination of Water and Wastewater. Samples shall show the absence of coliform organisms; and the presence of a chlorine residual. Samples shall also be tested for turbidity, pH, and standard heterotrophic plate count (HPC). HPC levels must be consistent with levels normally found in the distribution system to which the new main is connected.
- C. Bacteriological tests must show complete absence of coliforms and acceptable HPCs. If tests show the presence of coliform or unacceptable HPCs, perform additional flushing and disinfection of the pipeline until acceptable tests are obtained, all at no cost to the Owner. The Contractor will not be charged for the additional testing performed by the Owner.

### **3.06 RETESTING AND TESTING SOURCE WATER**

- A. At the time of initial flushing the main to remove material and test for air pockets, Contractor may request the Owner to continue flushing until the desired chlorine residual is met at the discharge point. Notification must be provided in advance and the Contractor shall be prepared to test for chlorine at intervals of no more than five minutes as the water clears. This will provide the Contractor with some assurance that the source water is chlorinated.
- B. If the subsequent tests for bacteriological contamination conducted by the Contractor fail, the Contractor may request the Owner to continue flush from the source water into the new pipe system until a chlorine residual is found at the discharge point. Notification must be provided in advance and the Contractor shall be prepared to test for chlorine at intervals of no more than five minutes as the water clears. The operation of all existing system valves shall be by the Owner at the Contractor expense and the discharge point must be opened prior to opening existing valves to avoid contamination. This will provide the Contractor with some assurance that the source water is chlorinated for subsequent tests.

END OF SECTION

## **ILAWC SECTION 15025 - CLEANING PIPELINES**

### **PART 1: GENERAL**

#### **1.01 SCOPE OF WORK**

- A. Clean the pipelines installed under these Contract Documents using foam pigs, swabs, or "go devils", as described herein, whenever normal flushing will not sufficiently remove dirt and debris that was introduced during construction.

#### **1.02 GENERAL**

- A. Normal pipeline flushing is often inadequate to remove all the entrapped air, loose debris, and other objects that may have been left in the main during installation. In such cases, use polyurethane foam pigs and/or polyurethane hard foam swabs to remove all foreign matter from the pipeline (i.e. "pig" the pipeline). Clean the pipeline per the requirements of this Specification Section prior to testing and disinfecting the main.

#### **1.03 PROTECTION DURING FLUSHING AND CLEANING**

- A. Coordinate with Engineer and Owner before flushing to ensure that an adequate volume of flushing water is available, at sufficiently high pressure. Determine if the water can be disposed of safely. Notify the Owner, Engineer, and the following prior to flushing, or cleaning:
  - a. Fire Department
    - 1. Other utilities, such as gas, electric and telephone companies, who may have underground facilities in the area.
    - 2. Customers who may be inconvenienced by reduced pressure or dirty water.
- B. Coordinate with Owner to isolate the section to be flushed from the operating distribution system. Close valves slowly to prevent water hammer. Open the fire hydrant or blow-off valve slowly until the desired flow rate is obtained. When flushing from a dry barrel fire hydrant, use the gate valve upstream of the hydrant for throttling purposes. Open the hydrant valve fully to prevent water from escaping into the ground through the fire hydrant barrel drain.
- C. Protect the work staff and the public during operation of hydrants and valves. Keep children away from the flow of flushing water. Where practical employ energy dissipators to help avoid damage to property and the flooding of streets. The safety considerations also apply to main cleaning. See General Conditions Article 6.

### **PART 2: PRODUCTS**

#### **2.01 MATERIALS AND EQUIPMENT**

- A. Furnish the foam cleaning plugs (swabs or pigs), labor, and equipment as needed to pig all pipelines. Furnish all materials required for the expulsion of air and other

debris from pipelines. Do not use of pipe cleaning plugs which utilize Bristles, wire brushes, carbide abrasives, steel studs, or any other Type abrasive unless specifically approved by the Engineer. Consult a manufacturer of pipe cleaning plugs, such as Knapp Polly Pig (Houston, Texas), to determine the type and size of cleaning plug best suited for the application. Two types of plugs shall be considered and are described as follows:

1. Swabs

Swabs used for cleaning mains shall be made of polyurethane foam. This foam has a density of 1 to 2 pounds per cubic feet. Swabs shall be purchased from commercial manufacturers of swabs for pipes. Both soft and hard grade foam swabs available. New mains typically cleaned with hard foam swabs.

Use swabs cut into cubes and cylinders slightly larger than the size of the pipe to be cleaned. Cubes one inch larger in dimension than the nominal diameter of the pipe being cleaned have worked well for cleaning pipes up to 12-inches in diameter. For mains greater than 12-inches in diameter, the swab diameter must be considered individually for each operation. For new mains, swabs 3-inches larger than the pipe diameter have worked well. Swabs for the larger mains are usually 1-1/2 times the diameter in length.

2. Pigs

The other type of cleaning plug available is called a pig. Pigs, if used, shall be commercially manufactured for the specific purpose of cleaning pipes. They shall be made of polyurethane foam weighing 2 to 15 lb./cu.ft. Pigs are bullet shaped and come in various grades of flexibility and roughness. Pigs are typically 1/4 -inch to 1/2-inch larger in diameter than the pipe to be cleaned.

### **PART 3: EXECUTION**

#### **3.01 PLUG INSTALLATION AND REMOVAL**

- A. Furnish all equipment, material, and labor to satisfactorily expose cleaning wyes, or other entry or exit points. Remove cleaning wye covers, etc., as required by the Engineer to insert the plugs into the mains.
- B. If approved by the Engineer, stripped fire hydrants, air valves and blow-offs may serve as entry and exit points for smaller sized mains. The Engineer will examine these appurtenances and the connecting laterals to ensure that adequate openings exist through which a plug may be launched.
- C. If these appurtenances are used, a special launcher is required to ease the insertion and launching of the plug. If available, a pressurized water source such as a fire hydrant can be used to launch the plug. If water from the system is not available nearby, use a water truck with pump.
- D. If hydrants are used as entry and/or exit points, remove the internal mechanisms and plug the drains under the supervision of the Engineer. Insert the plug and replace



the cap with a special flange with a 2-1/2-inch fitting. Connect the 2-1/2-inch fitting, with a pressure gauge and valve, to a pressurized water source. After closing the last valve isolating the section to be cleaned, open the hydrant supply valve. Propel the swab or pig into the main by opening the exit valve.

- E. In mains greater than 8-inches, wyes shall be used at the entry and exit points. Fabricate the wye section one size larger than the main to ease the insertion and extraction of the plug. The use of wyes, as with the previously mentioned appurtenances, requires an outside source of pressurized water for launching. Cap the wye with a flange with a 2 to 6 inch fitting for connecting to the pressurized water source.
- F. Many pigs are harder to insert into a pipe since they are less flexible than swabs. Other methods acceptable to insert pigs include:
  - 1. winching with a double sling,
  - 2. winching with a rope attached to the pig,
  - 3. compression with a banding machine prior to insertion, and
  - 4. the use of a specially designed tapered steel pipe which is removed after use.
- G. During swab or pig installation, leave as much water as possible in the main to be cleaned. The water suspends the material being removed from the pipe and minimizes the chance of the material forming a solid plug. Water in the pipe also keeps the swab or pig from traveling through the pipe at excessive rates. If swabs or pigs travel too fast, they will remove less material and wear more rapidly.
- H. At the exit point or blow-off, install a wye long enough to house the swab or pig. Attach temporary piping to the end cap to allow the drainage of the water.
- I. Take precautions to prevent backflow of purged water into the main when the cleaning plug exits through a dead end main. This can be accomplished by installing mechanical joint bends and pipe joints to provide a riser out of the trench. Additional excavation of the trench may serve the same purpose.

### 3.02 PRE-CLEANING PROCEDURES

- A. Prepare a written cleaning plan for the Engineer's review,
- B. Suggested pre-cleaning procedures include:
  - 1. Identify mains to be cleaned on a map. Mark the location of the entry, water supply, exit points, any blow-offs to be used, valves to be closed, and the path of the swab or pig.
  - 2. Under the Engineer's supervision and with Owner staff as required, inspect and operate all valves and hydrants to be used in the cleaning operation to ensure their correct operation and a tight shutdown.
  - 3. Check location and type of hydrants, launch and exit location, and blow-offs to be used. Make blow-off tap connections, if necessary.

4. The Owner will notify customers served by the main to be cleaned that their water will be off for a specified period of time on the day of the cleaning.
5. The Owner will identify customers who may require temporary services during the main cleaning operation. The Contractor shall provide the temporary connections.
6. Determine the number and size of plugs to be used.

### 3.03 CLEANING PROCEDURE

Clean the pipeline using the following procedures and the Contractor's cleaning plan, as approved by the Engineer.

#### A. Swab Cleaning Procedures

1. Open the water supply upstream of the swab. Throttle the flow in the main at the discharge (plug exit) point so that the swab passes through the main at a speed of 2 to 4 fps. (At this velocity, swabs will effectively clean pipes for distances of up to 4,000 feet before disintegrating to a size smaller than the main.) Use pitot gauges at the exist hydrant or blow-off to estimate the flowrate in the main.
2. Note the time of entry of the swab into the main and estimate its time of exit. If the swab does not reach the exit point in the estimated time plus ten minutes, then a blockage has probably occurred. Reverse the flow in the main and note the time required for the swab to reach the original entry point. From the return travel time, estimate the location of the blockage. The Engineer may require the use of a swab containing a transmitter to accurately locate the blockage.
3. Swab repeatedly as needed. Stop swabbing when the water behind the swab emerging at the exit clears up within one minute. Account for all swabs inserted into the main.
4. After the last swab has been recovered, flush the main to remove swab particles. This may require up to an hour of flushing.

#### B. Pig Cleaning Procedures

1. Remove all air valves along the line. Insure that each isolating valves to the air release valve are completely closed. Operate system to prevent undesired build up of air while air release valves are out of service.
2. If the pig is inserted directly into the main, set it in motion by opening the upstream gate valve and a downstream fire hydrant or blow-off valve (usually the valve on the capped end at the exit point). If the pig is launched from a wye, fire hydrant, or other appurtenance, use an external pressurized water source to inject the pig into the main as described in Section 3.01.

3. Once the pig is launched, control its speed by throttling the discharge at a downstream fire hydrant or blow-off. Operate pigs at the typical speed of 1 fps. This slow speed will help prevent pressure surges when the pig passes through undersized valves, enters smaller pipes, or turns through tees or crosses. Speeds of up to 2 fps. can be used on straight runs with no restrictions or sharp turns.
4. Make sufficient passes of the pig to obtain thorough cleaning. Two pigs may be used in tandem to save time and water. Sufficient cleaning is established when the water discharging after the pig becomes clear within one minute.

### **3.04 POST CLEANING PROCEDURE**

- A. After successful cleaning; test, flush, and disinfect the main in accordance with applicable sections of these Specifications.

END OF SECTION

## **ILAWC SECTION 15030 - PRESSURE AND LEAKAGE TESTS**

### **PART 1: GENERAL**

#### **1.01 SCOPE OF WORK**

- A. Test all piping, valves, and appurtenances installed under these Contract Documents. Testing shall be performed concurrent with installation. Do not install more than 1,200 feet of pipe without being tested, unless approved by the Engineer.

#### **1.02 SUBMITTALS**

- A. Prepare and submit schedules and procedures to the Engineer for testing of all parts of the water main installed in accordance with these Contract Documents. Submit the schedule at least seven days prior to any testing.

### **PART 2: PRODUCTS**

#### **2.01 EQUIPMENT**

- A. Furnish the pump, pipe connections, and all necessary apparatus for the pressure and leakage tests including gauges and metering devices. The Owner reserves the option to furnish the gauges and metering devices for the tests. Excavate, backfill, and furnish all necessary assistance for conducting the tests.

### **PART 3: EXECUTION**

#### **3.01 GENERAL**

- A. Perform hydrostatic pressure and leak tests in accordance with AWWA C600, Section 4 - Hydrostatic Testing after the pipe or section of pipe has been laid, thrust blocking cured (min. 5 days), and the trench is completely or partially backfilled. Where practical, testing shall be performed fully isolated from the active distribution system.
- B. The Contractor may, at his option, completely backfill the trench or partially backfill the trench over the center portion of each pipe section to be tested. However, the Engineer may direct the Contractor to completely backfill the trench if local traffic or safety conditions require.
- C. For system operating pressures of 200 psi or less, perform the hydrostatic test at a pressure of 140 psi without exceeding the rating of the pipe and appurtenances, but no more than the design rating of the pipe. Pressure test must be maintained for 2 hours.
- D. Valves shall not be operated in either direction at a differential pressure exceeding the rated valve working pressure. A test pressure greater than the rated valve working pressure can result in trapped test pressure between the gates of a double-disc gate valve. For tests exceeding the rated valve working pressure, the test setup should include a provision, independent of the valve, to reduce the line pressure to the rated valve working pressure on completion of the test. The valve can then be opened enough to equalize the trapped pressure with the line pressure, or the valve can be fully opened if desired.
- E. The test pressure shall not exceed the rated working pressure or differential pressure of the valves when the pressure boundary of the test section includes closed, resilient-seated gate valves or butterfly valves.
- F. Attach a tapping sleeve and valve assembly to the main. Pressure test the assembly prior to making the tap. The required test pressure shall be determined in the same manner as for pipe. The test is acceptable if there is no pressure drop in 15 minutes at test pressure.

### 3.02 FILLING AND TESTING

- A. Slowly fill each segregated section of pipeline with water ensuring that all air is expelled. Extreme care must be taken to ensure that all air is expelled during the filling of pipe. The line shall stand full of water for at least twenty-four hours prior to testing to allow all air to escape. If necessary, tap the main at points of highest elevation to expel air as the pipe is filled. Remove the corporation stops and plug the taps after successfully filling the pipeline and expelling all air as approved by the Engineer.
- B. Apply the specified test pressure, measured at the point of lowest elevation, using a pump connected to the pipe in a manner satisfactory to the Engineer. If the elevation of the high point of the pipeline being tested is such that the pressure during testing will be below 85% of the required test pressure, the Engineer will require a separate test to be performed on this section of pipeline. In lieu of a separate test, the test pressure measured at the lowest elevation may be increased,

within the pressure rating of the pipeline material, such that the resulting pressure at the highest point exceeds 85% of the required test pressure. The test will be conducted for at least two hours at the required test pressure  $\pm$  5 psi.

- C. Conduct a leakage test concurrently with the pressure test. Leakage is defined as the volume of the water that must be supplied into the newly laid pipeline to maintain pressure within 5 psi of the test pressure after it is filled and purged of air. Measure the volume of water using a calibrated container or meter.
- D. No pipeline installation will be accepted by the Engineer if the leakage is greater than that shown in the following table:

**Allowable Leakage per 1000 ft. of Pipeline\*---gph**

Avg. Test Pressure psi	Nominal Pipe Diameter---in.													
	4	6	8	10	12	14	16	18	20	24	30	36	42	48
450	0.57	0.86	1.15	1.43	1.72	2.01	2.29	2.58	2.87	3.44	4.30	5.16	6.02	6.88
400	0.54	0.81	1.08	1.35	1.62	1.89	2.16	2.43	2.70	3.24	4.05	4.86	5.68	6.49
350	0.51	0.76	1.01	1.26	1.52	1.77	2.02	2.28	2.53	3.03	3.79	4.55	5.31	6.07
300	0.47	0.70	0.94	1.17	1.40	1.64	1.87	2.11	2.34	2.81	3.51	4.21	4.92	5.62
275	0.45	0.67	0.90	1.12	1.34	1.57	1.79	2.02	2.24	2.69	3.36	4.03	4.71	5.38
250	0.43	0.64	0.85	1.07	1.28	1.50	1.71	1.92	2.14	2.56	3.21	3.85	4.49	5.13
225	0.41	0.61	0.81	1.01	1.22	1.42	1.62	1.82	2.03	2.43	3.04	3.65	4.26	4.86
200	0.38	0.57	0.76	0.96	1.15	1.34	1.53	1.72	1.91	2.29	2.87	3.44	4.01	4.59
175	0.36	0.54	0.72	0.89	1.07	1.25	1.43	1.61	1.79	2.15	2.68	3.22	3.75	4.29
150	0.33	0.50	0.66	0.83	0.99	1.16	1.32	1.49	1.66	1.99	2.48	2.98	3.48	3.97
125	0.30	0.45	0.60	0.76	0.91	1.06	1.21	1.36	1.51	1.81	2.27	2.72	3.17	3.63
100	0.27	0.41	0.54	0.68	0.81	0.95	1.08	1.22	1.35	1.62	2.03	2.43	2.84	3.24

\*If the pipeline under test contains sections of various diameters, the allowable leakage will be the sum of the computed leakage for each size. The table has been generated from the formula:  $L = \frac{S \cdot D \cdot P^{1/2}}{148,000}$  where L is the allowable leakage in gallons per hour, S is the length of pipe in feet, D is the nominal pipe diameter in inches, and P is the test pressure in psig.

- E. Should any test disclose damaged or defective materials or leakage greater than that permitted, the Contractor shall, at Contractor's expense, locate and repair and/or replace the damaged or defective materials. Materials used for repair must be approved by the Engineer and meet the specifications. Repeat the tests until the leakage is within the permitted allowance and is satisfactory to the Engineer.

END OF SECTION

**ILAWC SECTION 15131 - PIPING SPECIALTIES**

**(Contractor Furnished)**

**PART 1: GENERAL**

**1.01 SCOPE**

- A. This Specification Section covers the furnishing and installation of miscellaneous piping specialties as shown on the Drawings or as required to fulfill the intent of the project.

**PART 2: PRODUCTS**

**2.01 POLYETHYLENE ENCASEMENT**

- A. Polyethylene encasement shall conform to AWWA Standard C105. The polyethylene film supplied shall be translucent and blue in color (or as specified in section 01011) and distinctly marked (at minimum 2 foot intervals) with the following information:
  - 1. manufacturer's name (or trademark),
  - 2. year manufactured,
  - 3. minimum film thickness and material type (LLDPE or HDCLPE),
  - 4. range of nominal pipe diameter size,
  - 5. ANSI/AWWA C105/A21.5 (compliance)
  - 6. A warning "WARNING-CORROSION PROTECTION-REPAIR ANY DAMAGE
  - 7. labeled "WATER"
- B. Tape shall be polyethylene compatible adhesive and a minimum of 1.5" wide. Shall be Scotchwrap #50, Fulton #355, or Polyken #900.
- C. Store all polyethylene encasement out of the sunlight. Exposure of wrapped pipe should be kept to a minimum.
- D. Suppliers of polyethylene encasement include:
  - 1. AA Thread Seal Tape, Inc., 1275 Kyle Court, Wauconda, IL 60084
  - 2. SIGMA Corporation, 700 Goldman Drive, Cream Ridge, NJ 08514
  - 3. Peistrup Paper Products, 1185 Research Blvd, St. Louis, MO 63132

**2.02 VALVE BOXES**

- A. All valves shall be provided with valve boxes of a design approved by the Engineer. Valve boxes shall be of the standard, adjustable, cast iron extension type, multiple piece, 5-1/4-inch shaft, screw type, and of such length as necessary to extend from the valve to finished grade. Cast iron valve boxes shall be hot coated inside and out with an asphaltic compound.

- B. Valve boxes shall be manufactured by one of the following “approved manufacturers: Bingham & Taylor, Mueller, Handley Industries, A.Y. McDonald, Quality Water Products, or Clay and Bailey.
- C. Valve box bases shall conform to the following:

<u>Valve Size</u>	<u>Base</u>
4" and smaller	round, 8" in height, 10-7/8" diameter at bottom
6" and 8"	round, 11" in height, 14-3/8" diameter at bottom
10" and larger	oval, 11" in height, 15" x 11-1/8" diameter at bottom

**2.03 RODS, BOLTS, LUGS AND BRACKETS**

- A. All steel rods, bolts, lugs and brackets, shall be ASTM A36 or A307 carbon steel with xylan coating as a minimum requirement. The bolts shall have American Standard heavy unfinished hexagonal head and nut dimensions all as specified in ANSI B18.2. Xylan or FluoroKote #1 T-Bolts, corrosion resistant to handle corrosive conditions shall be used on any buried flanged bolts.
- B. After field installation, all steel surfaces shall receive a petrolatum wax tape coating in accordance with AWWA Standard C217. Suppliers include, but are not limited to, Tapecoat® Envirotape® and Denso Densyl Tape. Surface preparation and tape installation shall be in accordance with ASTM C217 and the manufacturer’s recommendations. Subject to approval by the ENGINEER, an alternative corrosion protection for exposed buried metal is an aerosol applied rubberized coating. The material shall be rapid dry and specifically designed for corrosion protection. 3M Rubberized Underseal Undercoating 08883. Follow manufacturer’s recommendations for storage and application.

**2.04 RETAINING GLANDS**

- A. All retaining glands shall be ductile iron with ductile iron set screws. Pressure ratings for use with ductile iron pipe shall be a minimum of 250 psi. Retainer Glands shall be coated with electrostatically applied baked-on polyurethane coating. Locking wedges, bolts, and set screws shall be coated with Xylan or FluoroKote.
- B. Retaining glands shall be manufactured by one of the following “approved manufacturers.”
  - EBBA Iron, Inc.
  - PO Box 857
  - Eastland Texas 76448

**2.05 TEST /TRACER BOXES**

- A. All test/tracer boxes shall be 18" plastic box flared and squared at base and have a 4" I.D. with a 1 ½" cast iron flange. Lid shall be a one piece locking lid with "Test Station" marked on lid and shall contain 5 screw-type brass terminals on a non-conductive terminal board.
- B. Test/tracer boxes shall be manufactured by one of the following "approved manufacturers":

Handley Industries, Inc.  
2101 Brooklyn Rd.  
Jackson, MI 49203  
Model T-45

## 2.06 MARKING POSTS

- A. All marking posts shall be Rhino FiberCurve™ with PolyTechCoating. The color shall be standard blue for water and the length shall be a minimum 66-inches. The decals be UV stable all weather type with a no dig symbol and white and contrasting white and blue vertical lettering: Butterfly and Gate Valves decals (Rhino GD-5226C) Blow-Offs decals (Rhino GD-5411C) Pipeline decals (Rhino GD-1333C).
- B. Marking Posts shall be manufactured by one of the following "approved manufacturers":

Rhino  
280 University Drive Southwest  
Waseca, MN 56093  
1-800-522-4343

Carsonite International  
605 Bob Gifford Boulevard  
Early Branch, SC 29916  
1-800-648-7916

## PART 3: EXECUTION

### 3.01 INSTALLATION

- A. Install "piping specialties" in accordance with the general provisions provided in the following:

#### Polyethylene Encasement

1. Encase piping in polyethylene as required to prevent contact with surrounding backfill and bedding material in all areas shown on the plans or designated by the Engineer. Polyethylene shall be 12 mils.
2. Install the polyethylene wrap material in accordance with the DIPRA Field Polyethylene Installation Guide and AWWA Standard C105. Polyethylene shall fit snugly and not tightly stretched. All holes or tears shall be repaired with tape. Large holes or tears shall be repaired by taping another piece of polyethylene over the hole. Tape or plastic tie straps at joint overlaps and at every 3 foot interval.



3. Dig bell holes and slide polywrap over the adjacent pipe and provide a minimum of 1 foot of overlap. Tightly secure bottom of polywrap using two to three passes of polyethylene tape on the pipe to polywrap connection and the overlap polywrap to polywrap connection.
  4. Where polyethylene wrapped pipe being installed connects to a pipe that is not wrapped (including existing pipe), extend the wrap a minimum of 3 feet onto the previously uncovered pipe. This includes service lines which may be wrapped in polyethylene or dielectric tape.
  5. Exposure of wrapped pipe to sunlight should be kept to a minimum. Pipe can be stored with the polywrap on for a maximum of 30 days.
  6. At no time shall the polywrapped pipe be subjected to a point load during handling, temporary storage, or installation. The polywrap must be moved away from the timbers or hoisting device while on the pipe to prevent point loads and resulting pin holes.
  7. Direct service taps for polyethylene encased pipe shall follow the procedure described in AWWA Standard C600. Access to the main for tapping through polyethylene is accomplished by making two to three passes of polyethylene tape around the pipe and over the polywrap. The tap is to be made directly through the tape and polywrap.
  8. Tape shall be polyethylene compatible adhesive and a minimum of 1.5" wide. Shall be Scotchwrap #50, Fulton #355, or Polyken #900.
- B. **Valve Boxes:** Valve boxes shall be supported so that no load can be transmitted from the valve box to the valve. See Detail Drawing 0201-0601-SD59. Install a self-centering alignment ring at the operating nut American Flow Control, or otherwise make sure that the bottom of the box is centered over the operating and runs perpendicular to the horizontal.
- C. **Test/Tracer Wire Boxes**  
Boxes shall be placed at areas designated in the plans and shall be flush with existing grade unless otherwise noted.
- D. **Marker Posts**  
Install Marker Posts using equipment designed for its installation per manufacturer guidelines and place at locations noted in the drawings or as approved by Engineer.
- E. **Corporations and Curb Stops**  
Service line piping shall be compatible with corporation and curbs stops provided with appropriate protection between dissimilar materials and a minimum of interconnecting fittings

END OF SECTION

**WATER MAIN, SANITARY SEWER AND APPURTENANCES SPECIFICATIONS**

**56104600 WATER VALVES 2”**

**56104900 WATER VALVES 6”**

**56105200 WATER VALVES 12”**

(ILAWC SECTION 15151 - GATE VALVES, CONTRACTOR FURNISHED)

Description

All valves 1 inch through 2 inch shall be bronze body construction, ball valves, with Double O-ring stem seals. Valves shall conform to AWWA Standard C800. End connections shall be suitable for copper or brass compression connection or pack joint for polyethylene pipe, as required. Sizes shall be from 3/4" to 2" and shall match the service line size, unless otherwise specified in the project Drawings. Acceptable manufacturers and model numbers: Ford Meter Box Company – B22 Series, Mueller - B-25204, A.Y. McDonald - 6100 Series. Curb boxes shall be standard cast iron, sliding or screw type, 1" or 2-1/2" as required, complete with lid and head bolt. Boxes shall be adjustable from 18-inches to 66-inches. The box size will be determined by the Engineer. Acceptable manufacturers: Bingham & Taylor, Mueller, Handley Industries, Clay & Bailey, A.Y. McDonald Quality Water Products.

All gate valves, 3 inches through 12 inches NPS, shall be iron body, resilient-seated, nut-operated, non-rising stem gate valves suitable for buried service. The valve interior and exterior shall be epoxy coated at the factory by the valve manufacturer in accordance with AWWA Standard C550 (6-8 mil average, 4 mil minimum). The valves shall be designed for a minimum differential pressure of 250 psi and a minimum internal test pressure of 500 psi unless otherwise noted on the plans. Valves shall be designed to operate in the vertical position. Valves shall comply fully with AWWA Standard C509. Valve ends shall be push on joint or MJ (when restrained), or as shown on the plans or approved in writing in accordance with AWWA Standard C111. Stems shall be made of a low zinc alloy in accordance with AWWA C509 4.2.2.4.3. Stem seals shall be double O-ring stem seals. Square operating nuts conforming to AWWA Standard C509 shall be used. Valves shall open (left or right) in accordance with the Owner's standard. All valve materials shall meet the requirements of NSF 61. Test valves (Operation Test and Hydrostatic Tests) at the manufacturer's plant in accordance with AWWA Standard C509. Provide the Engineer with certified copies of all tests prior to shipment. The Engineer reserves the right to observe all tests. Acceptable manufacturers: Mueller Company, Decatur, Illinois; Clow Canada, Hamilton, Ontario; M&H Valve, Anniston, Alabama; United State Pipe and Foundry Burlington, New Jersey; American Flow Control, Birmingham, Alabama.

Gate valves larger than 12-inches NPS shall be iron body, double disc (metal to metal seat), parallel seats, bronze mounted, rubber O-ring packing seals, epoxy coated interior and exterior meeting the requirements of AWWA Standard C550, and conforming to AWWA Standard C500. Stems shall be made of a low zinc alloy in accordance with AWWA C500 4.2.2.4.3. All valves shall have openings through the body of the same circular area as that of the pipe to which they are attached. All valves furnished shall open (left or right) in accordance with the Owner's standard. All valve materials shall meet the requirements of NSF 61. Test valves (Operation Test and Hydrostatic Tests) at the manufacturer's plant in accordance with AWWA Standard C515. Provide the Engineer with certified copies of all tests prior to shipment. The Engineer reserves the right to observe all tests. Valves shall have mechanical joint ends unless otherwise designated on the plans or approved by the Engineer. The valves shall be designed for a minimum differential pressure of 150 psi and a minimum internal test pressure of 300 psi, unless otherwise noted on the plans. Make all valves tight under their working pressures after they have been placed and before the main is placed in operation. Any defective parts

shall be replaced at the Contractor's expense. Acceptable manufacturers: Mueller Company, ACIPCO (American Flow Control division, Waterous only), McWane, Inc. (Clow and M&H Divisions only), U.S. Pipe, and Crane Co. (Stockham Division only).

Submit shop drawings and manufacturer's literature to the Engineer for approval.

Construction Requirements

Install the valves in strict accordance with the requirements contained in ILAWC Specification Section 15000 and detail drawings. All large gate valves shall be restrained.

After field installation of the valve all external bolts except the operating nut shall receive a layer of tape coating or approved rubberized-bitumen based spray-on undercoating applied before backfill. If polyethylene is applied to the pipe, the entire valve shall be encased in polyethylene encasement prior to backfill. The polyethylene encasement shall be installed up to the operating nut leaving the operating nut exposed and free to be operated. Valve box shall be installed per ILAWC Piping Specialties Specification 15130 or 15131.

The excavated areas that are within proposed paved areas shall be backfilled with controlled low-strength material. Excavated areas not within paved areas shall be backfilled with select earth material.

Measurement and Payment

This work will be measured for payment at the contract unit price each for WATER VALVES of the diameter specified. This work shall include all labor, equipment and material including excavation, installation and disposing of existing materials; valve boxes, bedding, earth backfill, testing, disinfection; protection, replacement or repair of utilities, drainage systems, structures, homeowner's property and miscellaneous property; removal of surplus excavated material; and clean-up.

The placement of controlled low-strength material will be paid for separately as specified herein.

**56108800 TAPPING VALVES AND SLEEVES 6"**

**56109100 TAPPING VALVES AND SLEEVES 12"**

(ILAWC SECTION 15171 - TAPPING SLEEVES, SADDLES AND VALVES, CONTRACTOR FURNISHED)

Description

All tapping sleeves, saddles and valves shall be designed for a working pressure of at least 250 psig for 12-inch and smaller. The valves shall be designed for a minimum differential pressure of 250 psi and a minimum internal test pressure of 500 psi unless otherwise noted on the plans.

Submit shop drawings and manufacturer's literature to the Engineer for approval in accordance with ILAWC Specification Section 1300.

Materials

Ductile iron tapping sleeves and valves shall be used unless prior approval is obtained from the Engineer.

Ductile Iron Tapping Sleeves:

Verify the type of existing pipe and the outside diameter of the pipe on which the tapping sleeve is to

be installed. Tapping sleeves shall be ductile iron dual compression type unless otherwise specified on the Drawings. The Drawings may require the use of corrosion resistant tapping sleeves in addition to polywrap in areas with corrosive soils. The sleeves shall be made in two halves which can be assembled and bolted around the main. Sleeves shall meet the requirements of NSF 61. Outlet flanges shall conform to the flange requirements of AWWA C110. All valves furnished shall open (left or right) in accordance with the Owner's standard. Acceptable manufacturers: McWane (Clow and M&H), U.S. Pipe (Mueller), and AFC (Waterous).

#### Tapping Valves:

The horizontal tapping valve shall conform to the applicable requirements of AWWA Standard C509. All tapping valves, 3 inches through 12 inches NPS, shall be ductile iron body, resilient-seated, nut-operated, non-rising stem gate valves suitable for buried service. The valve interior and exterior shall be epoxy coated at the factory by the valve manufacturer in accordance with AWWA Standard C550 (6-8 mil average, 4 mil minimum). The tapping valves shall have flanged inlets with mechanical joint outlets, enclosed bevel gears, bypass valve, rollers, tracks and scrapers. All valves furnished shall open (left or right) in accordance with the Owner's standard. Acceptable manufacturers: McWane (Clow and M&H), U.S. Pipe (Mueller), and AFC (Waterous).

#### Stainless Steel Tapping Sleeves:

The stainless steel band flange shall be manufactured in compliance with AWWA C207, Class D ANSI B.16.1 drilling, recessed for tapping valve MSS-SP60. Mechanical Joint tapping sleeve outlet shall meet or exceed all material specifications as listed below and be suitable for use with standard mechanical joint by mechanical joint resilient wedge gate valves per ANSI/AWWA C509-94 and be NSF 61 approved.

#### Tapping sleeves from 4" through 12"

The entire fitting shall be stainless steel type 304 (18-8). The body, lug, and gasket armor plate shall be in compliance with ASTM A240. The Flange shall be cast stainless steel in compliance with ASTM A743. The MJ outlet shall be one-piece casting made of stainless steel. The test plug shall be 3/4" NPT in compliance with ANSI B2.1 and shall be lubricated or coated to prevent galling. All metal surfaces shall be passivated after fabrication in compliance with ASTM A-380.

The gasket shall provide a 360-sealing surface of such size and shape to provide and adequate compressive force against the pipe after assembly, to affect a positive seal under the combinations of joint and gasket tolerances. The materials used shall be vulcanized natural or vulcanized synthetic rubber with antioxidant and antiozonant ingredients to resist set after installation. No reclaimed rubber shall be used. A heavy-gauge-type 304-stainless armor plate shall be vulcanized into the gasket to span the lug area.

The lugs shall be heliarc welded (GMAW) to the shell. The lug shall have a pass-through-bolt design to avoid alignment problems and allow tightening from either side of the main. Bolts shall NOT BE integrally welded to the sleeve. Finger Lug designs are not approved; it is the intent of these specifications to allow a tapping sleeve that has a lug design similar to the approved models.

Bolts and nuts shall be type 304 (18-8) stainless steel and Teflon coated or as specified in the bolt section below at the discretion of the Engineer. Bent or damaged units will be rejected.

Quality control procedures shall be employed to insure that the shell, Lug, (4" and Larger

Nominal Pipe Diameter) armor plate, gasket and related hardware are manufactured to be free of any visible defects. Each unit, after proper installation, shall have a working-pressure rating up to 250 psi.

The sleeve construction shall provide a positive means of preventing gasket cold flow and/or extrusion.

Each sleeve shall be stenciled, coded or marked in a satisfactory manner to identify the size range. The markings shall be permanent type, water resistant, that will not smear or become illegible.

Tapping sleeves from 16" and larger

Tapping sleeves attached to 16" and larger nominal pipe diameter shall meet the following minimum requirements:

The body shall be in compliance with ASTM A285, Grade C or ASTM A36. The test plug shall be ¾" NPT conforming to ANSI B2.1.

The gasket shall provide a watertight sealing surface of such size and shape to provide an adequate compressive force against the pipe. After assembly, the gasket will insure a positive seal under all combinations of joint and gasket tolerances. Gaskets shall be formed from vulcanized natural or vulcanized synthetic rubber with antioxidant ingredients to resist set after installation. No reclaimed rubber shall be used.

Bolts and nuts shall be high strength, corrosion resistant, low alloy, pre AWWA C111, ANSI A21.11 and as specified in the subsection on bolts in this specification.

Quality control procedures shall be employed to insure that the shell, gaskets, and related hardware area are manufactured to be free of visible defects. Each unit, after proper installation, shall have a working-pressure rating up to 200 psi.

Unless otherwise noted, unit shall be protected by electrostatically applied baked epoxy or polyurethane.

Units for concrete, steel cylinder pipe shall be furnished with load bearing setscrews on the gland flange to transfer loads on the outlet away from the steel cylinder and onto the sleeve. Epoxy –coated tapping sleeves do not require grout seal cavity (AWWA M-9 Manual).

Each sleeve shall be stenciled, coded or marked in a satisfactory manner to identify the size range. The marking shall be permanent type, water resistant, that will not smear or become illegible.

#### Fabricated Steel Tapping Sleeves:

The fabricated steel tapping sleeve shall be manufactured in compliance with AWWA C207. Sleeves shall be fabricated of minimum three-eighths (3/8) inch carbon steel meeting ASTM A285 Grade C. Outlet flange shall meet AWWA C-207, Class "D" ANSI 150 lb. drilling and be properly recessed for the tapping valve. Bolts and nuts shall be high strength low alloy steel to AWWA C111 (ANSI A21.11). Gasket shall be vulcanized natural or synthetic rubber. Sleeve shall have manufacturer applied fusion bonded epoxy coating, minimum 12 mil thickness., Class D ANSI B.16.1 drilling, recessed for tapping valve MSS-SP60. Mechanical Joint tapping sleeve outlet shall meet or exceed all material

specifications as listed below and be suitable for use with standard mechanical joint by mechanical joint resilient wedge gate valves per ANSI/AWWA C509-94 and be NSF 61 approved.

**Tapping Saddles:**

Unless otherwise specified by the Drawings, tapping saddles conform to the requirements of AWWA Standard C800 for the High Pressure class tapping saddles. Tapping saddles shall consist of ductile iron outlet castings, attached to the pipeline with high strength stainless steel straps. Castings shall be sealed to pipeline with O-ring seals. Saddles shall have ANSI A21.10 flanged outlets counterbored for use with tapping valves and tapping equipment.

**Bolts:**

All bolts shall have American Standard heavy unfinished hexagonal head and nut dimensions all as specified in ANSI B18.2. Bolts shall be Xylan or FluoroKote #1 suitable for direct bury in corrosive soils.

**Construction Requirements**

Install the tapping sleeves, saddles, and valves in strict accordance with the requirements of ILAWC Specification Section 15000. Install the tapping sleeves, tapping saddles, and tapping valves in accordance with the manufacturer's instructions. The tapping procedure is to be in accordance with the tapping machine manufacturer's instructions.

After field installation of the valve all external bolts except the operating nut shall receive a layer of tape coating or approved rubberized-bitumen based spray-on undercoating applied before backfill. If polyethylene is applied to the pipe, the entire sleeve and valve assembly shall be encased in polyethylene encasement prior to backfill. The polyethylene encasement shall be installed up to the operating nut leaving the operating nut of the tapping valve exposed and free to be operated

Perform a hydrostatic test of the tapping sleeve and valve assembly in accordance with ILAWC Specification Section 15030 after installation of the tapping sleeve and valve, but prior to making the tap. The test shall be made with the valve open using a tapped mechanical joint cap. No leakage is acceptable. The test pressure shall be maintained for a minimum of 15 minutes. Perform hydrostatic test of tapping saddles in accordance with AWWA Standard C800.

The excavated areas that are within proposed paved areas shall be backfilled with controlled low-strength material. Excavated areas not within paved areas shall be backfilled with selecte earth material.

**Measurement and Payment**

This work will be measured for payment at the contract unit price each for TAPPING VALVES AND SLEEVES of the diameter specified. This work shall include all labor, equipment and material including excavation, installation and disposing of existing materials; valve boxes, bedding, earth backfill, testing, disinfection; protection, replacement or repair of utilities, drainage systems, structures, homeowner's property and miscellaneous property; removal of surplus excavated material; and clean-up.

The placement of controlled low-strength material will be paid for separately as specified herein.

**56200700 WATER SERVICE LINE 2"**  
(ILAWC SECTION 15200 - SERVICE LINES, CONTRACTOR FURNISHED)

### Description

Furnish and install service lines originating at the water main and terminating at a curb stop connection where shown on the Drawings or described in the Specification Special Conditions. This Specification Section does not include service lines or meter installations beyond the curb stop. Refer to Standard Details for a typical service line installation.

All Products described below shall meet the requirements of NSF 61.

Research has documented that certain pipe materials (such as polyethylene) and certain elastomers (such as those used in gasket material and packing glands) may be subject to permeation by lower-molecular weight organic solvents or petroleum products. Products supplied under this Specification Section assume that petroleum products or organic solvents will not be encountered. If during the course of pipeline installation the Contractor identifies, or suspects the presence of petroleum products or any unknown chemical substance, notify the Engineer immediately. Stop installing piping in the area of suspected contamination until direction is provided by the Engineer.

### Materials

Refer to current AWWA Standards: AWWA Standard for Underground service Valves and Fittings C800.

#### Copper Service Line Material:

Copper pipe shall be Type K, as specified, meeting the requirements of ASTM Standard B88. The pipe size (3/4", 1", 1-1/2", or 2") and type are to be determined by the Engineer. Type K is normally required in corrosive environments where polyethylene is not allowed.

#### Miscellaneous Service Line Fittings:

Miscellaneous service line fittings such as couplings, adapters, saddles, bends, plugs, service line electrical insulators, etc. shall conform to AWWA Standard C800. Acceptable manufacturers: Ford Meter Box, Mueller, A.Y. McDonald.

### Construction Requirements

Excavate the service line trench in accordance with Division 2 of these Specifications. Where augering or moling is permitted follow guidelines provided by the equipment manufacturer including making a proper size hole to launch and receive the unit. If moling or augering is employed, take appropriate precautions to avoid damaging other utilities and disturbing the unexcavated surface.

Install service line between the tap connection and the curb stop location making only gradual changes in grade or alignment as required. Sharp bends (greater than 15 degrees) in any direction are not allowed unless approved by the Engineer. Installation shall be in accordance with ILAWC Specification Section 15000 and Standard Details and in accordance with local regulators.

Install all services straight and at right angles to the main. If this cannot be accomplished, provide the Owner with accurate as-built dimensions to the tee or corporation stop. The Contractor may be required to attach Owner supplied magnets to curb box and valve box.

All trench services shall be installed with marking tape. This tape shall provide an early warning at shallow depth excavation. The non-detectable tape shall be 6" wide, and buried approximately 12" above the service pipe, but a minimum of 12" below finished grade. It shall consist of multiple layers of polyethylene with an overall thickness of 3 to 5 mils. The black colored lettering on the warning tape shall be abrasion resistant and be imprinted on a color coded background that conforms to APWA

color code standards. It shall be installed continuous from the corporation stop to the curb stop.

After completion of service line installation, but prior to backfilling, open the corporation stop slowly to fill the line. When the line is full and all air has been removed, completely open the corporation and close the curb stop. Visually inspect that all piping, fittings, and taps for leaks. Backfill and restore the surface the service line trench in accordance with Division 2 of these Specifications.

Provide polyethylene encasement, or other protective wrap approved by the Engineer, on all metal service lines and fittings (pile, valves, stops, etc.) when they are made of different materials than the water main. When the polyethylene is applied on the main, it shall extend for a minimum clear distance of three (3) feet away from the main when services are not being renewed or extend from the main connection to and including the curb stop or curb meter setter for all new copper service lines. Encasement material and installation shall be per ILAWC Specification Section 15131 and AWWA Standard C105.

The excavated areas that are within proposed paved areas shall be backfilled with controlled low-strength material. Excavated areas not within paved areas shall be backfilled with select earth material.

#### Measurement and Payment

This work will be measured for payment at the contract unit price per foot for WATER SERVICE LINE of the diameter specified. The service lines will be measured in lineal feet along the centerline of the pipe. The cost of the service lines includes installation by open cut or directional drilling methods, including all excavation, except rock excavation, spacers, joints and fittings, bedding, removal of surplus excavated material, testing, disinfection, earth backfill, and controlled low-strength material backfill.

#### **56201800 CORPORATION STOPS 2"**

(ILAWC SECTION 15200 - SERVICE LINES, CONTRACTOR FURNISHED)

#### Description

Corporation stops shall be of the brass, ball valve type manufactured in accordance with AWWA Standard C800. The inlet connection shall have standard AWWA tapered threads unless otherwise required by the Engineer. The outlet connection shall be copper or brass compression connection end or pack joint for polyethylene pipe, as required. Dielectric unions shall be used to prevent transfer of any electrical stray currents from metallic service lines to metallic water main. The sizes shall range from 1/2" to 2" and shall match the size of specified service line material. Acceptable manufacturers and model numbers are: Ford Meter Box Company - FB400 thru FB1600, Mueller - B-25000, A.Y. McDonald – 4701B Series

#### Construction Requirements

Use experienced craftsmen familiar with installation of water service lines when tapping water mains. Make all taps with a suitable tapping machine (Mueller, Ford, Hays or Dresser type) using the proper combined drill and tap. Hand held drilling equipment is not acceptable.

Before making the tap, inspect corporation stops for cleanliness, damaged threads, and proper operation of the ball valve prior to installation. Do not install corporation stops that fail this inspection.

The main may be tapped along the top half of the pipe as directed by the Engineer or as shown on



Standard Details. Use a tapping saddle when the water main wall thickness or material (plastic, concrete or A-C pipeline material) make it unsuitable for direct tapping. Verify saddle use with Engineer.

In the case of multiple services of small diameter (less than 2" diameter), corporation stops shall be at least 12 inches apart and at least 22-1/2 degrees above or below the location of any adjacent tap(s) and curb stops and boxes shall be at least one foot apart. In the case of large diameter multiple services, tap at least 24 inches apart and at least 22-1/2 degrees above or below the location of any adjacent tap(s).

Install all corporation stops so that between 2 and 3 threads extend beyond the inside wall of the main. If necessary, make a test tap with the boring bar marked to the proper depth. The corporation stop, when properly installed, will not be shouldered with the main. Do not use lubricants of any type when installing the corporation stop.

Use the procedures outlined in AWWA Standard C600 for installing taps on grey iron or ductile iron mains encased in polyethylene.

Measurement and Payment

This work will be measured for payment at the contract unit price each for CORPORATION STOP of the diameter specified. This work shall include all labor, equipment and material including excavation, installation and disposing of existing materials; protection, replacement or repair of utilities, drainage systems, structures, homeowner's property and miscellaneous property; removal of surplus excavated material; and clean-up.

**56400500 FIRE HYDRANTS TO BE REMOVED**

Description

This work shall consist of complete removal and disposal of the existing fire hydrants at the locations shown on the plans and as directed by the Engineer.

Construction Requirements

The Contractor will be responsible for exploring and determining the type, size, and depth of the fire hydrants. After the new water mains have been satisfactorily installed, disinfected and approval given by the Engineer, the existing hydrants shall be removed as noted on the plans and described herein. The limits of the water lines to be abandoned are shown on the plans. All fire hydrants and valve boxes within the limits shown shall be removed to a minimum one foot below grade. Fire hydrants shall be removed and disposed of by the Contractor in accordance with Article 202.03 of the Standard Specifications.

The remaining water mains shall be abandoned in accordance with the special provision for "Water Main To Be Abandoned". The excavated areas that are within proposed paved areas shall be backfilled with controlled low-strength material. Excavated areas not within paved areas shall be backfilled with select earth material.

Measurement and Payment

This work will be measured for payment at the contract unit price each for FIRE HYDRANTS TO BE REMOVED. This work shall include all labor, equipment and material including excavation, locating existing water main, valves and hydrants; dewatering the abandoned line; cutting and removing sections of pipe, installing restrained plugs and caps, isolation valves and thrust blocks; removing and disposing of valve boxes and fire hydrants to a minimum of 1 foot below grade; protection, replacement or repair of utilities, drainage systems, structures, homeowner's property and miscellaneous property; removal of surplus excavated material; and clean-up.

The abandonment of existing water mains and placement of controlled low-strength material will be paid for separately as specified herein.

**56400600 FIRE HYDRANTS**

(ILAWC SECTION 15181 - FIRE HYDRANTS, CONTRACTOR FURNISHED)

Description

Furnish all labor, material, tools, and equipment required to install fire hydrants at the location shown on the plans, or where designated by the Engineer. All fire hydrants shall be ductile iron and conform to the requirements of AWWA C502, traffic-model break-away type fire hydrants.

Contact the local water district and obtain written fire hydrant mechanical details for the water district prior to ordering any fire hydrants for the Work. All fire hydrants shall open left or right as required and be clearly marked on the top of the hydrant with a 1-1/2" pentagon top nut and have not less than two (2) O- ring stem seals. The number and sizes of hose nozzle outlets is dependent on the local regulation. (Most typical is two (2) bronze male threaded 2-1/2" hose outlet nozzles and one (1) bronze male threaded 4-1/2" pumper outlet nozzle with American National Fire Hose Connection Screw Threads (NH).) The hydrant shall be break-away traffic flange, 4-1/2" valve opening, 6" mechanical joint pipe connection. The hydrant interior and exterior shall be epoxy coated at the factory by the hydrant manufacturer in accordance with AWWA Standard C550 (6-8 mil average, 4 mil minimum). The Contractor shall contact the local water district and obtain written fire hydrant mechanical details for the water district prior to ordering any fire hydrants in accordance with the drawings

All fire hydrants shall be Mueller Centurion with part numbers:

- A421-505960 - 3 1/2' bury
- A421-505961 - 4' bury
- A421-505962 - 4 1/2' bury
- A421-505963 - 5' bury
- A421-505964 - 5 1/2' bury
- A421-505965 - 6' bury

Construction Requirements

Contractor shall inspect all fire hydrants upon receipt. Cycle each hydrant to full open and full closed positions to ensure that no internal damage or breakage has occurred during shipment and handling. Check all external bolts for proper tightness. After inspection, close the hydrant valves and replace the outlet nozzle caps to prevent the entry of foreign matter. Protect stored hydrants from the weather/elements with the inlets facing downward.

Locate hydrants on the plans or as directed by the Engineer and in compliance with local regulations. The location shall provide complete accessibility and minimize the possibility of damage from vehicles or injury to pedestrians. When placed behind the curb, the hydrant barrel shall be set so that no portion of the pumper or hose nozzle cap will be less than eighteen to twenty- four inches, depending on local requirements, from the gutter face of the curb. All hydrants shall stand plumb with the pumper nozzle facing the curb. Set hydrants with nozzles at least eighteen inches above the finished grade as shown on the plans. Set the break flange at least two but no more than six inches above finished grade, or as directed by the Engineer. Connect each hydrant to the main with a six inch branch connection controlled by an independent six inch gate valve, unless otherwise shown on the plans. All hydrants assemblies must be restrained from the hydrant back to the main.

The Engineer may authorize hydrant protection using steel pipe bollards when hydrant installations have a greater than normal exposure to vehicular damage (e.g. parking lot installations, unusual driving situation, etc.). Install all such protection designated by the Engineer. Locate bollards as necessary adjacent to the hydrant and in such a manner as to not interfere with the ability to connect hoses or operate the hydrant as per detail drawing. Additionally, locate the bottom of the bollard and encasement above the hydrant supply piping and valve to prevent the possibility of damage to the piping should the bollard be displaced when hit. Payment for bollards shall be per the supplemental unit price schedule.

Unless otherwise directed by the Engineer, excavate a drainage pit two feet in diameter and two feet deep below but not beyond each hydrant. Fill the pit with compacted  $\frac{3}{4}$  inch clean granular under and around the base of the hydrant to a level 12 inches above the hydrant drain opening. No hydrant drainage pit shall be connected to a sewer.

Cover the drainage area with geotextile fabric. The fabric shall completely isolate the gravel or stone so that no fill material or adjacent earth comes in contact with pit material.

Notify the Engineer of situations where the ground water table is above the drain opening of dry barrel hydrants. If directed by Engineer, plug the drain opening using a method acceptable to the hydrant manufacturer. No drainage pit is required when the hydrant drain is plugged. Mark the hydrant, in a manner acceptable to the Owner, to indicate that the drain opening has been plugged. Operation of a hydrant with plugged drain leaves the hydrant barrel full of water. Pump the hydrant barrel dry after each use.

Reaction or thrust blocking at the base of each hydrant must not obstruct the drainage outlet of the hydrant. The size and shape of concrete thrust backing and the number and size of tie rods, when required, shall be approved by the Engineer. Use the thrust blocking material specified in ILAWC Specification Section 3300. See ILAWC Specification Section 15000 for tie rod requirements.

After installation and before backfilling (and after pressure testing the water main) test the hydrant as follows:

Pressure Test

1. Open the hydrant fully and fill with water; close all outlets.
2. To prevent caps from being blow off dry-barrel hydrants and to prevent other possible damage, vent air from the hydrant by leaving one of the caps slightly loose as the hydrant is being filled. After all air has escaped, tighten the cap before proceeding.
3. Apply line pressure.

4. Check for leakage at flanges, nozzles and operating stem.
5. If leakage is noted, repair or replace components or complete hydrant until no leaks are evident.

**Drainage Test for Dry-Barrel Hydrants**

1. Following the pressure test, close hydrant.
2. Remove one nozzle cap and place pylon or hand over nozzle opening.
3. Drainage rate should be sufficiently rapid to create a noticeable suction.
4. After backfilling, operate the hydrant to flush out any foreign material.
5. Tighten nozzle caps, then back them off slightly so that they will not be excessively tight; leave tight enough to prevent removal by hand.

The excavated areas that are within proposed paved areas shall be backfilled with controlled low-strength material. Excavated areas not within paved areas shall be backfilled with select earth material.

Paint all hydrant above the bury line in accordance with the local operations standards. Touch up paint (as specified by the OWNER under Special Conditions) shall be applied upon completion of installation as needed. Take extreme care to avoid getting any paint on the "O" ring under the top operating nut or on the hydrant nozzles. Should paint be found on the "O" ring, the Contractor shall remove the paint and replace the "O" ring at his expense. Any paint on the hydrant nozzles shall be removed at the Contractor's expense.

**Measurement and Payment**

This work will be measured for payment at the contract unit price each for FIRE HYDRANTS. This work shall include all labor, equipment and material including excavation and bury depth of piping, locating existing water main, valves and hydrants; dewatering; cutting and removing sections of pipe, installing restrained plugs and caps, isolation valves and thrust blocks; protection, replacement or repair of utilities, drainage systems, structures, homeowner's property and miscellaneous property; removal of surplus excavated material; and clean-up.

The placement of controlled low-strength material will be paid for separately as specified herein.

**59300100 CONTROLLED LOW-STRENGTH MATERIAL**

**Description**

This work shall consist of furnishing and placing controlled low-strength material (CLSM) as back fill for water main and other excavations as specified on the Drawings. All water main and water services within two feet laterally of proposed pavement, driveway pavement, sidewalk or curb and gutter shall be backfilled with controlled low-strength material (CLSM) from one foot above the pipe as shown on the water main details.

**Measurement and Payment**

This work will be measured and paid for at the contract unit price per cubic yard for CONTROLLED LOW-STRENGTH MATERIAL. This work shall include all labor, equipment and material; removal of surplus material and clean-up.

**X0327241 STEEL CASING PIPE IN TRENCH, 24 INCH**

**Description**

This work consists of excavating, connecting to existing water main, installing 12” ductile iron piping in 24” steel casing, and backfilling as directed by the Engineer. Connection to existing pipelines may require shutdown of Owner facilities. Closely coordinate construction work and connections with the Owner through the Engineer. The Engineer, in consultation with the Owner, may select the time for connection to existing pipelines, including Saturdays, Sundays, or holidays, which, in the opinion of the Engineer, will cause the least inconvenience to the Owner and/or its customers. Make such connections at such times as may be directed by the Owner, at the Contract prices, with no claim for premium time or additional costs.

Submit shop drawings and manufacturer's literature for all Contractor supplied materials promptly to the Engineer for approval in accordance with ILAWC Specification Section 1300.

**Material**

Casing pipe shall be bare wall steel pipe with a minimum yield strength of 35,000 psi and a minimum wall thickness as listed below:

Casing Outside Diameter <u>Inches</u>	Highway Crossings Casing Wall Thickness <u>Inches</u>	Railroad Crossings Casing Wall Thickness <u>Inches</u>
8.625	0.250	0.250
10.75	0.250	0.250
12.75	0.250	0.250
14	0.250	0.281
16	0.250	0.281
18	0.250	0.312
20	0.312	0.344
24	0.312	0.406
30	0.375	0.469
36	0.500	0.532
42	0.500	0.563
48	0.625	0.625
54	0.625	0.688
60	0.625	0.750
66	0.625	0.813
72	0.750	0.875

Smooth wall steel plates with a nominal diameter of over 54 inches shall not be permitted.

**Construction Requirements**

All casing construction shall be in accordance with ILAWC Specification Section 02220 - Casing Installation.

**Measurement and Payment**

This work will be measured for payment at the contract unit price per foot for STEEL CASING PIPE, 24”. Pipe will be measured in lineal feet along the centerline. This work shall include all labor, equipment and materials necessary to construct the water mains and casing including all excavation, except rock excavation; clearing and grubbing; casing pipe; spacers; locating existing water main and

utilities; furnishing and installing transition fittings for dissimilar pipe materials; furnishing and installing pipe, restrained joint pipe, fittings, reducers and elbows; polyethylene wrap; watertight plugs; No. 12 THWN single strand tracer wire, bedding and backfill (except Trench Backfill, Special material, which will be paid as specified herein); thrust blocks; testing; chlorination taps; disinfection; protection, replacement or repair of utilities, drainage systems, structures, homeowner's property and miscellaneous property; removal of surplus excavated material; and clean-up.

The placement of controlled low-strength material will be paid for separately as specified herein.

**X0840000 SANITARY SEWER REMOVAL 8"**

**Description**

This work shall consist of locating, removing and disposing of existing sanitary sewers that are being abandoned or being replaced with new sanitary sewers. The work shall be done as specified herein as directed by the Engineer.

**Construction Requirements**

The exact locations and depths of the existing sanitary sewers are unknown. The contractor will be responsible for locating the sanitary sewers and verifying the size, material type and depth of the pipes. The Contractor shall use care in excavating trenches and follow all safety requirements. It will be necessary to shore trenches or use trench boxes to protect workers and adjacent existing sewers or utilities. Geotechnical information is available for the existing soils and can be obtained from the Engineer upon request.

Excavations in non-paved areas shall be backfilled with earth and compacted to the satisfaction of the Engineer. Excavations that are within two feet of paved surfaces shall be backfilled with controlled low-strength material. The work shall be as directed by the Engineer.

**Measurement and Payment**

This work will be measured for payment at the contract unit price per foot for SANITARY SEWER REMOVAL 8", which price shall be considered payment in full for all labor, equipment, materials, and earth backfill required for the satisfactory removal and disposal of the existing sanitary sewers. Controlled Low-Strength Material will be paid for separately as specified herein.

**X5610746 WATER MAIN LINE STOP 6"**

**Description**

This work shall consist of furnishing and installing temporary inflatable plugs in pressurized water mains to stop water flow and allow for the installation of new water mains and valves at locations shown on the plans and as shown on the plans. Other means of plugging the water mains must be approved by Illinois American Water Company prior to beginning the work.

**Construction Requirements**

The Contractor will be responsible for excavating and locating the existing water mains at locations shown on the plans or as directed by the Engineer. The Contractor shall install the inflatable plugs and leave them in place until such time that the new water main connections are made and tested and then the plugs can be removed.

The excavated areas that are within proposed paved areas shall be backfilled with controlled low-

strength material. Excavated areas not within paved areas shall be backfilled with select earth material.

Measurement and Payment

This work will be measured for payment at the contract unit price each for WATER MAIN LINE STOPS of the size shown on the plans. This work shall include all labor, equipment and material including excavation, except rock excavation, removals, protection, replacement or repair of utilities, drainage systems; removal of surplus excavated material; backfill with earth and clean-up.

The placement of controlled low-strength material will be paid for separately as specified herein.

**X6026624 VALVE BOXES TO BE ADJUSTED (SPECIAL)**

Description

This work shall consist of adjusting existing water valve boxes to finished grade at the locations shown on the plans and as directed by the Engineer. The work shall include excavating around the valve boxes, adjusting the boxes to match the finished grade and backfilling the excavation with select earth material. Excavations within the limits of paved surfaces shall be backfilled with controlled low-strength material. Any broken or damaged valve box materials will be replaced by the Contractor. Replacement valve box materials will be furnished by Illinois American Water Company.

Measurement and Payment

This work will be paid for at the contract unit price each for VALVE BOXES TO BE ADJUSTED, which price shall include all work as specified herein.

The placement of controlled low-strength material will be paid for separately as specified herein.

**XX004360 SANITARY SEWER BYPASS PUMPING**

Description

This work shall consist of furnishing, installing, and maintaining a sanitary sewer water bypass pumping system as approved by the Engineer. The Contractor will be required to furnish all materials, labor, equipment, power, and maintenance, to implement a temporary pumping system for the purpose of diverting the existing sanitary sewer water flow around the work areas while new sanitary sewers are being installed. The Contractor shall divert the flow around the work areas in a manner that will not cause damage to, or surcharging of other systems and will protect public and private property from damage and flooding. Multiple setups of the pumping equipment will be required throughout the duration of the project due to the staging of the project.

The design, installation, operation, and subsequent removal of the temporary pumping system shall be the Contractor's responsibility. The bypass system shall meet the requirements of all codes and regulatory agencies having jurisdiction including noise limits. If necessary the Contractor shall provide enclosures or sound deadening devices to limit the noise. Prior to starting work, the Contractor shall submit to the Engineer and UCSD for approval detailed plans and descriptions outlining all provisions and precautions to be taken by the Contractor regarding handling of existing sanitary sewer water flows. This plan must be specific and complete, including such items as capacities of equipment, materials, and all other incidental items necessary and/or required to ensure proper compliance with the requirements.

The plan shall include but not be limited to the details of the following:

1. Staging areas for pumps
2. Sewer plugging method and types of plugs
3. Size of pipeline or conveyance system to be bypassed
4. Bypass pump sizes, capacity, number of each size to be on site and power requirements
5. Standby power generator size, location
6. Method of protecting discharge manholes or structures from erosion and damage
7. Method of noise control for each pump and/or generator

Measurement and Payment

This work will be measured for payment at the contract unit price lump sum for SANITARY SEWER BYPASS PUMPING, which price shall include all labor, materials, and equipment specified herein including multiple setups of pumping operations.

**XX005106    PVC CASING PIPE 18”**

Description

This work shall consist of constructing PVC casing pipes of various diameters for the water mains at locations shown on the plans and as directed by the Engineer.

Materials

PVC Casing:

PVC Casing pipes shall be water main quality pipe in accordance with Article 40-2.01 C of the Standard Specifications for Water and Sewer Main Construction in Illinois and the following requirements.

Standard C900: Polyvinyl Chloride (PVC) Pressure Pipe Schedule 80 with fabricated fittings, 4 inch through 12 inch diameter, for Water Distribution.

Standard C905: Polyvinyl Chloride (PVC) Pressure Pipe Schedule 80 with fabricated Fittings, 14 inch through 48 inch diameter, for Water Transmission and Distribution.

Joints in the PVC pipe shall be pressure slip jointed with elastomeric gaskets in accordance with ASTM Standard F477 or solvent cement welded in accordance with ASTM Standard D2564.

Rubber end seals shall be wrapped around the end of casing and the carrier pipe after installation to provide a barrier to the backfill material. The end seals shall be secured with stainless steel straps. The end seals shall be Cascade Waterworks Manufacturing Company Model CCES.

Construction Requirements

The casing pipe may be open cut or bored and jacked. The proposed method of installation shall be approved by the Engineer prior to starting the work.

The water main pipe may be pushed or pulled (depending upon piping material, joint type, and method of pipe spacers and support) into the casing as assembled. The proposed method of installation shall be approved by the Engineer prior to starting the work.



Measurement and Payment

This work will be measured for payment at the contract unit price per foot for PVC CASING PIPE of the diameter specified. The casing pipes will be measured in lineal feet along the centerline. This work shall include all labor, equipment and materials necessary to construct the water mains and casing including all excavation, except rock excavation; clearing and grubbing; casing pipe; spacers; locating existing water main and utilities; furnishing and installing transition fittings for dissimilar pipe materials; furnishing and installing pipe, restrained joint pipe, fittings, reducers and elbows; polyethylene wrap; watertight plugs; No. 12 THWN single strand tracer wire, bedding and backfill (except Trench Backfill, Special material, which will be paid as specified herein); thrust blocks; testing; chlorination taps; disinfection; protection, replacement or repair of utilities, drainage systems, structures, homeowner's property and miscellaneous property; removal of surplus excavated material; and clean-up.

The placement of controlled low-strength material will be paid for separately as specified herein.

**56103300 DUCTILE IRON WATER MAIN 12"**

**XX005476 DUCTILE IRON WATER MAIN 12" RESTRAINED JOINT TYPE**

**XX005478 DUCTILE IRON WATER MAIN 6" RESTRAINED JOINT TYPE**

(ILAWC SECTION 15106 - DUCTILE IRON PIPE AND FITTINGS, CONTRACTOR FURNISHED)

Description

Connection to existing pipelines may require shutdown of Owner facilities. Closely coordinate construction work and connections with the Owner through the Engineer. The Engineer, in consultation with the Owner, may select the time for connection to existing pipelines, including Saturdays, Sundays, or holidays, which, in the opinion of the Engineer, will cause the least inconvenience to the Owner and/or its customers. Make such connections at such times as may be directed by the Owner, at the Contract prices, with no claim for premium time or additional costs.

Submit shop drawings and manufacturer's literature for all Contractor supplied materials promptly to the Engineer for approval in accordance with ILAWC Specification Section 1300.

Refer to current AWWA Standards:

AWWA C104 - American National Standard for Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water

AWWA C105 - American National Standard for Polyethylene Encasement for Ductile-Iron Pipe Systems

AWWA C110 - American National Standard for Ductile-Iron and Gray-Iron Fittings, 3-inch through 48-inch, for Water and Other Liquids

AWWA C111 - American National Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings

AWWA C115 - American National Standard for Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges

AWWA C116 - American National Standard for Protective Fusion-Bonded Epoxy Coatings for the Interior and Exterior Surfaces of Ductile-Iron and Gray-Iron Fittings for Water Supply Service

AWWA C150 - American National Standard for the Thickness Design of Ductile-Iron Pipe

AWWA C151 - American National Standard for Ductile-Iron Pipe, Centrifugally Cast, for Water

AWWA.C153 - American National Standard for Ductile-Iron Compact Fittings, 3-inch through 24-inch and 54-inch through 64-inch, for Water Service

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

### Materials

Research has documented that certain elastomers (such as those used in gasket material) may be subject to permeation by lower-molecular weight organic solvents or petroleum products. Products supplied under this Specification Section assume that petroleum products or organic solvents will not be encountered. If during the course of pipeline installation the Contractor identifies, or suspects the presence of petroleum products or any unknown chemical substance, notify the Engineer immediately. Stop installing piping in the area of suspected contamination until direction is provided by the Engineer.

#### Pipe:

Ductile iron pipe shall conform to the latest specifications as adopted by the American National Standards Institute, Inc., (ANSI) and the American Water Works Association (AWWA). Specifically, ductile iron pipe shall conform to AWWA Standard C151. The pipe or fitting exterior shall be coated with a bituminous coating in accordance with AWWA Standard C151. The pipe or fitting interior shall be cement mortar lined and seal coated in compliance with the latest revision of AWWA Standard C104. Pipe and fittings shall meet the following minimum quality requirements by conforming to the following:

AWWA C105 / ANSI A21.5 Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water  
Polyethylene Encasement for Ductile-Iron Pipe Systems  
AWWA C110 / ANSI A21.10 Ductile Iron and Gray Iron Fittings, 3 NPS through 48 NPS for Water  
AWWA C111 / ANSI A21.11 Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings  
AWWA C115 / ANSI A21.15 Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded  
Flanges  
AWWA C116 / ANSI A21.16 Protective Fusion-Bonded Epoxy Coating for the Interior and Exterior  
Surfaces of Ductile-Iron and Gray-Iron Fittings for Water Supply Service  
AWWA C150 / ANSI A21.50 Thickness Design of Ductile-Iron Pipe  
AWWA C151 / ANSI A21.51 Ductile-Iron Pipe, Centrifugally Cast, for Water  
AWWA C153 / ANSI A21.53 Ductile-Iron Compact Fittings, 3 NPS through 24 NPS and 54 NPS  
through 64 NPS, for Water Service

Ductile iron water pipe and fittings will be accepted on the basis of the Manufacturer's certification that the material conforms to this specification. The certification for iron fittings shall list a fitting description, quantity, bare fitting weight and source, (AWWA Standard C110, C153 or Manufacturer, if fitting is not listed in either standard). The certification shall accompany the material delivered to the project site. The Owner reserves the right to sample and test this material subsequent to delivery at the project site.

If foreign manufactured fittings are provided, then the Contractor is obligated to notify the Engineer with a submittal and provide the necessary documentation to satisfy the Engineer and the Owner that the materials provided meet the specified AWWA standards and, among other documentation that may be required, provide certificates of compliance on the component supplied. The pressure class of pipe to be furnished shall be in accordance with Table 1 and the notes listed below.

Table 1  
 MINIMUM RATED WORKING PRESSURE  
 FOR DUCTILE IRON PIPE MANUFACTURED IN ACCORDANCE  
 WITH AWWA Standard C151

Pipe Size (Inch)	Pressure Class
6	350
8	350
12	350
16	300
20	300
24	250

Larger pipe sizes up to 54-inch can be installed as pressure Class 200 with cover up to nine (9) feet and an operating pressure of 200 psi, where approved by the Engineer. When trench depths exceed fifteen (15) feet for pipe sizes of 16-inch or larger, the Engineer shall direct the Contractor on the proper class pipe to use.

The noted pressure class is adequate to support 3/4 and 1-inch corporation stops. Use a full saddle for larger taps (e.g., air relief valves or larger corporations) due to limited wall thickness.

There are special conditions where a larger wall thickness is required. The Engineer shall direct the Contractor on the proper pressure class pipe to use in specific instances; e.g. at treatment plant or booster station sites where frequent excavation can be anticipated in the vicinity of pipe, where the pipeline is laid on a river channel bottom to prevent external damage to the pipe and minimize the potential for costly pipe replacement, etc.

Perform a hydrostatic test of all pipe and appurtenances as required by AWWA Standard C151 and Specification Section 15030.

Mechanical and push-on joints including accessories shall conform to AWWA Standard C111.

Flanged joints shall conform to AWWA Standard C110 or ANSI B16.1 for fittings and AWWA Standard C115 for pipe. Do not use flanged joints in underground installations except within structures. Furnish all flanged joints with 1/8-inch thick, red rubber or styrene butadiene rubber gaskets. The bolts shall have American Standard heavy unfinished hexagonal head and nut dimensions all as specified in American Standard for Wrench Head Bolts and Nuts and Wrench Openings (ANSI B18.2). For bolts of 1-3/4-inches in diameter and larger, bolt studs with a nut on each end are recommended. The high-strength, low-alloy steel for bolts and nuts shall have the characteristics listed in Table 6 of AWWA Standard C111. Exposed bolts and nuts in aggressive soils shall be Xylan or FluoroKote #1.

Restrained joints for pipes shall be of the boltless push-on type which provides joint restraint independent of the joint seal. Restrained push-on joints allowed for pipe only shall have accessories conforming to AWWA Standard C111. Restrained system shall be suitable for the following minimum working pressures:

Size (Inch)	Pressure (psi)
Less than 20"	350
20"	300
24"	250
30" - 64"	200

Suppliers acceptable to American Water are United States Pipe & Foundry Co., Griffin Pipe Products Company, McWane Cast Iron Pipe Co., and American Cast Iron Pipe Company.

Fittings

Standard fittings shall be ductile iron conforming to AWWA Standard C110. Compact ductile iron fittings shall meet the requirements of AWWA Standard C153. Fittings shall be suitable for the following working pressures unless otherwise noted in AWWA Standard C110 or C153:

Size	Pressure (psi)	
	Compact Fittings Ductile Iron	Standard Fittings Ductile Iron
3" - 24"	350	250 , 350 (with special gaskets)
30" - 48"	250	250
54" - 64"	150	N/A

The use of standard ductile iron fittings having a 250 psi pressure rating with ductile iron pipe (having a rating of 350 psi) is not permitted except by the expressed written approval by the Engineer.

The fittings shall be coated on the outside with a petroleum asphaltic coating in accordance with AWWA Standard C110 or fusion coated epoxy in accordance with AWWA Standard C116 and lined inside with cement-mortar and seal coated in accordance with AWWA Standard C104 or fusion coated epoxy in accordance with AWWA Standard C116.

Suppliers acceptable to American Water are (Sigma through) United States Pipe & Foundry Co., (Tyler Union –domestic only), American Cast Iron Pipe Company

Mechanical and push-on joints including accessories shall conform to AWWA Standard C111. Anti-Rotation | T-Bolts shall be used on mechanical joints shall be of domestic origin, high strength, low alloy steel bolts only, meeting the current provisions of American National Standard ANSI/AWWA C111/A21.1-90 for rubber gasket joints for cast iron or ductile iron pipe and fittings. Bolt manufacturer’s certification of compliance must accompany each shipment. T-bolts shall be Xylan or FluoroKote #1, (corrosion resistant) to handle corrosive conditions on any buried bolts.

Flanged joints shall meet the requirements of AWWA Standard C115 or ANSI B16.1. Do not use flanged joints in underground installations except within structures. Furnish all flanged joints with a minimum 1/8-inch, thick red rubber or styrene butadiene rubber gasket. The bolts shall have American Standard heavy unfinished hexagonal head and nut dimensions all as specified in ANSI B18.2. Xylan or FluoroKote #1 Hex Bolts (corrosion resistant) to handle corrosive conditions shall be used on any buried flanged bolts. Flange gaskets shall be rubber in composition; paper gaskets are not permitted.

Bolts and nuts shall be threaded in accordance with ASME/ANSI B1.1, Unified Inch Screw Threads (UN and UNR Thread Form) class 2A external and class 2B internal. For bolts of 1-3/4-inches in diameter and larger, bolt studs with a nut on each end are recommended. Material for bolts and nuts shall conform to ASTM A307, 60,000 PSI Tensile Strength, Grade B, unless otherwise specified. Bolt manufacturer’s certification of compliance must accompany each shipment.

Restrained joints for valves and fittings shall be of the boltless push-on type which provides joint restraint independent of the joint seal. Field Lok gaskets are not permitted on valves or fittings.

Restrained push-on joints allowed for pipe only shall have accessories conforming to AWWA Standard C111. Restrained system shall be suitable for the following minimum working pressures:

Size	Pressure (psi)
Less than 20"	350
20"	300
24"	250
30" - 64"	250

Where adjacent fittings are to be placed (as in a mechanical joint hydrant tee and a mechanical joint hydrant valve), the use of a suitably sized Foster adaptor is permitted to facilitate restraint between the fittings.

Construction Requirements

For push-on joints, clean the surfaces that the gasket will contact thoroughly, just prior to assembly using a bacteria free solution (bleach, potable water or NSF approved material). Insert the gasket into the groove in the bell. Apply a liberal coating of special lubricant to the gasket and the spigot end of the pipe before assembling the joint. Center the spigot end in the bell and push home the spigot end.

For mechanical joints, clean and lubricate all components with soapy water prior to assembly. Slip the follower gland and gasket over the pipe plain end making sure that the small side of the gasket and lip of the gland face the bell socket. Insert the plain end into socket. Push gasket into position with fingers. Seat gasket evenly. Slide gland into position, insert bolts, and tighten nuts by hand. Tighten bolts alternately (across from one another) to the recommended manufacturing rating or if not provided, to the following normal torques:

Bolt Size	Range of Torque In Foot-Pounds
5/8"	40 - 60
3/4"	60 - 90
1"	70 - 100
1-1/4"	90 - 120

After field installation, all bolts shall receive petrolatum tape or petroleum wax protection or other approved coating material. Protection shall be applied before applying polywrap per ILAWC Specification Section 15131.

For restrained joints (ball and socket), assemble and install the ball and socket joint according to the manufacturer's recommendations. Thoroughly clean and lubricate the joint. Check the retainer ring fastener.

For restrained joints (push-on), assemble and install the push-on joint according to the manufacturer's recommendations. Thoroughly clean and lubricate the joint. Check the retainer ring fastener. Protect pipe from damage from the jacking device (backhoe bucket, pipe jack, etc.) when "pushing home" any pipe by using wood or other suitable (non metallic) material.

For restrained joints (mechanical), assemble and install the mechanical joint according to the manufacturer's recommendations. Thoroughly clean and lubricate the joint. Use approved restrained joint device on fittings and valves where required and approved for use by Engineer.

Protect pipe from damage from the jacking device (backhoe bucket, pipe jack, etc.) when “pushing home” any pipe. Wood or other suitable material (non metallic) shall be used to push home the pipe.

Gaskets shall be as provided or recommended by the manufacturer and satisfy AWWA standard C111 in all respects. As noted in the products section of this specification, some gasket materials are prone to permeation of certain hydrocarbons which may exist in the soil (see part 2). Under these conditions and at the Engineer’s discretion require contractor to provide FKM (Viton, Fluorel) gasket material in areas of concern.

The excavated areas that are within proposed paved areas shall be backfilled with controlled low-strength material. Excavated areas not within paved areas shall be backfilled with select earth material.

#### Measurement and Payment

This work will be measured for payment at the contract unit price per foot for DUCTILE IRONE WATER MAIN, RESTRAINED JOINT TYPE of the diameter specified. Water mains will be measured in lineal feet along the centerline of the pipe. This work shall include all labor, equipment and materials necessary to construct the water mains including all excavation, except rock excavation; clearing and grubbing; locating existing water main; connection to existing water main; furnishing and installing transition fittings for dissimilar pipe materials; furnishing and installing pipe, restrained joint pipe, fittings, reducers and elbows; polyethylene wrap; watertight plugs; No. 12 THWN single strand tracer wire, bedding and backfill (except Trench Backfill, Special material, which will be paid as specified herein); thrust blocks; testing; chlorination and sampling taps; disinfection; protection, replacement or repair of utilities, drainage systems, structures, homeowner’s propoerty and miscellaneous property; removal of surplus excavated material; and clean-up.

The placement of controlled low-strength material will be paid for separately as specified herein.

### **XX008839 WATER MAIN TO BE ABANDONED**

#### Description

This work shall consist of removing, plugging, capping, and grout pipes full of the existing water mains and service lines as shown on the Drawings and as directed by the Engineer. Abandoning of the water mains and service lines shall consist of draining and leaving the existing pipes in place except where they conflict with the new construction in which case the water mains and service lines shall be removed and disposed of. This work shall consist of constructing concrete dead-ends and cross blocks around water mains to prevent movement of the pipes at the location shown on the plans.

#### Construction Requirements

The Contractor will be responsible for exploring and determining the type, size, and depth of the water mains and service lines. All abandoned piping remaining in place shall be drained have the ends capped or plugged with concrete as directed by the Engineer. Existing valves and curb stops that are being abandoned and do not conflict with the proposed work shall remain in place, but the top of the valve boxes shall be removed to a minimum of one foot below grade. The remainder of the valve boxes and void around the box shall be filled with concrete. Domestic meter boxes and dead end and cross blocking installed for staging purposes shall be completely removed. The removal of fire hydrants shall be in accordance with the special provision for “Fire Hydrants to be Removed”. The material that is salvageable shall be stored on site and become the property of Illinois American Water

Company (ILAWC). Representatives of IAWC will make the final determination if the material is salvageable. Materials determined not to be salvaged by ILAWC shall be disposed of by the Contractor in accordance with Article 202.03 of the Standard Specifications. The concrete for the dead-end cross blocks shall be class SI in accordance with Section 1020 of the Standard Specifications. The reinforcement bars shall be in accordance with Article 1006.10 of the Standard Specifications.

The excavated areas that are within proposed paved areas shall be backfilled with controlled low-strength material. The other excavated areas not within paved areas shall be backfilled with select earth material and compacted. The excavated area around the blocks shall be backfilled with controlled low-strength material to the top of the dead-end cross blocks.

#### Measurement and Payment

This work will be measured for payment at the contract unit price lump sum for WATER MAIN TO BE ABANDONED. This work shall include all labor, equipment and material necessary to complete the work, including excavation, locating existing water main, valves, hydrants and service connections; dewatering the abandoned line; cutting and removing sections of pipe, installing restrained plugs and caps, concrete plugs, isolation valves and thrust blocks; removing and disposing of pipes, valve boxes and curb boxes to a minimum of 1 foot below grade; dead-end and cross blocking; and protection, replacement or repair of utilities, drainage systems, structures, homeowner's property and miscellaneous property. The removal of fire hydrants and placement of controlled low-strength material will be paid for separately as specified herein.

### **Z0056900    SANITARY SEWER 8"**

#### Description

This work shall consist of constructing gravity sanitary sewers of the required type and inside diameter with the necessary couplings and fittings at locations shown on the plans and as directed by the Engineer. The sanitary sewers shall be constructed with water main quality materials to satisfy the requirements for horizontal and vertical separation between water mains and sanitary sewers or for use through conflict storm sewer manholes through storm sewers. All construction related to the construction of the sanitary sewers shall be in accordance with the details in the plans, the applicable Sections of the "Standard Specifications for Water and Sewer Main Construction in Illinois", current edition, and the I.E.P.A. Water Pollution Control Permit.

#### Materials

All similar pipe components shall be manufactured and furnished by one manufacturer unless specifically approved by the Engineer in writing. The pipe type refers to the fill height over the pipe as indicated in Article 550.03 of the Standard Specifications.

#### Certification of Materials:

1. The City reserves the right to require material certification from the manufacturer prior to construction to ensure the material supplied conforms to the prescribed requirements.
2. Upon request, the Contractor shall furnish a certificate of conformance to the required ASTM, AWWA, and/or ANSI Standards, this Manual, and other conformance certifications in the form of affidavits of conformance, test results, and/or copies of test reports.

Sanitary sewer pipe shall be one of the following materials or types approved by the Engineer:

- a. Solid wall PVC pipe, SDR 26 conforming to ASTM D3034 with push-on joints with bell end grove to receive a synthetic rubber gasket or flexible elastomeric seals conforming to ASTM D3212 and F477
- b. Gasketed PVC pipe conforming to ASTM D2680 with solvent cemented joints in accordance with ASTM D 2235, D2564 and 3138 or flexible elastomeric seals conforming to ASTM D3212 and F477
- c. Ductile iron pipe conforming to AWWA C150 with mechanical or push-on joints with rubber rings per ANSI 21.11 (AWWA C111 and C600). Ductile iron pipe and fittings shall have an interior coating of Protecto 401 ceramic epoxy or polyethylene lining with minimum thickness of 40 mils in accordance with ASTM D1248 and be heat fused.
- d. Extra strength vitrified clay pipe conforming to ASTM C700

Sanitary sewer water main quality pipe shall be one of the following materials or types approved by the Engineer:

- a. Solid wall PVC pipe, SDR 26 or schedule 40 conforming to ASTM D3034. Joints for SDR 26 pipe shall have push-on joints with bell end grove to receive a synthetic rubber gasket or flexible elastomeric seals conforming to ASTM D3212 and F477. Schedule 40 PVC pipe joints shall be solvent-cemented in accordance with ASTM D2564. All PVC pipe shall be PVC 1120 pressure pipe made from class 12454 material as defined by ASTM D-1784 with outside diameter dimensions of steel or cast iron pipe.
- b. Ductile iron pipe conforming to AWWA C150 with mechanical or push-on joints with rubber rings per ANSI 21.11 (AWWA C111 and C600). Pipes 6" and 8" diameter shall be Class 350 and 24" diameter Class 250. Ductile iron pipe and fittings shall have an interior coating of Protecto 401 ceramic epoxy or polyethylene lining with minimum thickness of 40 mils in accordance with ASTM D1248 and be heat fused.

#### Flexible Couplings

- a. "Elastomeric Flexible Couplings" and "Strong Back RC Series Coupling" shall be the type manufactured by Fernco Inc., 300 S. Dayton St., Davison, MI 48423 Phone: (810) 503-9000 Fax: (810) 653-8714.
- b. "Pipe to Manhole Couplings" shall be the type manufactured by Trelleborg Kor-N-Seal.

Each length of pipe shall be clearly marked at a minimum with the following: manufacturer's name, tradename or trademark, nominal pipe size, pipe stiffness, production code, and ASTM number.

Flanges, elbows, reducers, tees, wyes, laterals, and other fittings shall be capable of withstanding the same stresses as the pipe to which they are connected.

Pipe ends shall be squared to the pipe axis with a maximum tolerance of 1/8".

Joints at connections to existing pipes shall be made with concrete collars or elastomeric flexible couplings.

Pipe possessing the following defects may be rejected for installation:



Variation from straight centerline; elliptical shape; illegible markings as required herein; deep or excessive gouges or scratches of the pipe wall or liner; fractures, punctures, or cracks passing through the pipe wall; damaged ends where such damage would prevent making a satisfactory joint, voids in the pipe walls, delamination, cracking and crazing of liner or pipe wall, or other noticeable defects in pipe manufacture.

Vertical cleanouts and fittings shall be of the same material as the pipe with threaded caps marked "SANITARY". Cleanouts located within paved surfaces shall be provided with brass screw caps and recessed nuts.

#### Construction Requirements

As specified herein the Contractor will be responsible for bypass pumping of sanitary sewer flows until the new sanitary sewers are installed.

The exact locations and depths of the existing sanitary sewers are unknown. Where connections are to be made to existing sanitary sewers, the Contractor will be responsible for locating the sanitary sewers and verifying the size, material type and depth of the pipes. The existing sewer pipe shall be cut and removed to provide a smooth vertical end.

All sanitary sewers shall be installed in accordance with all applicable sections of the "Standard Specifications for Water and Sewer Main Construction in Illinois" as modified herein.

The sanitary sewers shall be constructed with water main quality materials to satisfy the requirements for horizontal and vertical separation between water mains and sanitary sewers or for use through conflict storm sewer manholes through storm sewers. Where sanitary sewers conflict with 42" or 48" diameter storm sewers, the proposed pipe shall be ductile iron and shall be placed through or over the storm sewer and connected to the existing pipe with flexible couplings. The openings in the storm sewer around the pipe shall be sealed to prevent leakage as shown on details in the plans and as directed by the Engineer. Sanitary sewers constructed through storm sewers shall be encased in concrete as shown on the details in the plans. The entire excavation shall be backfilled with controlled low-strength material as shown on the detail in the plans. Where sanitary sewers conflict storm sewers less than 42" diameter, manholes shall be constructed with a ductile iron sanitary sewer pipe continuous through the manhole as shown on the conflict manhole details in the plans.

#### General

- a. Sanitary sewer installation shall be in accordance with Division II, Sections 20-3 and 20-4 and Division III, Sections 31 and 33. The sewer trenches shall be protected in accordance with in Section 20-4.03 and the use of double trench boxes will also be allowed.
- b. Horizontal and vertical separation between water mains and sanitary sewers shall be in accordance with Division IV, Section 41-2.01.
- c. Residents shall be notified a minimum of 48 hours in advance of impending service outages and no residence shall be without service overnight.

#### Installation

- a. Pipe shall be installed in accordance with the manufacturer's specifications and recommendations.
- b. All lengths of pipe shall be dimensioned accurately to measurements established at the site, and shall be worked into place without springing or forcing.

- c. The Contractor shall cut all pipe and drill all holes that may be necessary. Cut sections of pipe shall be reamed or filed to remove all burrs. The pipe interior and joints shall be thoroughly cleaned before being installed and kept clean during construction.
- d. All changes in direction shall be made with fittings or approved joint deflection. Bending of pipe is prohibited.
- e. Make adequate provision for expansion and contraction of piping.
- f. A granular cradle (bedding and haunching) will be required for all sanitary sewers as shown on the details in the plans and in accordance with Section 20-4.05 of the "Standard Specifications for Water and Sewer Main Construction".
- g. Dewatering of Trench: Where water is encountered in the trench, the water shall be removed during pipe laying and jointing operations. Provisions shall be made to prevent floating of the pipe. Trench water shall not be allowed to enter the pipe at any time.
- h. Pipe embedment and backfilling shall closely follow the installation and jointing of pipe in the trench, to prevent floating of the pipe by water which may enter the trench, and to prevent longitudinal movement caused by thermal expansion or contraction of the pipe. Not more than 25 feet of pipe shall be exposed at any time ahead of the backfilling in any section of trench.
- i. Clean joint contact surfaces prior to jointing. Use lubricants, primers, or adhesives as recommended by the pipe or joint manufacturer. Dirt and other foreign material shall be prevented from entering the pipe or pipe joint during handling or laying operations.
- j. Unless otherwise required, lay all pipe straight. Excavate bell holes for each pipe joint. When jointed, the pipe shall form a true and smooth pipeline.
- k. Support pipe connecting to a structure with granular bedding, cradle or encasement, to a point six (6) inches outside of the structure excavation.
- l. The Engineer reserves the right to order pipe installation discontinued whenever, in their opinion, there is danger of the quality of work being impaired because of cold weather. The Contractor shall be responsible for heating the pipe and jointing material so as to prevent freezing of joints. No flexible or semi-rigid pipe shall be laid when the air temperature is less than 32° F unless proper precautions, per the manufacturer's recommendations, are taken by the Contractor and the method is approved by the Engineer. When pipes with rubber gaskets or resilient-type joints are to be laid in cold weather, sufficiently warm the gasket or joint material to facilitate making a proper joint. No portion of a sanitary sewer facility shall be installed directly onto frozen ground or backfilled with frozen material.
- m. Sanitary sewer services shown on the drawings are approximate locations only. Contractor shall field verify each sanitary service prior to transferring service over to the new separate sanitary sewer.
- n. All trenches under another sewer or water main, or under or within 2 feet of existing or proposed streets, sidewalks, or driveways shall be backfilled with controlled low-strength material as shown on the sanitary sewer trench detail in the plans.
- o. Until such time as a minimum of four (4) feet of compacted fill material has been placed over the installed sewer, lateral, or force main, the Contractor shall not use heavy equipment in such a way as to cause damage to these pipelines or structures.
- p. Plug pipelines at the end of each day's progress. Utilize plugs or other positive methods of sealing at all times to protect any existing system from entrance of stormwater or other foreign matter.
- q. Any pipe or fitting that has been installed with dirt or foreign material in it shall be cleaned and re-inspected. At times when pipe laying is not in progress, and at the end of each working day, the open end of the pipe shall be closed with a watertight plug to

ensure absolute cleanliness inside the pipe. The Engineer may request mechanical cleaning (jet flushing) if necessary to ensure clean, acceptable pipes, at the Contractor's expense.

- r. The trench shall be filled or covered with steel plates at the end of each day. At any time the trench is open there shall be an employee of the Contractor present to provide safety for the pedestrians and vehicles in the area.
- s. The Contractor shall notify the Engineer when the sewer is ready for testing. The ground shall be leveled and all manholes shall be accessible to the air testing equipment.

#### Plugs

- a. Installed piping systems shall be temporarily plugged at the end of each day's work, or other interruption to progress on a given line. Plugging shall be adequate to prevent entry of stormwater, small animals or persons into the pipe or the entrance or insertion of deleterious materials.
- b. Standard plugs shall be inserted into all dead-end pipes, spigot ends shall be capped; flanged and mechanical joint ends shall have blind flanges of metal.
- c. Plugs installed for pressure testing shall be blind flanges fully secured and blocked to withstand the test pressure.
- d. Where plugging is required because of contract division or phasing for later connection, the ends of such lines shall be equipped with a permanent type plug or blind flange. Installation or removal of such plugging shall be considered incidental to the work.

#### Pipe Joints

- a. Mechanical Joints: Pipe with mechanical joints shall be laid according to the manufacturer's specifications. Socket and gasket shall be clean and gasket shall be properly centered before joint is made.
- b. Push-On Type Joints: Any foreign matter in the gasket seat shall be removed, the rubber gasket wiped clean, flexed and placed in the socket. A thin film of lubricant shall be applied to the inside surface of the gasket which will come in contact with entering plain end pipe. Joint assembly shall then be completed by forcing the plain end of the entering pipe past the gasket until it makes contact with the bottom of the socket.
- c. Gasket Joint Pipe: The inside of the bell shall be thoroughly cleaned to remove all foreign matter from the joint. The gasket shall be inserted in the gasket seat provided. A thin film of gasket lubricant shall be applied to inside surface of the gasket. Gasket lubricant shall be a solution of vegetable soap or other solution supplied by the pipe manufacturer and approved by the Engineer. The spigot end of the pipe shall be cleaned and entered into the rubber gasket in the bell, using care to keep the joint from contacting the ground. The joint shall then be completed by forcing the plain end to the seat of the bell. Care must be taken not to damage exterior coating or interior lining when joining the pipe. Field cut pipe lengths shall be beveled to avoid damage to the gasket and facilitate making the joint. All pipe shall be furnished with a depth mark to assure that the spigot end is inserted to the full depth of the joint.

#### Manhole Connections

- a. The pipe to manhole couplings shall be installed according to the manufacturer's specifications.

#### Testing and Acceptance of Sewer

- a. All testing shall be scheduled and observed by the Engineer.
- b. Sanitary sewer pipe testing shall be done by the Contractor in accordance with Division III, Section 31-1.12 A, D and E. Add the following to Division III, Section 31-1.13 D:  
Mandrel manufacturer shall be by Hurco Technologies or Cherne Industries Inc.  
Testing for acceptability of the sanitary sewers shall be conducted by Low Pressure Air Test (Exfiltration).
- c. Test manholes in accordance with ASTM C1244-11.
- d. Test each section of gravity pipeline between structures after backfilling, separately with equipment and methods as outlined below.
  - 1) Furnish facilities required including necessary piping connections, test pumping equipment, pressure gauges, bulkheads, regulator to avoid over pressurization, and miscellaneous items required.
  - 2) Air testing techniques shall be in accordance with the latest ASTM standard practice for testing sewer lines by low-pressure air test method for the appropriate pipe material. All sewers twenty-four (24) inches and less shall be tested by means of a low-pressure air test to detect damaged piping and/or improper jointing. Testing shall be done per ASTM F1417–11A for flexible and semi-rigid pipe.

If air test fails to meet requirements, repeat test as necessary after leaks and defects have been repaired. Prior to acceptance all constructed sewer lines shall satisfactorily pass the low pressure air test.

- 3) In areas where groundwater is known to exist, install a one-half (1/2) inch diameter capped pipe nipple, approximately ten (10) inches long, through manhole wall on top of one of the sewer lines entering the manhole. This shall be done at the time the sewer line is installed. Immediately prior to the performance of the line acceptance test, determine ground water level by removing pipe cap, blowing air through pipe nipple into the ground so as to clear it, and then connecting a clear plastic tube to pipe nipple. The hose shall be held vertical and a measurement of height in feet of water shall be taken after the water stops rising in this plastic tube. Divide the height in feet by 2.3 to establish the pounds of pressure that will be added to all readings.

#### Measurement and Payment

This work will be measured for payment at the contract unit price per foot for SANITARY SEWER 8". Sanitary sewer will be measured in lineal feet along the centerline of the pipe including fittings. This work shall include all labor, equipment and material necessary to construct the sanitary sewer including all excavation, except rock excavation; clearing and grubbing; locating and connecting to existing sanitary sewers and manholes; furnishing and installing flexible or transition fittings for dissimilar pipe materials; furnishing and installing pipe, fittings, and cleanouts; concrete encasements; all testing; bedding, haunching, earth backfill, removal of surplus excavated material; and clean-up.

The Contractor is responsible for protection, replacement or repair of utilities, drainage systems, structures, homeowner's property and miscellaneous property damaged by his/her operations.

Bypass pumping and controlled low-strength material will be paid for separately as specified herein.



Route Green Street	Marked Route FAU 7126	Section 15-00304-01-PV
Project Number TIG-5181(057)	County Champaign	Contract Number 91539

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

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

Print Name WILLIAM R. GRAY	Title PUBLIC WORKS DIRECTOR	Agency CITY OF URBANA
Signature <i>William R. Gray</i>	Date 8/25/16	

I. Site Description

A. Provide a description of the project location (include latitude and longitude):

The project is located in Urbana, IL on Green Street from Wright Street to Busey Avenue.  
40 DEG 6' 38.01" N / 88 DEG 13' 26.14" W

B. Provide a description of the construction activity which is subject of this plan:

The proposed project consists of the reconstruction of Green Street which will include the following  
- pavement, sidewalk, curb, median, and tree removal  
- storm sewer and water main  
- concrete and asphalt paving, PCC sidewalks and driveways, PCC medians, and curb and gutter  
- lighting  
- landscaping

C. Provide the estimated duration of this project:

March 2017 to April 2019

D. The total area of the construction site is estimated to be 9 acres.

The total area of the site estimated to be disturbed by excavation, grading or other activities is 8.6 acres.

E. The following is a weighted average of the runoff coefficient for this project after construction activities are completed:

C = 0.75

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

152A Drummer silty clay loam, 0 to 2 percent slopes K=.24 1.0 (9.1%)  
154A Flanagan silt loam, 0 to 2 percent slopes K=.32 0.1 (1.3%)  
171B Catlin silt loam, 2 to 5 percent slopes K=.32 (89.6%)

G. Provide an aerial extent of wetland acreage at the site:

No wetlands in project limits.

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

The vegetated swale areas and areas near the student union contain potentially erosive areas.

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

Construction activities will begin with pavement, curb, sidewalk, tree, and miscellaneous removals. Underground utilities, storm sewer and water main, will then be installed and backfilled. The site will then be graded to the proposed subgrade of the pavement or sidewalk area with paving and placing of topsoil to follow. The final activity will be landscaping, including sodding and planting of trees, shrubs, and flowers. These activities will be encountered throughout the project limits. Grades will be very flat with the majority of project being less than 5%. Any slopes that may be steeper will be on very short slopes to match the existing ground at the edge of the project limits.

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

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

City of Urbana

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

City of Urbana, University of Illinois at Urbana-Champaign

M. The following is a list of receiving water(s) and the ultimate receiving water(s) for this site. The location of the receiving waters can be found on the erosion and sediment control plans:

Boneyard Creek

N. Describe areas of the site that are to be protected or remain undisturbed. These areas may include steep slopes, highly erodible soils, streams, stream buffers, specimen trees, natural vegetation, nature preserves, etc.

There are no protected areas within the project limits.

O. The following sensitive environmental resources are associated with this project, and may have the potential to be impacted by the proposed development:

- Floodplain
- Wetland Riparian
- Threatened and Endangered Species
- Historic Preservation
- 303(d) Listed receiving waters for suspended solids, turbidity, or siltation
- Receiving waters with Total Maximum Daily Load (TMDL) for sediment, total suspended solids, turbidity, or siltation
- Applicable Federal, Tribal, State or Local Programs
- Other

1. 303(d) Listed receiving waters (fill out this section if checked above):

a. The name(s) of the listed water body, and identification of all pollutants causing impairment:

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

[Empty text box]

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

[Empty text box]

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

[Empty text box]

2. TMDL (fill out this section if checked above)

a. The name(s) of the listed water body:

[Empty text box]

b. Provide a description of the erosion and sediment control strategy that will be incorporated into the site design that is consistent with the assumptions and requirements of the TMDL:

[Empty text box]

c. If a specific numeric waste load allocation has been established that would apply to the project's discharges, provide a description of the necessary steps to meet the allocation:

[Empty text box]

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

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

II. Controls

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

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

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

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

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

The following stabilization practices will be used for this project:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Preservation of Mature Vegetation | <input type="checkbox"/> Erosion Control Blanket / Mulching |
| <input type="checkbox"/> Vegetated Buffer Strips                      | <input checked="" type="checkbox"/> Sodding                 |
| <input type="checkbox"/> Protection of Trees                          | <input type="checkbox"/> Geotextiles                        |
| <input type="checkbox"/> Temporary Erosion Control Seeding            | <input type="checkbox"/> Other (specify) _____              |
| <input type="checkbox"/> Temporary Turf (Seeding, Class 7)            | <input type="checkbox"/> Other (specify) _____              |
| <input type="checkbox"/> Temporary Mulching                           | <input type="checkbox"/> Other (specify) _____              |
| <input type="checkbox"/> Permanent Seeding                            | <input type="checkbox"/> Other (specify) _____              |

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

Land disturbing activities will be limited to the areas within the project limits. Any vegetation to remain or located outside the project limits shall remain undisturbed. The project will be sodded once construction activities allow.

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

Sodding will be placed.

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

The following stabilization practices will be used for this project:

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Perimeter Erosion Barrier    | <input type="checkbox"/> Rock Outlet Protection                            |
| <input type="checkbox"/> Temporary Ditch Check                   | <input type="checkbox"/> Riprap  |
| <input checked="" type="checkbox"/> Storm Drain Inlet Protection | <input type="checkbox"/> Gabions   |
| <input type="checkbox"/> Sediment Trap                           | <input type="checkbox"/> Slope Mattress                                    |
| <input type="checkbox"/> Temporary Pipe Slope Drain              | <input type="checkbox"/> Retaining Walls                                   |
| <input type="checkbox"/> Temporary Sediment Basin                | <input type="checkbox"/> Slope Walls                                       |
| <input type="checkbox"/> Temporary Stream Crossing               | <input type="checkbox"/> Concrete Revetment Mats                           |
| <input type="checkbox"/> Stabilized Construction Exits           | <input type="checkbox"/> Level Spreaders                                   |
| <input type="checkbox"/> Turf Reinforcement Mats                 | <input checked="" type="checkbox"/> Other (specify) Concrete Truck Washout |
| <input type="checkbox"/> Permanent Check Dams                    | <input type="checkbox"/> Other (specify) _____                             |
| <input type="checkbox"/> Permanent Sediment Basin                | <input type="checkbox"/> Other (specify) _____                             |
| <input type="checkbox"/> Aggregate Ditch                         | <input type="checkbox"/> Other (specify) _____                             |
| <input type="checkbox"/> Paved Ditch                             | <input type="checkbox"/> Other (specify) _____                             |

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



Perimeter Erosion Barrier will be used to prevent sediment from leaving the site and to protect stockpiles in sensitive areas.

Storm Drain Inlet Protection will be used to prevent silt and sediment from entering the storm sewer systems and ultimately entering Boneyard Creek.

A concrete truck washout will be used to prevent discharge or contamination of areas from the cleanup of concrete trucks throughout construction.

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

N/A

**D. Treatment Chemicals**

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

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

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

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

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

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

Description of permanent storm water management controls:

Vegetated swales will be used to drain storm water in permanent conditions.

**F. Approved State or Local Laws:** The management practices, controls, and provisions contained in this plan will be in accordance with IDOT specifications, which are at least as protective as the requirements contained in the Illinois Environmental Protection Agency's Illinois Urban Manual. Procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials shall be described or incorporated by reference in the space provided below. Requirements specified in sediment and erosion site plans, site permits, storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI, to be authorized to discharge under the Permit ILR10 incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.

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

City of Urbana - Erosion Control Manual of Practice

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

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

- Approximate duration of the project, including each stage of the project
  - Rainy season, dry season, and winter shutdown dates
  - Temporary stabilization measures to be employed by contract phases
  - Mobilization time frame
  - Mass clearing and grubbing/roadside clearing dates
  - Deployment of Erosion Control Practices
  - Deployment of Sediment Control Practices (including stabilized construction entrances/exits)
  - Deployment of Construction Site Management Practices (including concrete washout facilities, chemical storage, refueling locations, etc.)
  - Paving, saw-cutting, and any other pavement related operations
  - Major planned stockpiling operations
  - Time frame for other significant long-term operations or activities that may plan non-storm water discharges such as dewatering, grinding, etc.
  - Permanent stabilization activities for each area of the project
2. The Contractor and each subcontractor shall provide, as an attachment to their signed Contractor Certification Statement, a discussion of how they will comply with the requirements of the permit in regard to the following items and provide a graphical representation showing location and type of BMPs to be used when applicable:
- Vehicle Entrances and Exits - Identify type and location of stabilized construction entrances and exits to be used and how they will be maintained.
  - Material delivery, Storage, and Use - Discuss where and how materials including chemicals, concrete curing compounds, petroleum products, etc. will be stored for this project.
  - Stockpile Management - Identify the location of both on-site and off-site stockpiles. Discuss what BMPs will be used to prevent pollution of storm water from stockpiles.
  - Waste Disposal - Discuss methods of waste disposal that will be used for this project.
  - Spill Prevention and Control - Discuss steps that will be taken in the event of a material spill (chemicals, concrete curing compounds, petroleum, etc.).
  - Concrete Residuals and Washout Wastes - Discuss the location and type of concrete washout facilities to be used on this project and how they will be signed and maintained.
  - Litter Management - Discuss how litter will be maintained for this project (education of employees, number of dumpsters, frequency of dumpster pick-up, etc.).
  - Vehicle and Equipment Cleaning and Maintenance - Identify where equipment cleaning and maintenance locations for this project and what BMPs will be used to ensure containment and spill prevention.
  - Dewatering Activities - Identify the controls which will be used during dewatering operations to ensure sediments will not leave the construction site.
  - Polymer Flocculants and Treatment Chemicals - Identify the use and dosage of treatment chemicals and provide the Resident Engineer with Material Safety Data Sheets. Describe procedures on how the chemicals will be used and identify who will be responsible for the use and application of these chemicals. The selected individual must be trained on the established procedures.
  - Additional measures indicated in the plan.

**III. Maintenance**

When requested by the Contractor, the Resident Engineer will provide general maintenance guides to the Contractor for the practices associated with this project. The following additional procedures will be used to maintain, in good and effective operating conditions, the vegetation, erosion and sediment control measures and other protective measures identified in this plan. It will be Contractor's responsibility to attain maintenance guidelines for any manufactured BMPs which are to be installed and maintained per manufacture's specifications.

**IV. Inspections**

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

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

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

The Incidence of Non-Compliance shall be mailed to the following address:

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

Additional Inspections Required:

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**V. Failure to Comply**

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

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Contractor Certification Statement



Prior to conducting any professional services at the site covered by this contract, the Contractor and every subcontractor must complete and return to the Resident Engineer the following certification. A separate certification must be submitted by each firm. Attach to this certification all items required by Section II.G of the Storm Water Pollution Prevention Plan (SWPPP) which will be handled by the Contractors/subcontractor completing this form.

Route Green Street	Marked Route FAU 7126	Section 15-00304-01-PV
Project Number TIG-5181(057)	County Champaign	Contract Number 91539

This certification statement is a part of SWPPP for the project described above, in accordance with the General NPDES Permit No. ILR10 issued by the Illinois Environmental Protection Agency.

I certify under penalty of law that I understand the terms of the Permit No. ILR10 that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

In addition, I have read and understand all of the information and requirements stated in SWPPP for the above mentioned project; I have received copies of all appropriate maintenance procedures; and, I have provided all documentation required to be in compliance with the Permit ILR10 and SWPPP and will provide timely updates to these documents as necessary.

- Contractor
- Sub-Contractor

Print Name [ ]	Signature [ ]
Title [ ]	Date [ ]
Name of Firm [ ]	Telephone [ ]
Street Address [ ]	City/State/Zip [ ]

Items which the Contractor/subcontractor will be responsible for as required in Section II.G. of SWPPP:  
[ ]

## **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 journeyworker in the type of trade or job classification involved. The initial number of TPGs for which the incentive is available under this contract is **3** . 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:

City of Champaign

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City of Urbana

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University of Illinois at Urbana-Champaign

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Champaign-Urbana Mass Transit District

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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.

## **BITUMINOUS MATERIALS COST ADJUSTMENTS (BDE) (RETURN FORM WITH BID)**

Effective: November 2, 2006

Revised: July 1, 2015

Description. Bituminous material cost adjustments will be made to provide additional compensation to the Contractor, or credit to the Department, for fluctuations in the cost of bituminous materials when optioned by the Contractor. The bidder shall indicate on the attached form whether or not this special provision will be part of the contract and submit the completed form with his/her bid. Failure to submit the form, or failure to fill out the form completely, shall make this contract exempt of bituminous materials cost adjustments.

The adjustments shall apply to permanent and temporary hot-mix asphalt (HMA) mixtures, bituminous surface treatments (cover and seal coats), and preventative maintenance type surface treatments that are part of the original proposed construction, or added as extra work and paid for by agreed unit prices. The adjustments shall not apply to bituminous prime coats, tack coats, crack filling/sealing, joint filling/sealing, or extra work paid for at a lump sum price or by force account.

Method of Adjustment. Bituminous materials cost adjustments will be computed as follows.

$$CA = (BPI_P - BPI_L) \times (\%AC_V / 100) \times Q$$

Where: CA = Cost Adjustment, \$.

BPI<sub>P</sub> = Bituminous Price Index, as published by the Department for the month the work is performed, \$/ton (\$/metric ton).

BPI<sub>L</sub> = Bituminous Price Index, as published by the Department 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, \$/ton (\$/metric ton).

%AC<sub>V</sub> = Percent of virgin Asphalt Cement in the Quantity being adjusted. For HMA mixtures, the % AC<sub>V</sub> will be determined from the adjusted job mix formula. For bituminous materials applied, a performance graded or cutback asphalt will be considered to be 100% AC<sub>V</sub> and undiluted emulsified asphalt will be considered to be 65% AC<sub>V</sub>.

Q = Authorized construction Quantity, tons (metric tons) (see below).

For HMA mixtures measured in square yards:  $Q, \text{ tons} = A \times D \times (G_{mb} \times 46.8) / 2000$ . For HMA mixtures measured in square meters:  $Q, \text{ metric tons} = A \times D \times (G_{mb} \times 1) / 1000$ . When computing adjustments for full-depth HMA pavement, separate calculations will be made for the binder and surface courses to account for their different  $G_{mb}$  and % AC<sub>V</sub>.

For bituminous materials measured in gallons:  $Q, \text{ tons} = V \times 8.33 \text{ lb/gal} \times SG / 2000$

For bituminous materials measured in liters:  $Q, \text{ metric tons} = V \times 1.0 \text{ kg/L} \times SG / 1000$

Where: A = Area of the HMA mixture, sq yd (sq m).



- D = Depth of the HMA mixture, in. (mm).
- $G_{mb}$  = Average bulk specific gravity of the mixture, from the approved mix design.
- V = Volume of the bituminous material, gal (L).
- SG = Specific Gravity of bituminous material as shown on the bill of lading.

Basis of Payment. Bituminous materials cost adjustments may be positive or negative but will only be made when there is a difference between the  $BPI_L$  and  $BPI_P$  in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(BPI_L - BPI_P) \div BPI_L\} \times 100$$

Bituminous materials cost adjustments will be calculated for each calendar month in which applicable bituminous material is placed; and will be paid or deducted when all other contract requirements for the work placed during the month are satisfied. The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

Return With Bid

**ILLINOIS DEPARTMENT  
OF TRANSPORTATION**

**OPTION FOR  
BITUMINOUS MATERIALS COST ADJUSTMENTS**

The bidder shall submit this completed form with his/her bid. Failure to submit the form, or failure to fill out the form completely, shall make this contract exempt of bituminous materials cost adjustments. After award, this form, when submitted, shall become part of the contract.

**Contract No.:** \_\_\_\_\_

**Company Name:** \_\_\_\_\_

**Contractor's Option:**

Is your company opting to include this special provision as part of the contract?

Yes  No

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

80173

## BUTT JOINTS (BDE)

Effective: July 1, 2016

Add the following to Article 406.08 of the Standard Specifications.

- "(c) Temporary Plastic Ramps. Temporary plastic ramps shall be made of high density polyethylene meeting the properties listed below. Temporary plastic ramps shall only be used on roadways with permanent posted speeds of 55 mph or less. The ramps shall have a minimum taper rate of 1:30 (V:H). The leading edge of the plastic ramp shall have a maximum thickness of 1/4 in. (6 mm) and the trailing edge shall match the height of the adjacent pavement  $\pm$  1/4 in. ( $\pm$  6 mm).

The ramp will be accepted by certification. The Contractor shall furnish a certification from the manufacturer stating the temporary plastic ramp meets the following requirements.

Physical Property	Test Method	Requirement
Melt Index	ASTM D 1238	8.2 g/10 minutes
Density	ASTM D 1505	0.965 g/cc
Tensile Strength @ Break	ASTM D 638	2223 psi (15 MPa)
Tensile Strength @ Yield	ASTM D 638	4110 psi (28 MPa)
Elongation @ Yield <sup>1/</sup> , percent	ASTM D 638	7.3 min.
Durometer Hardness, Shore D	ASTM D 2240	65
Heat Deflection Temperature, 66 psi	ASTM D 648	176 °F (80 °C)
Low Temperature Brittleness, F <sub>50</sub>	ASTM D 746	<-105 °F (<-76 °C)

1/ Crosshead speed -2 in./minute

The temporary plastic ramps shall be installed according to the manufacturer's specifications and fastened with anchors meeting the manufacturer's recommendations. Temporary plastic ramps that fail to stay in place or create a traffic hazard shall be replaced immediately with temporary HMA ramps at the Contractor's expense."

80366

**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."

80360

**CONCRETE MIX DESIGN – DEPARTMENT PROVIDED (BDE)**

Effective: January 1, 2012

| Revised: April 1, 2016

| For the concrete mix design requirements in Article 1020.05(a) of the Standard Specifications, the Contractor has the option to request the Engineer determine mix design material proportions for Class PV, PP, RR, BS, DS, SC, and SI concrete. A single mix design for each class of concrete will be provided. Acceptance by the Contractor to use the mix design developed by the Engineer shall not relieve the Contractor from meeting specification requirements.

80277

## DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE)

Effective: September 1, 2000

Revised: July 2, 2016

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 3.00 % 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 DBE 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 in accordance with subsection (a)(2) of Bidding Procedures herein.



- (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 calendar 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 certified mail receipt from the U.S. Postal Service or the receipt issued by a delivery service when the Utilization Plan is received by the Department. 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.

- (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 it receives as a result of the lease arrangement.
- (e) DBE as a material supplier:

- (1) 60 percent goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.
- (2) 100 percent goal credit for the cost of materials 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 subcontractor is unable to complete its work on the contract;
- (10) Other documented good cause that compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the 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.”

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## ERRATA FOR THE 2016 STANDARD SPECIFICATIONS (BDE)

Effective: April 1, 2016

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

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

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

"EQUIPMENT DEFINITION"

- V<sub>s</sub> - Vibratory roller, static mode, minimum 125 lb/in. (2.2 kg/mm) of roller width. Maximum speed = 3 mph (5 km/h) or 264 ft/min (80 m/min). If the vibratory roller does not eliminate roller marks, its use shall be discontinued and a tandem roller, adequately ballasted to remove roller marks, shall be used.
- V<sub>D</sub> - Vibratory roller, dynamic mode, operated at a speed to produce not less than 10 impacts/ft (30 impacts/m).
- P - Pneumatic-tired roller, max. speed 3 1/2 mph (5.5 km/h) or 308 ft/min (92 m/min). The pneumatic-tired roller shall have a minimum tire pressure of 80 psi (550 kPa) and shall be equipped with heat retention shields. The self-propelled pneumatic-tired roller shall develop a compression of not less than 300 lb (53 N) nor more than 500 lb (88 N) per in. (mm) of width of the tire tread in contact with the HMA surface.
- T<sub>B</sub> - Tandem roller for breakdown rolling, 8 to 12 tons (7 to 11 metric tons), 250 to 400 lb/in. (44 to 70 N/mm) of roller width, max. speed = 3 1/2 mph (5.5 km/h) or 308 ft/min (92 m/min).
- T<sub>F</sub> - Tandem roller for final rolling, 200 to 400 lb/in. (35 to 70 N/mm) of roller width with minimum roller width of 50 in. (1.25 m). Ballast shall be increased if roller marks are not eliminated. Ballast shall be decreased if the mat shoves or distorts.
- 3W- Three wheel roller, max. speed = 3 mph (5 km/h) or 264 ft/min (80 m/min), 300 to 400 lb/in. (53 to 70 N/mm) of roller width. The three-wheel roller shall weigh 10 to 12 tons (9 to 11 metric tons)."

Page 331 Article 505.04(p). Under Range of Clearance in the first table change "in. x 10<sup>-6</sup>" to "in. x 10<sup>-3</sup>".

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

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



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

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## FUEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID)

Effective: April 1, 2009

Revised: July 1, 2015

Description. Fuel cost adjustments will be made to provide additional compensation to the Contractor, or a credit to the Department, for fluctuations in fuel prices when optioned by the Contractor. The bidder shall indicate on the attached form whether or not this special provision will be part of the contract and submit the completed form with his/her bid. Failure to submit the form or failure to indicate contract number, company name and sign and date the form shall make this contract exempt of fuel cost adjustments for all categories of work. Failure to indicate "Yes" for any category of work will make that category of work exempt from fuel cost adjustment.

General. The fuel cost adjustment shall apply to contract pay items as grouped by category. The adjustment shall only apply to those categories of work checked "Yes", and only when the cumulative plan quantities for a category exceed the required threshold. Adjustments to work items in a category, either up or down, and extra work paid for by agreed unit price will be subject to fuel cost adjustment only when the category representing the added work was subject to the fuel cost adjustment. Extra work paid for at a lump sum price or by force account will not be subject to fuel cost adjustment. Category descriptions and thresholds for application and the fuel usage factors which are applicable to each are as follows:

### (a) Categories of Work.

- (1) Category A: Earthwork. Contract pay items performed under Sections 202, 204, and 206 including any modified standard or nonstandard items where the character of the work to be performed is considered earthwork. The cumulative total of all applicable item plan quantities shall exceed 25,000 cu yd (20,000 cu m). Included in the fuel usage factor is a weighted average 0.10 gal/cu yd (0.50 liters/cu m) factor for trucking.
- (2) Category B: Subbases and Aggregate Base Courses. Contract pay items constructed under Sections 311, 312 and 351 including any modified standard or nonstandard items where the character of the work to be performed is considered construction of a subbase or aggregate, stabilized or modified base course. The cumulative total of all applicable item plan quantities shall exceed 5000 tons (4500 metric tons). Included in the fuel usage factor is a 0.60 gal/ton (2.50 liters/metric ton) factor for trucking.
- (3) Category C: Hot-Mix Asphalt (HMA) Bases, Pavements and Shoulders. Contract pay items constructed under Sections 355, 406, 407 and 482 including any modified standard or nonstandard items where the character of the work to be performed is considered HMA bases, pavements and shoulders. The cumulative total of all applicable item plan quantities shall exceed 5000 tons (4500 metric tons). Included in the fuel usage factor is 0.60 gal/ton (2.50 liters/metric ton) factor for trucking.

- (4) Category D: Portland Cement Concrete (PCC) Bases, Pavements and Shoulders. Contract pay items constructed under Sections 353, 420, 421 and 483 including any modified standard or nonstandard items where the character of the work to be performed is considered PCC base, pavement or shoulder. The cumulative total of all applicable item plan quantities shall exceed 7500 sq yd (6000 sq m). Included in the fuel usage factor is 1.20 gal/cu yd (5.94 liters/cu m) factor for trucking.
- (5) Category E: Structures. Structure items having a cumulative bid price that exceeds \$250,000 for pay items constructed under Sections 502, 503, 504, 505, 512, 516 and 540 including any modified standard or nonstandard items where the character of the work to be performed is considered structure work when similar to that performed under these sections and not included in categories A through D.

(b) Fuel Usage Factors.

English Units		
Category	Factor	Units
A - Earthwork	0.34	gal / cu yd
B – Subbase and Aggregate Base courses	0.62	gal / ton
C – HMA Bases, Pavements and Shoulders	1.05	gal / ton
D – PCC Bases, Pavements and Shoulders	2.53	gal / cu yd
E – Structures	8.00	gal / \$1000

Metric Units		
Category	Factor	Units
A - Earthwork	1.68	liters / cu m
B – Subbase and Aggregate Base courses	2.58	liters / metric ton
C – HMA Bases, Pavements and Shoulders	4.37	liters / metric ton
D – PCC Bases, Pavements and Shoulders	12.52	liters / cu m
E – Structures	30.28	liters / \$1000

(c) Quantity Conversion Factors.

Category	Conversion	Factor
B	sq yd to ton	0.057 ton / sq yd / in depth
	sq m to metric ton	0.00243 metric ton / sq m / mm depth
C	sq yd to ton	0.056 ton / sq yd / in depth
	sq m to metric ton	0.00239 m ton / sq m / mm depth
D	sq yd to cu yd	0.028 cu yd / sq yd / in depth
	sq m to cu m	0.001 cu m / sq m / mm depth

Method of Adjustment. Fuel cost adjustments will be computed as follows.

$$CA = (FPI_P - FPI_L) \times FUF \times Q$$

Where: CA = Cost Adjustment, \$  
FPI<sub>P</sub> = Fuel Price Index, as published by the Department for the month the work is performed, \$/gal (\$/liter)  
FPI<sub>L</sub> = Fuel Price Index, as published by the Department 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, \$/gal (\$/liter)  
FUF = Fuel Usage Factor in the pay item(s) being adjusted  
Q = Authorized construction Quantity, tons (metric tons) or cu yd (cu m)

The entire FUF indicated in paragraph (b) will be used regardless of use of trucking to perform the work.

Basis of Payment. Fuel cost adjustments may be positive or negative but will only be made when there is a difference between the FPI<sub>L</sub> and FPI<sub>P</sub> in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(FPI_L - FPI_P) \div FPI_L\} \times 100$$

Fuel cost adjustments will be calculated for each calendar month in which applicable work is performed; and will be paid or deducted when all other contract requirements for the items of work are satisfied. The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

Return With Bid

**ILLINOIS DEPARTMENT  
OF TRANSPORTATION**

**OPTION FOR  
FUEL COST ADJUSTMENT**

The bidder shall submit this completed form with his/her bid. Failure to submit the form or properly complete contract number, company name, and sign and date the form shall make this contract exempt of fuel cost adjustments in all categories. Failure to indicate "Yes" for any category of work at the time of bid will make that category of work exempt from fuel cost adjustment. After award, this form, when submitted shall become part of the contract.

**Contract No.:** \_\_\_\_\_

**Company Name:** \_\_\_\_\_

**Contractor's Option:**

Is your company opting to include this special provision as part of the contract plans for the following categories of work?

- |  |     |                          |
|--|-----|--------------------------|
| Category A Earthwork.                          | Yes | <input type="checkbox"/> |
| Category B Subbases and Aggregate Base Courses | Yes | <input type="checkbox"/> |
| Category C HMA Bases, Pavements and Shoulders  | Yes | <input type="checkbox"/> |
| Category D PCC Bases, Pavements and Shoulders  | Yes | <input type="checkbox"/> |
| Category E Structures                          | Yes | <input type="checkbox"/> |

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

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## GROOVING FOR RECESSED PAVEMENT MARKINGS (BDE)

Effective: November 1, 2012

Revised: August 1, 2014

Description. This work shall consist of grooving the pavement surface in preparation for the application of recessed pavement markings.

Equipment. Equipment shall be according to the following.

- (a) Pavement Marking Tape Installations: The grooving equipment shall have a free-floating saw blade cutting head equipped with gang-stacked diamond saw blades. The diamond saw blades shall be of uniform wear and shall produce a smooth textured surface. Any ridges in the groove shall have a maximum height of 15 mils (0.38 mm).
- (b) Liquid and Thermoplastic Pavement Marking Installations: The grooving equipment shall be equipped with either a free-floating saw blade cutting head or a free-floating grinder cutting head configuration with diamond or carbide tipped cutters and shall produce an irregular textured surface.

### CONSTRUCTION REQUIREMENTS

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

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

- (a) Wet Cutting Head Operation. When water is required or used to cool the cutting head, the groove shall be flushed with high pressure water immediately following the cut to avoid build up and hardening of slurry in the groove. The pavement surface shall be allowed to dry for a minimum of 24 hours prior to the final cleaning of the groove and application of the pavement marking material.
- (b) Dry Cutting Head Operation. When used on HMA pavements, the groove shall be vacuumed or cleaned by blasting with high-pressure air to remove loose aggregate, debris, and dust generated during the cutting operation. When used on PCC pavements, the groove shall be flushed with high pressure water or shot blasted to remove any PCC particles that may have become destabilized during the grooving process. If high pressure water is used, the pavement surface shall be allowed to dry for a minimum of 24 hours prior to the final cleaning of the groove and application of the pavement marking material.

Pavement Grooving. Grooving shall not cause ravels, aggregate fractures, spalling or disturbance of the joints to the underlying surface of the pavement. Grooves shall be cut into

the pavement prior to the application of the pavement marking material. Grooves shall be cut such that the width is 1 in. (25 mm) greater than the width of the pavement marking line as specified on the plans. Grooves for letters and symbols shall be cut in a square or rectangular shape so that the entire marking will fit within the limits of the grooved area. The position of the edge of the grooves shall be a minimum of 4 in. (100 mm) from the edge of all longitudinal joints. The depth of the groove shall not be less than the manufacturer's recommendations for the pavement marking material specified, but shall be installed to a minimum depth of 110 mils (2.79 mm) and a maximum depth of 200 mils (5.08 mm) for pavement marking tapes thermoplastic markings and a minimum depth of 40 mils (1.02 mm) and a maximum depth of 80 mils (2.03 mm) for liquid markings. The cutting head shall be operated at the appropriate speed in order to prevent undulation of the cutting head and grooving at an inconsistent depth.

At the start of grooving operations, a 50 ft (16.7 m) test section shall be installed and depth measurements shall be made at 10 ft (3.3 m) intervals within the test section. The individual depth measurements shall be within the allowable ranges according to this Article. If it is determined the test section has not been grooved at the appropriate depth or texture, adjustments shall be made to the cutting head and another 50 ft (16.7 m) test section shall be installed and checked. This process shall continue until the test section meets the requirements of this Article.

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

Final Cleaning. Immediately prior to the application of the pavement marking material or primer sealer, the groove shall be cleaned with high-pressure air blast.

Method of Measurement. This work will be measured for payment in place, in feet (meter) for the groove width specified.

Grooving for letter, numbers and symbols will be measured in square feet (square meters).

Basis of Payment. This work will be paid for at the contract unit price per foot (meter) for GROOVING FOR RECESSED PAVEMENT MARKING of the groove width specified, and per square foot (square meter) for GROOVING FOR RECESSED PAVEMENT MARKING, LETTERS AND SYMBOLS.

The following shall only apply when preformed plastic pavement markings are to be recessed:

Add the following paragraph after the first paragraph of Article 780.07 of the Standard Specifications.

"The markings shall be capable of being applied in a grooved slot on new and existing portland cement concrete and HMA surfaces, by means of a pressure-sensitive, precoated adhesive, or liquid contact cement which shall be applied at the time of installation. A primer sealer shall be applied with a roller and shall cover and seal the entire bottom of the groove.

The primer sealer shall be recommended by the manufacturer of the pavement marking material and shall be compatible with the material being used. The Contractor shall install the markings in the groove as soon as possible after the primer sealer cures according to the manufacturer's recommendations. The markings placed in the groove shall be rolled and tamped into the groove with a roller or tamper cart cut to fit the groove and loaded with or weighing at least 200 lb (90kg). Vehicle tires shall not be used for tamping. The Contractor shall roll and tamp the material with a minimum of 6 passes to prevent easy removal or peeling."

80304



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

Effective: January 1, 2010

Revised: April 1, 2016

Description. This work shall consist of testing the density of longitudinal joints as part of the quality control/quality assurance (QC/QA) of hot-mix asphalt (HMA). Work shall be according to Section 1030 of the Standard Specifications except as follows.

Quality Control/Quality Assurance (QC/QA). Delete the second and third sentence of the third paragraph of Article 1030.05(d)(3) of the Standard Specifications.

Add the following paragraphs to the end of Article 1030.05(d)(3) of the Standard Specifications:

“Longitudinal joint density testing shall be performed at each random density test location. Longitudinal joint testing shall be located at a distance equal to the lift thickness or a minimum of 4 in. (100 mm), from each pavement edge. (i.e. for a 5 in. (125 mm) lift the near edge of the density gauge or core barrel shall be within 5 in. (125 mm) from the edge of pavement.) Longitudinal joint density testing shall be performed using either a correlated nuclear gauge or cores.

- a. Confined Edge. Each confined edge density shall be represented by a one-minute nuclear density reading or a core density and shall be included in the average of density readings or core densities taken across the mat which represents the Individual Test.
- b. Unconfined Edge. Each unconfined edge joint density shall be represented by an average of three one-minute density readings or a single core density at the given density test location and shall meet the density requirements specified herein. The three one-minute readings shall be spaced 10 ft (3 m) apart longitudinally along the unconfined pavement edge and centered at the random density test location.”

Revise the Density Control Limits table in Article 1030.05(d)(4) of the Standard Specifications to read:

“Mixture Composition	Parameter	Individual Test (includes confined edges)	Unconfined Edge Joint Density Minimum
IL-4.75	Ndesign = 50	93.0 – 97.4% <sup>1/</sup>	91.0%
IL-9.5	Ndesign = 90	92.0 – 96.0%	90.0%
IL-9.5,IL-9.5L	Ndesign < 90	92.5 – 97.4%	90.0%
IL-19.0	Ndesign = 90	93.0 – 96.0%	90.0%
IL-19.0, IL-19.0L	Ndesign < 90	93.0 <sup>2/</sup> – 97.4%	90.0%
SMA	Ndesign = 50 & 80	93.5 – 97.4%	91.0%”

80246

**HOT-MIX ASPHALT – TACK COAT (BDE)**

Effective: November 1, 2016

Revise Article 1032.06(a) of the Standard Specifications to read:

“(a) Anionic Emulsified Asphalt. Anionic emulsified asphalts shall be according to AASHTO M 140. SS-1h emulsions used as a tack coat shall have the cement mixing test waived.”

80376

## **LIGHT POLES (BDE)**

Effective: July 1, 2016

Revise the second paragraph of Article 1069.01 of the Standard Specifications to read:

“The detailed design and fabrication of the pole shaft, arms, tenons, and attachments shall be according to AASHTO “LRFD Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals” current at the time the project is advertised. Light poles shall be designed for ADT > 10,000 and Risk Category Typical. If Fatigue design is required, light poles shall be designed for Importance Category I.”

Revise the fifth paragraph of Article 1069.01(a) of the Standard Specifications to read:

“Deflection of the pole top as caused by the combined effect of deadload referenced above and wind speed prescribed by AASHTO shall be as required by AASHTO. Pole deflection and loading compliance, certified by the manufacturer, shall be noted on the pole submittal.”

80367

## MAST ARM ASSEMBLY AND POLE (BDE)

Effective: July 1, 2016

Revise Article 1077.03(a)(1) of the Standard Specifications to read:

“(1) Loading. The mast arm assembly and pole, and combination mast arm assembly and pole shall be designed for the loading shown on the Highway Standards or elsewhere on the plans, whichever is greater. The design shall be according to AASHTO “LRFD Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals” 2015 Edition. However, the arm-to-pole connection for tapered signal and luminaire arms shall be according to the “fillet welded, ring stiffened box connection” detail as shown in Figure C5.6.7-2. The mast arm and pole shall be designed assuming the ADT > 10,000, Risk Category Typical, and Fatigue Category I Natural Wind Gust only.”

80369

**MECHANICAL SIDE TIE BAR INSERTER (BDE)**

Effective: August 1, 2014  
Revised: April 1, 2016

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 a nonshrink grout or chemical adhesive providing a minimum pull-out strength as follows. The nonshrink grout and/or chemical adhesive shall be on the Department's qualified product list.

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."

80342

**PAVEMENT MARKING REMOVAL (BDE)**

Effective: July 1, 2016

Revise Article 783.02 of the Standard Specifications to read:

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

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

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

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

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

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

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

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

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

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

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

Delete Article 1101.13 from the Standard Specifications.

80371

**PORTABLE CHANGEABLE MESSAGE SIGNS (BDE)**

Effective: November 1, 2016

Revise this second sentence of the first paragraph of Article 1106.02(i) of the Standard Specifications to read:

“The message panel shall be a minimum of 7 ft (2.1 m) above the edge of pavement in urban areas and a minimum of 5 ft (1.5 m) above the edge of pavement in rural areas, present a level appearance, and be capable of displaying up to eight characters in each of three lines at a time.”

80377



## 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."

80328

## RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES (BDE)

Effective: November 1, 2012

Revise: April 1, 2016

Revise Section 1031 of the Standard Specifications to read:

### "SECTION 1031. RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES

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

- (a) Reclaimed Asphalt Pavement (RAP). RAP is the material produced by cold milling or crushing an existing hot-mix asphalt (HMA) pavement. The Contractor shall supply written documentation that the RAP originated from routes or airfields under federal, state, or local agency jurisdiction.
- (b) Reclaimed Asphalt Shingles (RAS). Reclaimed asphalt shingles (RAS). RAS is from the processing and grinding of preconsumer or post-consumer shingles. RAS shall be a clean and uniform material with a maximum of 0.5 percent unacceptable material, as defined in Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Shingle (RAS) Sources", by weight of RAS. All RAS used shall come from a Bureau of Materials and Physical Research approved processing facility where it shall be ground and processed to 100 percent passing the 3/8 in. (9.5 mm) sieve and 93 percent passing the #4 (4.75 mm) sieve based on a dry shake gradation. RAS shall be uniform in gradation and asphalt binder content and shall meet the testing requirements specified herein. In addition, RAS shall meet the following Type 1 or Type 2 requirements.
  - (1) Type 1. Type 1 RAS shall be processed, preconsumer asphalt shingles salvaged from the manufacture of residential asphalt roofing shingles.
  - (2) Type 2. Type 2 RAS shall be processed post-consumer shingles only, salvaged from residential, or four unit or less dwellings not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP).

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

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

Prior to milling, the Contractor shall request the District provide documentation on the quality of the RAP to clarify the appropriate stockpile.

- (1) Fractionated RAP (FRAP). FRAP shall consist of RAP from Class I, HMA (High and Low ESAL) 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 fractionated prior to testing by screening into a minimum of two size 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 shall pass the sieve size specified below for the mix into which the FRAP will be incorporated.

Mixture FRAP will be used in:	Sieve Size that 100 % of FRAP Shall Pass
IL-19.0	1 1/2 in. (40 mm)
IL-9.5	3/4 in. (20 mm)
IL-4.75	1/2 in. (13 mm)

- (2) Homogeneous. Homogeneous RAP stockpiles shall consist of RAP from Class I, HMA (High and Low ESAL) mixtures and represent: 1) the same aggregate quality, but shall be at least C quality; 2) the same type of crushed aggregate (either crushed natural aggregate, ACBF slag, or steel slag); 3) similar gradation; and 4) similar asphalt binder content. If approved by the Engineer, combined single pass surface/binder millings may be considered "homogeneous" with a quality rating dictated by the lowest coarse aggregate quality present in the mixture.
- (3) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I, HMA (High and Low ESAL) 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 prior to testing by crushing to where all RAP shall pass the 5/8 in. (16 mm) or smaller screen. Conglomerate RAP stockpiles shall not contain steel slag.
- (4) Non-Quality. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Non-Quality".

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

- (b) RAS Stockpiles. Type 1 and Type 2 RAS shall be stockpiled separately and shall not be intermingled. Each stockpile shall be signed indicating what type of RAS is present.

Unless otherwise specified by the Engineer, mechanically blending manufactured sand (FM 20 or FM 22) up to an equal weight of RAS with the processed RAS will be permitted to improve workability. The sand shall be "B Quality" or better from an approved Aggregate Gradation Control System source. The sand shall be accounted for in the mix design and during HMA production.

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

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

(a) RAP/FRAP Testing. When used in HMA, the RAP/FRAP shall be sampled and tested either during or after stockpiling.

(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) 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.

Each sample shall be split to obtain two equal 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 or RAS blended with manufactured sand shall be sampled and tested during stockpiling according to Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Shingle (RAS) Source".

Samples shall be collected during stockpiling at the minimum frequency of one sample per 200 tons (180 metric tons) for the first 1000 tons (900 metric tons) and one sample per 250 tons (225 metric tons) thereafter. A minimum of five 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 or RAS blended with manufactured sand shall be stockpiled 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.

Before testing, each sample shall be split to obtain two test samples. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall perform a washed extraction and test for unacceptable materials on 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.

If the sampling and testing was performed at the shingle processing facility in accordance with the QC Plan, the Contractor shall obtain and make available all of the test results from start of the initial stockpile.

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

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

Parameter	FRAP/Homogeneous/ Conglomerate
1 in. (25 mm)	
1/2 in. (12.5 mm)	± 8 %
No. 4 (4.75 mm)	± 6 %
No. 8 (2.36 mm)	± 5 %
No. 16 (1.18 mm)	
No. 30 (600 μm)	± 5 %
No. 200 (75 μm)	± 2.0 %
Asphalt Binder	± 0.4 % <sup>1/</sup>
$G_{mm}$	± 0.03

1/ The tolerance for FRAP shall be ± 0.3 %.

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

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

- (b) Evaluation of RAS and RAS Blended with Manufactured Sand 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. Individual test results, when compared to the averages, will be accepted if within the tolerances listed below.

Parameter	RAS
No. 8 (2.36 mm)	± 5 %
No. 16 (1.18 mm)	± 5 %
No. 30 (600 µm)	± 4 %
No. 200 (75 µm)	± 2.0 %
Asphalt Binder Content	± 1.5 %

If more than 20 percent of the individual sieves and/or asphalt binder content tests are out of the above tolerances, or if the percent unacceptable material exceeds 0.5 percent by weight of material retained on the # 4 (4.75 mm) sieve, the RAS or RAS blend shall not be used in Department projects. All test data and acceptance ranges shall be sent to the District for evaluation.

**1031.05 Quality Designation of Aggregate in RAP/FRAP.**

(a) RAP. The aggregate quality of the RAP for homogeneous and conglomerate 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 Class I binder, Superpave/HMA (High ESAL) binder, or (Low ESAL) IL-19.0L binder mixtures are designated as containing Class C 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. Coarse and fine FRAP stockpiles containing plus #4 (4.75 mm) sieve coarse aggregate shall have a maximum tonnage of 5000 tons (4500 metric tons). The Contractor shall obtain a representative sample witnessed by the Engineer. The sample shall be a minimum of 50 lb (25 kg). The sample shall be extracted according to Illinois Modified AASHTO T 164 by a consultant laboratory prequalified by the Department for the specified testing. The consultant laboratory shall submit the test results along with the recovered aggregate to the District Office. The cost for this testing shall be paid by the Contractor. The District will forward the sample to the Bureau of Materials and Physical Research Aggregate Lab for MicroDeval Testing, according to ITP 327. A maximum loss of 15.0 percent will be applied for all HMA applications.

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

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

- (1) Coarse Aggregate Size. The coarse aggregate in all RAP shall be equal to or less than the nominal maximum size requirement for the HMA mixture to be produced.
  - (2) Steel Slag Stockpiles. Homogeneous RAP stockpiles containing steel slag will be approved for use in all HMA (High ESAL and Low ESAL) Surface and Binder Mixture applications.
  - (3) Use in HMA Surface Mixtures (High and Low ESAL). RAP/FRAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall be FRAP or homogeneous in which the coarse aggregate is Class B quality or better. RAP/FRAP from Conglomerate stockpiles shall be considered equivalent to limestone for frictional considerations. Known frictional contributions from plus #4 (4.75 mm) homogeneous RAP and FRAP stockpiles will be accounted for in meeting frictional requirements in the specified mixture.
  - (4) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. RAP/FRAP stockpiles for use in HMA binder mixtures (High and Low ESAL), HMA base course, and HMA base course widening shall be FRAP, homogeneous, or conglomerate, in which the coarse aggregate is Class C quality or better.
  - (5) Use in Shoulders and Subbase. RAP/FRAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be FRAP, homogeneous, or conglomerate.
  - (6) When the Contractor chooses the RAP option, the percentage of RAP shall not exceed the amounts indicated in Article 1031.06(c)(1) below for a given Ndesign.
- (b) RAS. RAS meeting Type 1 or Type 2 requirements will be permitted in all HMA applications as specified herein.
  - (c) RAP/FRAP and/or RAS Usage Limits. Type 1 or Type 2 RAS may be used alone or in conjunction with RAP or FRAP in HMA mixtures up to a maximum of 5.0 percent by weight of the total mix.
- (1) RAP/RAS. When RAP is used alone or RAP is used in conjunction with RAS, the percentage of virgin asphalt binder replacement shall not exceed the amounts listed in the Max RAP/RAS ABR table listed below for the given Ndesign.

**RAP/RAS Maximum Asphalt Binder Replacement (ABR) Percentage**

HMA Mixtures <i>1, 2'</i>	RAP/RAS Maximum ABR %			
	Ndesign	Binder/Leveling Binder	Surface	Polymer Modified
30	30	30	30	10

50	25	15	10
70	15	10	10
90	10	10	10

1/ For Low ESAL HMA shoulder and stabilized subbase, the RAP/RAS ABR shall not exceed 50 percent of the mixture.

2/ When RAP/RAS ABR exceeds 20 percent, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28). If warm mix asphalt (WMA) technology is utilized and production temperatures do not exceed 275 °F (135 °C), the high and low virgin asphalt binder grades shall each be reduced by one grade when RAP/RAS ABR exceeds 25 percent (i.e. 26 percent RAP/RAS ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28).

(2) FRAP/RAS. When FRAP is used alone or FRAP is used in conjunction with RAS, the percentage of virgin asphalt binder replacement shall not exceed the amounts listed in the FRAP/RAS table listed below for the given Ndesign.

**FRAP/RAS Maximum Asphalt Binder Replacement (ABR) Percentage**

HMA Mixtures <i>1/, 2/</i>	FRAP/RAS Maximum ABR %			
	Ndesign	Binder/Leveling Binder	Surface	Polymer Modified <sup>3/, 4/</sup>
	30	50	40	10
	50	40	35	10
	70	40	30	10
	90	40	30	10

1/ For Low ESAL HMA shoulder and stabilized subbase, the FRAP/RAS ABR shall not exceed 50 percent of the mixture.

2/ When FRAP/RAS ABR exceeds 20 percent for all mixes, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28). If warm mix asphalt (WMA) technology is utilized and production temperatures do not exceed 275 °F (135 °C), the high and low virgin asphalt binder grades shall each be reduced by one grade when FRAP/RAS ABR exceeds 25 percent (i.e. 26 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28).

3/ For SMA the FRAP/RAS ABR shall not exceed 20 percent.



4/ For IL-4.75 mix the FRAP/RAS ABR shall not exceed 30 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) RAP/FRAP and/or RAS. RAP/FRAP and/or RAS mix designs shall be submitted for verification. If additional RAP/FRAP and/or RAS stockpiles are tested and found that no more than 20 percent of the results, as defined under "Testing" herein, are outside of the control tolerances set for the original RAP/FRAP and/or RAS stockpile and HMA mix design, and meets all of the requirements herein, the additional RAP/FRAP and/or RAS stockpiles may be used in the original mix 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 RAP/FRAP and/or RAS shall be as follows.

- (a) RAP/FRAP. The coarse aggregate in all RAP/FRAP used shall be equal to or less than the nominal maximum size requirement for the HMA mixture being produced.

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

If the RAP/FRAP control tolerances or QC/QA test results require corrective action, the Contractor shall cease production of the mixture containing RAP/FRAP and either switch to the virgin aggregate design or submit a new RAP/FRAP design.

- (b) 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.
- (c) RAP/FRAP and/or RAS. HMA plants utilizing RAP/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 RAP/FRAP/RAS 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 RAP/FRAP material as a percent of the total mix to the nearest 0.1 percent.
- h. Aggregate and RAP/FRAP moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAP/FRAP are printed in wet condition.)

(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).
- e. RAP/FRAP/RAS weight to the nearest pound (kilogram).
- f. Virgin asphalt binder weight to the nearest pound (kilogram).
- g. Residual asphalt binder in the RAP/FRAP/RAS material as a percent of the total mix to the nearest 0.1 percent.

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

**1031.09 RAP in Aggregate Surface Course and Aggregate Wedge Shoulders, Type B.**  
The use of RAP in aggregate surface course (temporary access entrances only) and aggregate wedge shoulders, Type B shall be as follows.

- (a) Stockpiles and Testing. RAP stockpiles may be any of those listed in Article 1031.02, except "Non-Quality" and "FRAP". The testing requirements of Article 1031.03 shall not apply. RAP used shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications".
- (b) Gradation. One hundred percent of the RAP material shall pass the 1 1/2 in. (37.5 mm) sieve. The RAP material shall be reasonably well graded from coarse to fine. RAP material that is gap-graded or single sized will not be accepted."

80306

## 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).

$MPI_L$  = The Materials Cost Index for steel as published by the Engineering News-Record for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price,. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

The unit weights (masses) of steel that will be used to calculate the steel cost adjustment for the various items are shown in the attached table.

No steel cost adjustment will be made for any products manufactured from steel having a mill shipping date prior to the letting date.

If the Contractor fails to provide the required documentation, the method of adjustment will be calculated as described above; however, the  $MPI_M$  will be based on the date the steel arrives at the job site. In this case, an adjustment will only be made when there is a decrease in steel costs.

Basis of Payment. Steel cost adjustments may be positive or negative but will only be made when there is a difference between the  $MPI_L$  and  $MPI_M$  in excess of five percent, as calculated by:

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

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

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

**Attachment**

Item	Unit Mass (Weight)
Metal Piling (excluding temporary sheet piling) Furnishing Metal Pile Shells 12 in. (305 mm), 0.179 in. (3.80 mm) wall thickness Furnishing Metal Pile Shells 12 in. (305 mm), 0.250 in. (6.35 mm) wall thickness Furnishing Metal Pile Shells 14 in. (356 mm), 0.250 in. (6.35 mm) wall thickness Other piling	23 lb/ft (34 kg/m) 32 lb/ft (48 kg/m) 37 lb/ft (55 kg/m) See plans
Structural Steel	See plans for weights (masses)
Reinforcing Steel	See plans for weights (masses)
Dowel Bars and Tie Bars	6 lb (3 kg) each
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:** \_\_\_\_\_

80127

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**STEEL SLAG IN TRENCH BACKFILL (BDE)**

Effective: January 1, 2016

Revise the second sentence of Article 1003.01(a)(8) of the Standard Specifications to read:

“Crushed steel slag shall be the nonmetallic product which is developed in a molten condition simultaneously with steel in an open hearth, basic oxygen, or electric arc furnace.”

Revise Article 1003.04(a) of the Standard Specifications to read:

“(a) Description. The fine aggregate shall consist of sand, stone sand, chats, wet bottom boiler slag, slag sand, or granulated slag sand. Crushed concrete sand, construction and demolition debris sand, and steel slag sand produced from an electric arc furnace may be used in lieu of the above for trench backfill.”

80362



**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 **3**. 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.

20338

## WARM MIX ASPHALT (BDE)

Effective: January 1, 2012

Revised: April 1, 2016

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.

"(11) 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.

80288

## 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.

80302

## 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.

## Contract Provision - Cargo Preference Requirements

In accordance with Title 46 CFR § 381.7 (b), the contractor agrees—

“(1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

(2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b) (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.”

Provisions (1) and (2) apply to materials or equipment that are acquired solely for the project. The two provisions do not apply to goods or materials that come into inventories independent of the project, such as shipments of Portland cement, asphalt cement, or aggregates, when industry suppliers and contractors use these materials to replenish existing inventories.



**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.