

# **BID PROPOSAL INSTRUCTIONS**

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

## **PREQUALIFICATION**

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

## **WHO CAN BID ?**

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

## **REQUESTS FOR AUTHORIZATION TO BID**

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

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

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

## **ABOUT AUTHORIZATION TO BID**

Firms that have not received an Authorization to Bid or Not For Bid Report within a reasonable time of complete and correct original document submittal should contact the Department as to the status. Firms unsure as to authorization status should call the Prequalification Section of the Bureau of Construction at the number listed at the end of these instructions.

## **ADDENDA AND REVISIONS**

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

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

The Internet is the Department's primary way of doing business. The subscription service emails are an added courtesy the Department provides. It is suggested that bidders check IDOT's website at <http://www.idot.illinois.gov/doing-business/procurements/construction-services/construction-bulletins/transportation-bulletin/index#TransportationBulletin> before submitting final bid information.

***IDOT IS NOT RESPONSIBLE FOR ANY E-MAIL FAILURES.***

Addenda questions may be directed to the Contracts Office at (217)782-7806 or [DOT.D&Econtracts@illinois.gov](mailto:DOT.D&Econtracts@illinois.gov)

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

## **STANDARD GUIDELINES FOR SUBMITTING BIDS**

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

## **BID SUBMITTAL CHECKLIST**

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

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

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

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

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

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

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

**QUESTIONS: following contract execution**

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

# 34

RETURN WITH BID

Proposal Submitted By
Name
Address
City

## Letting November 21, 2014

### 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. 63761  
DUPAGE County  
Section 09-00030-00-BR (Warrenville)  
Route WILLIAMS ROAD  
Project BRM-4003(344)  
District 1 Construction Funds**

PLEASE MARK THE APPROPRIATE BOX BELOW:

- A Bid Bond is included.
- A Cashier's Check or a Certified Check is included
- An Annual Bid Bond is included or is on file with IDOT.

Prepared by

Checked by

F

(Printed by authority of the State of Illinois)



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RETURN WITH BID



PROPOSAL

TO THE DEPARTMENT OF TRANSPORTATION

1. Proposal of \_\_\_\_\_  
\_\_\_\_\_

Taxpayer Identification Number (Mandatory) \_\_\_\_\_

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

**Contract No. 63761  
DUPAGE County  
Section 09-00030-00-BR (Warrenville)  
Project BRM-4003(344)  
Route WILLIAMS ROAD  
District 1 Construction Funds**

**Project consists of removing the existing structure and constructing a new precast prestressed concrete deck beam bridge (21" depth), earth excavation, placement of aggregate subgrade, combination concrete curb and gutter, HMA binder and surface course, HMA shoulder and aggregate shoulder, sidewalk, storm sewer, sanitary surface, forcemain and watermain installation, guard rail, PCC wearing surface, pavement marking, lighting, landscaping and all other items to complete the work on Williams Road over the West Branch of the DuPage River, located 0.10 miles north of Batavia Road in the City of Warrenville.**

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



**RETURN WITH BID**

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

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

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

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

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

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

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

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

Item \_\_\_\_\_

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

County \_\_\_\_\_

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

**RETURN WITH BID**

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

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

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

**Schedule of Combination Bids**

Combination No.	Sections Included in Combination	Combination Bid	
		Dollars	Cents

7. **SCHEDULE OF PRICES.** The undersigned bidder submits herewith, in accordance with the rules and instructions, a schedule of prices for the items of work for which bids are sought. The unit prices bid are in U.S. dollars and cents, and all extensions and summations have been made. The bidder understands that the quantities appearing in the bid schedule are approximate and are provided for the purpose of obtaining a gross sum for the comparison of bids. If there is an error in the extension of the unit prices, the unit prices will govern. Payment to the contractor awarded the contract will be made only for actual quantities of work performed and accepted or materials furnished according to the contract. The scheduled quantities of work to be done and materials to be furnished may be increased, decreased or omitted as provided elsewhere in the contract.
8. **AUTHORITY TO DO BUSINESS IN ILLINOIS.** Section 20-43 of the Illinois Procurement Code (the Code) (30 ILCS 500/20-43) provides that a person (other than an individual acting as a sole proprietor) must be a legal entity authorized to do business in the State of Illinois prior to submitting the bid.
9. **EXECUTION OF CONTRACT:** The Department of Transportation will, in accordance with the rules governing Department procurements, execute the contract and shall be the sole entity having the authority to accept performance and make payments under the contract. Execution of the contract by the Chief Procurement Officer (CPO) or the State Purchasing Officer (SPO) is for approval of the procurement process and execution of the contract by the Department. Neither the CPO nor the SPO shall be responsible for administration of the contract or determinations respecting performance or payment there under except as otherwise permitted in the Code.
10. **The services of a subcontractor will be used.**

Check box Yes   
 Check box No

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

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COUNTY NAME	CODE	DIST	SECTION NUMBER	PROJECT NUMBER	ROUTE
DUPAGE	043	01	09-00030-00-BR (WARRENVILLE)	BRM-4003/344/000	WILLIAMS ROAD

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
A2006520	T-QUERCUS BICOL 2-1/2	EACH	2.000 X				
B2000774	T-AMEL X GF AB TF 3	EACH	4.000 X				
B2004120	T-MALUS PF TF 2-1/2	EACH	5.000 X				
B2004170	T-MALUS PF CL 8'	EACH	8.000 X				
B2005720	T-PYRUS C CH TF 2-1/2	EACH	5.000 X				
B2006320	T-SYRG RT IS TF 2-1/2	EACH	3.000 X				
XX003803	SAN SEW SERVICE 6	FOOT	96.000 X				
XX004603	CONCRETE SLAB	SQ YD	56.000 X				
XX006167	FORCE MAIN 4	FOOT	56.000 X				
XX006263	STL CAS P AUG/JKD 30	FOOT	60.000 X				
XX007811	FORCE MAIN 8	FOOT	10.000 X				
XX007940	INSULATION	SQ FT	288.000 X				
XX008200	STAB DRIVE PAVEMENT	SQ YD	166.000 X				
XX008257	STAMP COL PCC SDWLK 5	SQ FT	1,328.000 X				
XX008985	FORCE MAIN 4 SPL	FOOT	748.000 X				

WILLIAMS  
 09-00030-00-BR (WARRENVILLE)  
 DUPAGE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF PRICES  
 CONTRACT NUMBER - 63761

ECMS002 DTGECM03 ECMR003 PAGE 2  
 RUN DATE - 10/10/14  
 RUN TIME - 183108

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
X0322936	REMOV EX FLAR END SEC	EACH	2.000 X	=		=	
X0324769	SAN SEW LIFT STATION	L SUM	1.000 X	=		=	
X0325003	REM EX VALVE & VAULT	EACH	1.000 X	=		=	
X0325670	CONC BR RL SDWLK MNTD	FOOT	136.000 X	=		=	
X0325862	CONC BR RAILING	FOOT	136.000 X	=		=	
X0783300	P.S. ELECTRICAL WORK	L SUM	1.000 X	=		=	
X0839900	SAN SEW REMOV 6	FOOT	15.000 X	=		=	
X2011000	TEMPORARY FENCE SPL	FOOT	223.000 X	=		=	
X4401198	HMA SURF REM VAR DP	SQ YD	474.000 X	=		=	
X5030305	CONC WEARING SURF 5	SQ YD	447.000 X	=		=	
X5610708	WATER MAIN REMOV 8	FOOT	60.000 X	=		=	
X5630712	CONN TO EX W MAIN 12	EACH	1.000 X	=		=	
X5640175	FIRE HYDRANT COMPLETE	EACH	5.000 X	=		=	
X5860110	GRANULAR BACKFILL STR	CU YD	93.000 X	=		=	
X6022712	CB TA 4 DIA W/SPL F&G	EACH	1.000 X	=		=	

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
X6022810	MAN SAN 4 DIA T1F CL	EACH	5.000 X	=			
X6026055	SAN MANHOLE SPL	EACH	1.000 X	=			
X6026057	SAN MH REC NEW T1F CL	EACH	1.000 X	=			
X6062400	CONC GUTTER SPL	FOOT	59.000 X	=			
X6640308	CH LK GATES SPL	EACH	1.000 X	=			
X7010216	TRAF CONT & PROT SPL	L SUM	1.000 X	=			
X8011010	TELEPHONE SERV INSTAL	L SUM	1.000 X	=			
X8250500	LIGHTING UNIT COMP SP	EACH	15.000 X	=			
X8250505	LIGHT CONTROLLER SPL	EACH	1.000 X	=			
X8360110	LIGHT POLE FDN SPL	FOOT	41.000 X	=			
Z0022800	FENCE REMOVAL	FOOT	495.000 X	=			
Z0023201	SED CONT SILT CURTAIN	EACH	1.000 X	=			
Z0046304	P UNDR FOR STRUCT 4	FOOT	142.000 X	=			
Z0056900	SAN SEW 8	FOOT	235.000 X	=			
Z0057000	SAN SEW 10	FOOT	525.000 X	=			



WILLIAMS  
 09-00030-00-BR (WARRENVILLE)  
 DUPAGE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF PRICES  
 CONTRACT NUMBER - 63761

ECMS002 DTGECM03 ECMR003 PAGE 4  
 RUN DATE - 10/10/14  
 RUN TIME - 183108

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
Z0066700	STAB DRIVEWAYS 10	SQ YD	342.000 X				
Z0076600	TRAINEES	HOUR	1,000.000 X		0.80		800.00
Z0076604	TRAINEES TPG	HOUR	1,000.000 X		15.00		15,000.00
20100110	TREE REMOV 6-15	UNIT	704.000 X				
20100210	TREE REMOV OVER 15	UNIT	798.000 X				
20200100	EARTH EXCAVATION	CU YD	1,236.000 X				
20201200	REM & DISP UNS MATL	CU YD	242.000 X				
20300100	CHANNEL EXCAVATION	CU YD	85.000 X				
20400800	FURNISHED EXCAVATION	CU YD	3,326.000 X				
20800150	TRENCH BACKFILL	CU YD	1,379.000 X				
21001000	GEOTECH FAB F/GR STAB	SQ YD	4,316.000 X				
21101615	TOPSOIL F & P 4	SQ YD	6,119.000 X				
21301072	EXPLOR TRENCH 72	FOOT	100.000 X				
21400100	GRADING & SHAP DITCH	FOOT	293.000 X				
25000210	SEEDING CL 2A	ACRE	0.980 X				

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
25000300	SEEDING CL 3	ACRE	0.250 X	=			
25000314	SEEDING CL 4B	ACRE	0.250 X	=			
25000400	NITROGEN FERT NUTR	POUND	111.000 X	=			
25000500	PHOSPHORUS FERT NUTR	POUND	111.000 X	=			
25000600	POTASSIUM FERT NUTR	POUND	111.000 X	=			
25100630	EROSION CONTR BLANKET	SQ YD	6,099.000 X	=			
25100900	TURF REINF MAT	SQ YD	20.000 X	=			
28000250	TEMP EROS CONTR SEED	POUND	256.000 X	=			
28000305	TEMP DITCH CHECKS	FOOT	96.000 X	=			
28000315	AGG DITCH CHECKS	TON	8.000 X	=			
28000400	PERIMETER EROS BAR	FOOT	2,120.000 X	=			
28000500	INLET & PIPE PROTECT	EACH	2.000 X	=			
28000510	INLET FILTERS	EACH	33.000 X	=			
28100107	STONE RIPRAP CL A4	SQ YD	899.000 X	=			
28200200	FILTER FABRIC	SQ YD	927.000 X	=			

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
30300001	AGG SUBGRADE IMPROVE	CU YD	242.000 X	=		=	
30300112	AGG SUBGRADE IMPR 12	SQ YD	3,590.000 X	=		=	
35101400	AGG BASE CSE B	TON	104.000 X	=		=	
35501303	HMA BASE CSE 4 3/4	SQ YD	2,990.000 X	=		=	
40200800	AGG SURF CSE B	TON	16.000 X	=		=	
40201000	AGGREGATE-TEMP ACCESS	TON	700.000 X	=		=	
40600275	BIT MATLS PR CT	POUND	10,346.000 X	=		=	
40600625	LEV BIND MM N50	TON	30.000 X	=		=	
40600982	HMA SURF REM BUTT JT	SQ YD	76.000 X	=		=	
40603080	HMA BC IL-19.0 N50	TON	378.000 X	=		=	
40603335	HMA SC "D" N50	TON	398.000 X	=		=	
40800050	INCIDENTAL HMA SURF	TON	35.000 X	=		=	
42001300	PROTECTIVE COAT	SQ YD	1,410.000 X	=		=	
42001430	BR APPR PVT CON (FLX)	SQ YD	36.000 X	=		=	
42300300	PCC DRIVEWAY PAVT 7	SQ YD	250.000 X	=		=	

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
42400200	PC CONC SIDEWALK 5	SQ FT	5,435.000 X	=			
42400400	PC CONC SIDEWALK 7	SQ FT	400.000 X	=			
42400800	DETECTABLE WARNINGS	SQ FT	78.000 X	=			
44000100	PAVEMENT REM	SQ YD	1,323.000 X	=			
44000200	DRIVE PAVEMENT REM	SQ YD	852.000 X	=			
44000600	SIDEWALK REM	SQ FT	4,949.000 X	=			
44003100	MEDIAN REMOVAL	SQ FT	266.000 X	=			
44201759	CL D PATCH T4 9	SQ YD	27.000 X	=			
44300200	STRIP REF CR CON TR	FOOT	340.000 X	=			
48101200	AGGREGATE SHLDS B	TON	33.000 X	=			
48203021	HMA SHOULDERS 6	SQ YD	92.000 X	=			
50100100	REM EXIST STRUCT	EACH	1.000 X	=			
50200100	STRUCTURE EXCAVATION	CU YD	58.000 X	=			
50200300	COFFERDAM EXCAVATION	CU YD	183.000 X	=			
50201101	COFFERDAM TYP 1 LOC 1	EACH	1.000 X	=			

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
50201102	COFFERDAM TYP 1 LOC 2	EACH	1.000 X	=		=	
50300225	CONC STRUCT	CU YD	214.900 X	=		=	
50300255	CONC SUP-STR	CU YD	123.500 X	=		=	
50300260	BR DECK GROOVING	SQ YD	647.000 X	=		=	
50300280	CONCRETE ENCASEMENT	CU YD	4.200 X	=		=	
50300300	PROTECTIVE COAT	SQ YD	889.000 X	=		=	
50400405	P P CONC DK BM 21 DP	SQ FT	5,088.000 X	=		=	
50800205	REINF BARS, EPOXY CTD	POUND	53,470.000 X	=		=	
51201400	FUR STL PILE HP10X42	FOOT	1,049.000 X	=		=	
51202305	DRIVING PILES	FOOT	1,049.000 X	=		=	
51203400	TEST PILE ST HP10X42	EACH	4.000 X	=		=	
51204650	PILE SHOES	EACH	28.000 X	=		=	
51500100	NAME PLATES	EACH	1.000 X	=		=	
54213660	PRC FLAR END SEC 15	EACH	1.000 X	=		=	
54213669	PRC FLAR END SEC 24	EACH	1.000 X	=		=	

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
54215550	MET END SEC 15	EACH	4.000 X	=		=	
550A2330	SS RG CL A 1 15	FOOT	35.000 X	=		=	
550A2350	SS RG CL A 1 21	FOOT	128.000 X	=		=	
550A2360	SS RG CL A 1 24	FOOT	171.000 X	=		=	
550A2560	SS RG CL A 2 24	FOOT	100.000 X	=		=	
550B0050	STORM SEW CL B 1 12	FOOT	338.000 X	=		=	
550B0070	STORM SEW CL B 1 15	FOOT	75.000 X	=		=	
550B0090	STORM SEW CL B 1 18	FOOT	125.000 X	=		=	
550B0340	STORM SEW CL B 2 12	FOOT	430.000 X	=		=	
550B0360	STORM SEW CL B 2 15	FOOT	62.000 X	=		=	
550B0380	STORM SEW CL B 2 18	FOOT	401.000 X	=		=	
55100500	STORM SEWER REM 12	FOOT	126.000 X	=		=	
55100700	STORM SEWER REM 15	FOOT	37.000 X	=		=	
56100900	WATER MAIN 12	FOOT	180.000 X	=		=	
56103100	D I WATER MAIN 8	FOOT	94.000 X	=		=	

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
56103300	D I WATER MAIN 12	FOOT	1,140.000 X	=			
56105000	WATER VALVES 8	EACH	1.000 X	=			
56105200	WATER VALVES 12	EACH	5.000 X	=			
56200300	WATER SERV LINE 1	FOOT	112.000 X	=			
56201400	CORP STOPS 1	EACH	10.000 X	=			
56400600	FIRE HYDRANTS	EACH	1.000 X	=			
56500800	DOM WAT SER BOX	EACH	6.000 X	=			
59100100	GEOCOMPOSITE WALL DR	SQ YD	65.000 X	=			
60107700	PIPE UNDERDRAINS 6	FOOT	60.000 X	=			
60200805	CB TA 4 DIA T8G	EACH	5.000 X	=			
60201105	CB TA 4 DIA T11F&G	EACH	4.000 X	=			
60201110	CB TA 4 DIA T11V F&G	EACH	9.000 X	=			
60204825	CB TA 5 DIA T11V F&G	EACH	1.000 X	=			
60207605	CB TC T8G	EACH	2.000 X	=			
60207905	CB TC T11F&G	EACH	1.000 X	=			

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
60218400	MAN TA 4 DIA T1F CL	EACH	4.000 X				
60221100	MAN TA 5 DIA T1F CL	EACH	4.000 X				
60240312	INLETS TB T11V F&G	EACH	9.000 X				
60248700	VV TA 4 DIA T1F CL	EACH	1.000 X				
60248900	VV TA 5 DIA T1F CL	EACH	5.000 X				
60603800	COMB CC&G TB6.12	FOOT	1,960.000 X				
60618300	CONC MEDIAN SURF 4	SQ FT	113.000 X				
63000007	SPBGR TY B 6FT POSTS	FOOT	37.500 X				
63100085	TRAF BAR TERM T6	EACH	4.000 X				
63100167	TR BAR TRM T1 SPL TAN	EACH	4.000 X				
63200310	GUARDRAIL REMOV	FOOT	227.000 X				
66400305	CH LK FENCE 6	FOOT	84.000 X				
67100100	MOBILIZATION	L SUM	1.000 X				
70106800	CHANGEABLE MESSAGE SN	CAL MO	1.000 X				
78009004	MOD URETH PM LINE 4	FOOT	2,662.000 X				



ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
78009006	MOD URETH PM LINE 6	FOOT	125.000 X				
78009012	MOD URETH PM LINE 12	FOOT	160.000 X				
78009024	MOD URETH PM LINE 24	FOOT	50.000 X				
78201000	TERMINAL MARKER - DA	EACH	4.000 X				
80400100	ELECT SERV INSTALL	EACH	2.000 X				
80400200	ELECT UTIL SERV CONN	L SUM	1.000 X	10,000	00	10,000	00
81028210	UNDRGRD C GALVS 2 1/2	FOOT	35.000 X				
81100600	CON AT ST 2 GALVS	FOOT	288.000 X				
81200120	CON EMB STR 2 GALVS	FOOT	56.000 X				
81400730	HANDHOLE C CONC	EACH	2.000 X				
81603037	UD 2#6#6G XLPUSE 1.25	FOOT	2,080.000 X				
81702400	EC C XLP USE 3-1C 2	FOOT	35.000 X				

TOTAL \$

NOTE:  
 \*\*\* PLEASE TURN PAGE FOR IMPORTANT NOTES \*\*\*

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 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 bid for a State contract or as recompense for not having bid on a State contract is guilty of a Class 4 felony. Any person who accepts any money or other valuable thing for not bidding for a State contract or who withholds a bid in consideration of the promise for the payment of money or other valuable thing is guilty of a Class 4 felony.

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 is submitted.

### **F. Confidentiality**

Section 50-45. Confidentiality.

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

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

## RETURN WITH BID

### G. Insider Information

Section 50-50. Insider information.

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

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

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

### III. CERTIFICATIONS

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

#### A. Bribery

Section 50-5. Bribery.

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

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

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

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

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

(2) the business demonstrates to the governmental entity with which it seeks to contract, or which is signatory to the contract which the subcontract relates, and that entity finds that the commission of the offense was not authorized, requested, commanded, or performed by a director, officer, or high managerial agent on behalf of the business as provided in paragraph (2) of subsection (a) of Section 5-4 of the Criminal Code of 2012.

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

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

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

#### B. Felons

Section 50-10. Felons.

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

(b) Certification. Every bid submitted to and contract executed by the State and every subcontract subject to Section 20-120 of the Code 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 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.

### **F. Educational Loan**

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

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 provides:

(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.

## RETURN WITH BID

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

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

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

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

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

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

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

Check the appropriate statement:

Company has no business operations in Iran to disclose.

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

## 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.**

**NA-FEDERAL**

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



**RETURN WITH BID**

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

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

By submission of a bid, the contractor business entity acknowledges and agrees that it has read and understands Sections 20-160 and 50-37 of the 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 \$25,000 shall be accompanied by disclosure of the financial interests of the bidder. This disclosed information for the successful bidder, will be maintained as public information subject to release by request pursuant to the Freedom of Information Act, filed with the Procurement Policy Board, and shall be incorporated as a material term of the contract. Furthermore, pursuant to Section 5-5, the Procurement Policy Board may review a proposal, bid, or contract and issue a recommendation to void a contract or reject a proposal or bid based on any violation of the 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 200 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. The disclosure shall include the names, addresses, and dollar or proportionate share of ownership of each person making the disclosure, their instrument of ownership or beneficial relationship, and notice of any potential conflict of interest resulting from the current ownership or beneficial interest of each person making the disclosure having any of the relationships identified in Section 50-35 and on the disclosure form.  
**The current annual salary of the Governor is \$177,412.00.**

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

2. Disclosure Forms. Disclosure Form A is attached for use concerning the individuals meeting the above ownership or distributive share requirements. 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 200 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. If a bidder is not subject to Federal 10K reporting, the bidder must determine if any individuals are required by law to complete a financial disclosure form. To do this, the bidder should answer each of the following questions. A "YES" answer indicates Form A must be completed. If the answer to each of the following questions is "NO", then the NOT APPLICABLE STATEMENT on Form A must be signed and dated by a person that is authorized to execute contracts for the bidding company. Note: These questions are for assistance only and are not required to be completed.

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

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

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

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

## RETURN WITH BID

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

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

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

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

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

RETURN WITH BID

ILLINOIS DEPARTMENT OF TRANSPORTATION

Form A Financial Information & Potential Conflicts of Interest Disclosure

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

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

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

DISCLOSURE OF FINANCIAL INFORMATION

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

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

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

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

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

- 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 \_\_\_

---

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

Yes \_\_\_ No \_\_\_

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

1. Is your spouse or any minor children currently an officer or employee of the Capitol Development Board or the Illinois State Toll Highway Authority? Yes \_\_\_ No \_\_\_
2. Is your spouse or any minor children currently appointed to or employed by any agency of the State of Illinois? If your spouse or minor children is/are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds 60% of the annual salary of the Governor, provide the name of the spouse and/or minor children, the name of the State agency for which he/she is employed and his/her annual salary. \_\_\_\_\_
- 
3. If your spouse or any minor children is/are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds 60% of the annual salary of the Governor, are you entitled to receive (i) more than 7 1/2% of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess 100% of the annual salary of the Governor? Yes \_\_\_ No \_\_\_
4. If your spouse or any minor children are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds 60% of the annual salary of the Governor, are you and your spouse or any minor children entitled to receive (i) more than 15% in the aggregate of the total distributable income from your firm, partnership, association or corporation, or (ii) an amount in excess of two times the salary of the Governor? Yes \_\_\_ No \_\_\_

---

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

---

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

---

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

---

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

---

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

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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 \_\_\_

---

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

---

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

---

**3. Communication Disclosure.**

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

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

**RETURN WITH BID**

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

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

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

**APPLICABLE STATEMENT**

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

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

**NOT APPLICABLE STATEMENT**

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

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

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

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

RETURN WITH BID

ILLINOIS DEPARTMENT OF TRANSPORTATION

Form B Other Contracts & Financial Related Information Disclosure

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

Disclosure of the information contained in this Form is required by the 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 bids in excess of \$25,000, and for all open-ended contracts.

DISCLOSURE OF OTHER CONTRACTS AND PROCUREMENT RELATED INFORMATION

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

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

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

THE FOLLOWING STATEMENT MUST BE CHECKED

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

#### **CONSTRUCTION EMPLOYEE UTILIZATION PROJECTION**

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



RETURN WITH BID

**Contract No. 63761**  
**DUPAGE County**  
**Section 09-00030-00-BR (Warrenville)**  
**Project BRM-4003(344)**  
**Route WILLIAMS ROAD**  
**District 1 Construction Funds**

**PART I. IDENTIFICATION**

Dept. Human Rights # \_\_\_\_\_ Duration of Project: \_\_\_\_\_

Name of Bidder: \_\_\_\_\_

**PART II. WORKFORCE PROJECTION**

A. The undersigned bidder has analyzed minority group and female populations, unemployment rates and availability of workers for the location in which this contract work is to be performed, and for the locations from which the bidder recruits employees, and hereby submits the following workforce projection including a projection for minority and female employee utilization in all job categories in the workforce to be allocated to this contract:

**TABLE A**

TOTAL Workforce Projection for Contract													
JOB CATEGORIES	TOTAL EMPLOYEES		MINORITY EMPLOYEES						TRAINEES				
			BLACK		HISPANIC		*OTHER MINOR.		APPRENTICES		ON THE JOB TRAINEES		
	M	F	M	F	M	F	M	F	M	F	M	F	
OFFICIALS (MANAGERS)													
SUPERVISORS													
FOREMEN													
CLERICAL													
EQUIPMENT OPERATORS													
MECHANICS													
TRUCK DRIVERS													
IRONWORKERS													
CARPENTERS													
CEMENT MASONS													
ELECTRICIANS													
PIPEFITTERS, PLUMBERS													
PAINTERS													
LABORERS, SEMI-SKILLED													
LABORERS, UNSKILLED													
<b>TOTAL</b>													

**TABLE B**

CURRENT EMPLOYEES TO BE ASSIGNED TO CONTRACT				
TOTAL EMPLOYEES		MINORITY EMPLOYEES		
M	F	M	F	F

**TABLE C**

TOTAL Training Projection for Contract								
EMPLOYEES IN TRAINING	TOTAL EMPLOYEES		BLACK		HISPANIC		*OTHER MINOR.	
	M	F	M	F	M	F	M	F
APPRENTICES								
ON THE JOB TRAINEES								

\*Other minorities are defined as Asians (A) or Native Americans (N).  
 Please specify race of each employee shown in Other Minorities column.

FOR DEPARTMENT USE ONLY
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**Note: See instructions on page 2**

**RETURN WITH BID**

**Contract No. 63761  
DUPAGE County  
Section 09-00030-00-BR (Warrenville)  
Project BRM-4003(344)  
Route WILLIAMS ROAD  
District 1 Construction Funds**

**PART II. WORKFORCE PROJECTION - continued**

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

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

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

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

**PART III. AFFIRMATIVE ACTION PLAN**

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

Company \_\_\_\_\_ Telephone Number \_\_\_\_\_

Address \_\_\_\_\_

**NOTICE REGARDING SIGNATURE**

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

Signature:  \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

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

**RETURN WITH BID**

**ADDITIONAL FEDERAL REQUIREMENTS**

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

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

**RETURN WITH BID**

**Contract No. 63761  
DUPAGE County  
Section 09-00030-00-BR (Warrenville)  
Project BRM-4003(344)  
Route WILLIAMS ROAD  
District 1 Construction Funds**

PROPOSAL SIGNATURE SHEET

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

(IF AN INDIVIDUAL)

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

(IF A CO-PARTNERSHIP)

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

(IF A CORPORATION)

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

(IF A JOINT VENTURE)

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

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



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 _____ Section _____ Project _____ County _____ Letting Date _____ Contract No. _____ Letting Item No. _____	Total Bid _____ Contract DBE Goal _____ <div style="display: flex; justify-content: space-around; width: 100%;"> <span>(Percent)</span> <span>(Dollar Amount)</span> </div>
---	---

**(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><u>Local Let Projects</u></b> Submit forms to the Local Agency
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**Illinois Department  
of Transportation**

**DBE Participation Statement**

Subcontractor Registration Number \_\_\_\_\_

Letting \_\_\_\_\_

**Participation Statement**

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

(1) Instructions

Contract No. \_\_\_\_\_

This form must be completed for each disadvantaged business participating in the Utilization Plan. This form shall be submitted in accordance with the special provision and will be attached to the Utilization Plan form. If additional space is needed complete an additional form for the firm.

(2) Work:

**Please indicate:** J/V \_\_\_\_\_ Manufacturer \_\_\_\_\_ Supplier (60%) \_\_\_\_\_ Subcontractor \_\_\_\_\_ Trucking \_\_\_\_\_

Pay Item No.	Description	Quantity	Unit Price	Total
<b>Total</b>				

(3) Partial Payment Items (For any of the above items which are partial pay items)  
Description must be sufficient to determine a Commercially Useful Function, specifically describe the work and subcontract dollar amount:

(4) Commitment

When a DBE is to be a second-tier subcontractor, or if the first-tier DBE subcontractor is going to be subcontracting a portion of its subcontract, it must be clearly indicated on the DBE Participation Statement, and the details of the transaction fully explained.

In the event a DBE subcontractor second-tiers a portion of its subcontract to one or more subcontractors during the work of a contract, the prime must submit a DBE Participation Statement, with the details of the transaction(s) fully explained.

The undersigned certify that the information included herein is true and correct, and that the DBE firm listed below has agreed to perform a commercially useful function in the work of the contract item(s) listed above and to execute a contract with the prime contractor or 1<sup>st</sup> Tier subcontractor. The undersigned further understand that no changes to this statement may be made without prior approval from the Department's Bureau of Small Business Enterprises and that complete and accurate information regarding actual work performed on this project and the payment therefore must be provided to the Department.

Signature for Contractor \_\_ 1<sup>st</sup> Tier \_\_ 2<sup>nd</sup> Tier

Signature for DBE Firm \_\_ 1<sup>st</sup> Tier \_\_ 2<sup>nd</sup> Tier

Title \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_

Date \_\_\_\_\_

Contact Person \_\_\_\_\_

Contact Person \_\_\_\_\_

Phone \_\_\_\_\_

Phone \_\_\_\_\_

Firm Name \_\_\_\_\_

Firm Name \_\_\_\_\_

Address \_\_\_\_\_

Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

City/State/Zip \_\_\_\_\_

E \_\_\_\_\_

WC \_\_\_\_\_

The Department of Transportation is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under the 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 Management 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. 63761  
DUPAGE County  
Section 09-00030-00-BR (Warrenville)  
Project BRM-4003(344)  
Route WILLIAMS ROAD  
District 1 Construction Funds**



**Illinois Department of Transportation**

## **SUBCONTRACTOR DOCUMENTATION**

Public Acts 96-0795, 96-0920, and 97-0895 enacted substantial changes to the provisions of the Code (30 ILCS 500). Among the changes are provisions affecting subcontractors. The Contractor awarded this contract will be required as a material condition of the contract to implement and enforce the contract requirements applicable to subcontractors that entered into a contractual agreement with a total value of \$50,000 or more with a person or entity who has a contract subject to the Code and approved in accordance with article 108.01 of the Standard Specifications for Road and Bridge Construction.

If the Contractor seeks approval of subcontractors to perform a portion of the work, and approval is granted by the Department, the Contractor shall provide a copy of the subcontract to the Illinois Department of Transportation's CPO upon request within 15 calendar days after execution of the subcontract.

Financial disclosures required pursuant to Sec. 50-35 of the Code must be submitted for all applicable subcontractors. The subcontract shall contain the certifications required to be made by subcontractors pursuant to Article 50 of the Code. This Notice to Bidders includes a document incorporating all required subcontractor certifications and disclosures for use by the Contractor in compliance with this mandate. The document is entitled State Required Ethical Standards Governing Subcontractors.

## RETURN WITH SUBCONTRACT

### STATE ETHICAL STANDARDS GOVERNING SUBCONTRACTORS

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

The certifications hereinafter made by the subcontractor are each a material representation of fact upon which reliance is placed should the Department approve the subcontractor. The CPO may terminate or void the contract approval if it is later determined that the bidder or subcontractor rendered a false or erroneous certification. If a false certification is made by a subcontractor the contractor's submitted bid and the executed contract may not be declared void unless the contractor refuses to terminate the subcontract upon the State's request after a finding that the subcontractor's certification was false.

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

#### **A. Bribery**

Section 50-5. Bribery.

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

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

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

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

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

(2) the business demonstrates to the governmental entity with which it seeks to contract, or which is signatory to the contract to which the subcontract relates, and that entity finds that the commission of the offense was not authorized, requested, commanded, or performed by a director, officer, or high managerial agent on behalf of the business as provided in paragraph (2) of subsection (a) of Section 5-4 of the Criminal Code of 2012.

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

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

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

#### **B. Felons**

Section 50-10. Felons.

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

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

**RETURN WITH SUBCONTRACT**

**C. Debt Delinquency**

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

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

**D. Prohibited Bidders, Contractors and Subcontractors**

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

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

**E. Section 42 of the Environmental Protection Act**

The bidder or contractor or subcontractor, respectively, certifies in accordance with 30 ILCS 500/50-14 that the bidder, contractor, or subcontractor, is not barred from being awarded a contract or entering into a subcontract under this Section which prohibits the bidding on or entering into contracts with the State of Illinois or a State agency, or entering into any subcontract, that is subject to the Code by a person or business found by a court or the Pollution Control Board to have committed a willful or knowing violation of Section 42 of the Environmental Protection Act for a period of five years from the date of the order. The bidder or contractor or subcontractor, respectively, acknowledges that the CPO may declare the contract void if this certification is false.

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

_____ Name of Subcontracting Company		
_____ Authorized Officer	_____ Date	

**RETURN WITH SUBCONTRACT**  
**SUBCONTRACTOR DISCLOSURES**

**I. DISCLOSURES**

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

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

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

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

The financial interests to be disclosed shall include ownership or distributive income share that is in excess of 5%, or an amount greater than 60% of the annual salary of the Governor, of the subcontracting entity or its parent entity, whichever is less, unless the subcontractor is a publicly traded entity subject to Federal 10K reporting, in which case it may submit its 10K disclosure in place of the prescribed disclosure. If a subcontractor is a privately held entity that is exempt from Federal 10K reporting, but has more than 200 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. The disclosure shall include the names, addresses, and dollar or proportionate share of ownership of each person making the disclosure, their instrument of ownership or beneficial relationship, and notice of any potential conflict of interest resulting from the current ownership or beneficial interest of each person making the disclosure having any of the relationships identified in Section 50-35 and on the disclosure form.

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

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

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

**C. Disclosure Form Instructions**

**Form A Instructions for Financial Information & Potential Conflicts of Interest**

If the subcontractor is a publicly traded entity subject to Federal 10K reporting, the 10K Report may be submitted to meet the requirements of Form A. If a subcontractor is a privately held entity that is exempt from Federal 10K reporting, but has more than 200 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. If a subcontractor is not subject to Federal 10K reporting, the subcontractor must determine if any individuals are required by law to complete a financial disclosure form. To do this, the subcontractor should answer each of the following questions. A "YES" answer indicates Form A must be completed. If the answer to each of the following questions is "NO", then the **NOT APPLICABLE STATEMENT** on the second page of Form A must be signed and dated by a person that is authorized to execute contracts for the subcontracting company. Note: These questions are for assistance only and are not required to be completed.

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

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

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

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

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

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



## RETURN WITH SUBCONTRACT

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

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

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

RETURN WITH SUBCONTRACT

**ILLINOIS DEPARTMENT  
OF TRANSPORTATION**

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

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

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

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

**DISCLOSURE OF FINANCIAL INFORMATION**

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

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

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

(a) State employment, currently or in the previous 3 years, including contractual employment of services.

Yes \_\_\_ No \_\_\_

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

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

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

**RETURN WITH SUBCONTRACT**

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

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

---

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

Yes \_\_\_ No \_\_\_

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

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

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

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

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

---

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

---

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

---

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

---

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

---

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

---

**RETURN WITH SUBCONTRACT**

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

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

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

**3 Communication Disclosure.**

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

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

**RETURN WITH SUBCONTRACT**

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

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

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

**APPLICABLE STATEMENT**

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

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

**NOT APPLICABLE STATEMENT**

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

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

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

RETURN WITH SUBCONTRACT

ILLINOIS DEPARTMENT OF TRANSPORTATION

Form B
Subcontractor: Other Contracts & Financial Related Information Disclosure

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

Disclosure of the information contained in this Form is required by the 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 the bottom of this page.

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

THE FOLLOWING STATEMENT MUST BE CHECKED

Signature box with fields: Signature of Authorized Officer, Date

OWNERSHIP CERTIFICATION

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

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

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



## NOTICE TO BIDDERS

- 1. TIME AND PLACE OF OPENING BIDS.** Sealed proposals for the improvement described herein will be received by the Department of Transportation. Electronic bids are to be submitted to the electronic bidding system (ics-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 o'clock a.m. November 21, 2014. All bids will be gathered, sorted, publicly opened and read in the auditorium at the Department of Transportation's Harry R. Hanley Building shortly after the 10:00 a.m. cut off time.
- 2. DESCRIPTION OF WORK.** The proposed improvement is identified and advertised for bids in the Invitation for Bids as:

**Contract No. 63761  
DUPAGE County  
Section 09-00030-00-BR (Warrenville)  
Project BRM-4003(344)  
Route WILLIAMS ROAD  
District 1 Construction Funds**

**Project consists of removing the existing structure and constructing a new precast prestressed concrete deck beam bridge (21" depth), earth excavation, placement of aggregate subgrade, combination concrete curb and gutter, HMA binder and surface course, HMA shoulder and aggregate shoulder, sidewalk, storm sewer, sanitary surface, forcemain and watermain installation, guard rail, PCC wearing surface, pavement marking, lighting, landscaping and all other items to complete the work on Williams Road over the West Branch of the DuPage River, located 0.10 miles north of Batavia Road in the City of Warrenville.**

- 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

Erica J. Borggren,  
Acting Secretary

INDEX  
FOR  
SUPPLEMENTAL SPECIFICATIONS  
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2014

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

ERRATA Standard Specifications for Road and Bridge Construction (Adopted 1-1-12) (Revised 1-1-14)

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Effective as of the: November 7, 2014 Letting

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		GBSP 4	Polymer Modified Portland Cement Mortar	June 7, 1994	July 26, 2013
		GBSP 12	Drainage System	June 10, 1994	Jan 1, 2007
		GBSP 13	High-Load Multi-Rotational Bearings	Oct 13, 1988	Oct 30, 2012
		GBSP 14	Jack and Remove Existing Bearings	April 20, 1994	Jan 1, 2007
		GBSP 15	Three Sided Precast Concrete Structure	July 12, 1994	Oct 15, 2011
		GBSP 16	Jacking Existing Superstructure	Jan 11, 1993	Jan 1, 2007
		GBSP 17	Bonded Preformed Joint Seal	July 12, 1994	Jan 1, 2007
		GBSP 18	Modular Expansion Joint	May 19, 1994	April 18, 2014
		GBSP 21	Cleaning and Painting Contact Surface Areas of Existing Steel Structures	June 30, 2003	May 18, 2011
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		GBSP 26	Containment and Disposal of Lead Paint Cleaning Residues	Oct 2, 2001	April 30, 2010
		GBSP 28	Deck Slab Repair	May 15, 1995	Oct 15, 2011
		GBSP 29	Bridge Deck Microsilica Concrete Overlay	May 15, 1995	Oct 30, 2012
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		GBSP 45	Bridge Deck Thin Polymer Overlay	May 7, 1997	Feb 6, 2013
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		GBSP 53	Structural Repair of Concrete	Mar 15, 2006	Aug 29, 2014
		GBSP 55	Erection of Curved Steel Structures	June 1, 2007	
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		GBSP 59	Diamond Grinding and Surface Testing Bridge Sections	Dec 6, 2004	Jan 3, 2014
		GBSP 60	Containment and Disposal of Non-Lead Paint Cleaning Residues	Nov 25, 2004	Mar 6, 2009
		GBSP 61	Slipform Parapet	June 1, 2007	Aug 17, 2012
202	x	GBSP 62	Concrete Deck Beams	June 13, 2008	Oct 9, 2009
		GBSP 64	Segmental Concrete Block Wall	Jan 7, 1999	Oct 30, 2012
		GBSP 65	Precast Modular Retaining Walls	Mar 19, 2001	Jan 3, 2014
		GBSP 67	Structural Assessment Reports for Contractor's Means and Methods	Mar 6, 2009	
		GBSP 70	Braced Excavation	Aug 9, 1995	May 18, 2011
		GBSP 71	Aggregate Column Ground Improvement	Jan 15, 2009	Oct 15, 2011

		GBSP 72	Bridge Deck Fly Ash or GGBF Slag Concrete Overlay	Jan 18, 2011	Oct 15, 2011
204	X	GBSP 73	Cofferdams	Oct 15, 2011	
		GBSP 74	Permanent Steel Sheet Piling (LRFD)	Jan 31, 2012	Aug 17, 2012
		GBSP 75	Bond Breaker for Prestressed Concrete Bulb-T Beams	April 19, 2012	
206	X	GBSP 76	Granular Backfill for Structures	April 19, 2012	Oct 30, 2012
		GBSP 77	Weep Hole Drains for Abutments, Wingwalls, Retaining Walls And Culverts	April 19, 2012	Oct 22, 2013
		GBSP 78	Bridge Deck Construction	Oct 22, 2013	April 18, 2014
		GBSP 79	Reserved		
		GBSP 80	Fabric Reinforced Elastomeric	Aug 29, 2014	

LIST ANY ADDITIONAL SPECIAL PROVISIONS BELOW


The following Guide Bridge Special Provisions have been incorporated into the 2012 Standard Specifications:

File Name	Title	Std Spec Location
GBSP22	Cleaning and Painting New Metal Structures	506
GBSP36	Surface Preparation and Painting Req. for Weathering Steel	506
GBSP50	Removal of Existing Non-composite Bridge Decks	501
GBSP58	Mechanical Splicers	508
GBSP63	Demolition Plans for Removal of Existing Structures	501
GBSP68	Piling	512
GBSP69	Freeze-Thaw Aggregates for Concrete Superstructures Poured on Grade	1004

The following Guide Bridge Special Provisions have been discontinued or have been superseded:

File Name	Title	Disposition:
GBSP37	Underwater Structure Excavation Protection	Replaced by GBSP73
GBSP11	Permanent Steel Sheet Piling	Replaced by GBSP74
GBSP47	High Performance Concrete Structures	Discontinued
GBSP52	Porous Granular Embankment (Special)	Replaced by GBSP76
GBSP66	Wave Equation Analysis of Piles	Discontinued

INDEX LOCAL ROADS AND STREETS SPECIAL PROVISIONS

<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 SD406		<input type="checkbox"/> <b>RESCINDED</b>		
LR 102-2		<input type="checkbox"/> Bidding Requirements and Conditions for Contract Proposals	Jan. 1, 2001	Jan. 1, 2014
LR 105	208	<input checked="" type="checkbox"/> Cooperation with Utilities	Jan. 1, 1999	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	211	<input checked="" type="checkbox"/> Insurance	Feb. 1, 2007	Aug. 1, 2007
LR 107-7		<input type="checkbox"/> Wages of Employees on Public Works	Jan. 1, 1999	Jan. 1, 2014
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  
For the November 21, 2014 Letting

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

<u>File Name</u>	<u>Pg.</u>		<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80240			Above Grade Inlet Protection	July 1, 2009	Jan. 1, 2012
80099			Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2014
80274			Aggregate Subgrade Improvement	April 1, 2012	Jan. 1, 2013
80192			Automated Flagger Assistance Device	Jan. 1, 2008	
80173	212	X	Bituminous Materials Cost Adjustments	Nov. 2, 2006	Aug. 1, 2013
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
80292	215	X	Coarse Aggregate in Bridge Approach Slabs/Footings	April 1, 2012	April 1, 2013
80310	216	X	Coated Galvanized Steel Conduit	Jan. 1, 2013	Aug. 1, 2014
80341			Coilable Nonmetallic Conduit	Aug. 1, 2014	
80198			Completion Date (via calendar days)	April 1, 2008	
80199			Completion Date (via calendar days) Plus Working Days	April 1, 2008	
80293			Concrete Box Culverts with Skews > 30 Degrees and Design Fills ≤ 5 Feet	April 1, 2012	April 1, 2014
80294			Concrete Box Culverts with Skews ≤ 30 Degrees Regardless of Design Fill and Skews > 30 Degrees with Design Fills > 5 Feet	April 1, 2012	April 1, 2014
80311			Concrete End Sections for Pipe Culverts	Jan. 1, 2013	
80334	218	X	Concrete Gutter, Curb, Median, and Paved Ditch	April 1, 2014	Aug. 1, 2014
80277			Concrete Mix Design – Department Provided	Jan. 1, 2012	Jan. 1, 2014
* 80261	219	X	Construction Air Quality – Diesel Retrofit	June 1, 2010	Nov. 1, 2014
80335	222	X	Contract Claims	April 1, 2014	
80029	223	X	Disadvantaged Business Enterprise Participation	Sept. 1, 2000	Aug. 2, 2011
* 80265	233	X	Friction Aggregate	Jan. 1, 2011	Nov. 1, 2014
80229			Fuel Cost Adjustment	April 1, 2009	July 1, 2009
80329			Glare Screen	Jan. 1, 2014	
80303	237	X	Granular Materials	Nov. 1, 2012	
80304			Grooving for Recessed Pavement Markings	Nov. 1, 2012	Aug. 1, 2014
80246	238	X	Hot-Mix Asphalt – Density Testing of Longitudinal Joints	Jan. 1, 2010	April 1, 2012
* 80322			Hot-Mix Asphalt – Mixture Design Composition and Volumetric Requirements	Nov. 1, 2013	Nov. 1, 2014
* 80323			Hot-Mix Asphalt – Mixture Design Verification and Production	Nov. 1, 2013	Nov. 1, 2014
* 80347			Hot-Mix Asphalt – Pay for Performance Using Percent Within Limits – Jobsite Sampling	Nov. 1, 2014	
* 80348	240	X	Hot-Mix Asphalt – Prime Coat	Nov. 1, 2014	
80315			Insertion Lining of Culverts	Jan. 1, 2013	Nov. 1, 2013
80336			Longitudinal Joint and Crack Patching	April 1, 2014	
* 80324	245	X	LRFD Pipe Culvert Burial Tables	Nov. 1, 2013	Nov. 1, 2014
* 80325	265	X	LRFD Storm Sewer Burial Tables	Nov. 1, 2013	Nov. 1, 2014
80045			Material Transfer Device	June 15, 1999	Aug. 1, 2014
80342			Mechanical Side Tie Bar Inserter	Aug. 1, 2014	
80165			Moisture Cured Urethane Paint System	Nov. 1, 2006	Jan. 1, 2010
80337			Paved Shoulder Removal	April 1, 2014	
* 80349			Pavement Marking Blackout Tape	Nov. 1, 2014	
80330			Pavement Marking for Bike Symbol	Jan. 1, 2014	
80298			Pavement Marking Tape Type IV	April 1, 2012	

<u>File Name</u>	<u>Pg.</u>		<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80254	275	X	Pavement Patching	Jan. 1, 2010	
80331	276	X	Payrolls and Payroll Records	Jan. 1, 2014	
80332	278	X	Portland Cement Concrete – Curing of Abutments and Piers	Jan. 1, 2014	
80326	279	X	Portland Cement Concrete Equipment	Nov. 1, 2013	
80338			Portland Cement Concrete Partial Depth Hot-Mix Asphalt Patching	April 1, 2014	
80343			Precast Concrete Handhole	Aug. 1, 2014	
80300			Preformed Plastic Pavement Marking Type D - Inlaid	April 1, 2012	
80328	280	X	Progress Payments	Nov. 2, 2013	
80281	281	X	Quality Control/Quality Assurance of Concrete Mixes	Jan. 1, 2012	Jan. 1, 2014
34261			Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2006
80157			Railroad Protective Liability Insurance (5 and 10)	Jan. 1, 2006	
80306			Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)	Nov. 1, 2012	April 1, 2014
* 80350			Retroreflective Sheeting for Highway Signs	Nov. 1, 2014	
80327	282	X	Reinforcement bars	Nov. 1, 2013	
80283	284	X	Removal and Disposal of Regulated Substances	Jan. 1, 2012	Nov. 2, 2012
80319	288	X	Removal and Disposal of Surplus Materials	Nov. 2, 2012	
80344			Rigid Metal Conduit	Aug. 1, 2014	
80307	289	X	Seeding	Nov. 1, 2012	
80340			Speed Display Trailer	April 2, 2014	
80339			Stabilized Subbase	April 1, 2014	
80127	290	X	Steel Cost Adjustment	April 2, 2004	April 1, 2009
80317			Surface Testing of Hot-Mix Asphalt Overlays	Jan. 1, 2013	
80301			Tracking the Use of Pesticides	Aug. 1, 2012	
80333			Traffic Control Setup and Removal Freeway/Expressway	Jan. 1, 2014	
20338	294	X	Training Special Provisions	Oct. 15, 1975	
80318			Traversable Pipe Grate	Jan. 1, 2013	April 1, 2014
80345			Underpass Luminaire	Aug. 1, 2014	
80346			Waterway Obstruction Warning Luminaire	Aug. 1, 2014	
* 80288	297	X	Warm Mix Asphalt	Jan. 1, 2012	Nov. 1, 2014
80302	299	X	Weekly DBE Trucking Reports	June 2, 2012	
80289			Wet Reflective Thermoplastic Pavement Marking	Jan. 1, 2012	
80071			Working Days	Jan. 1, 2002	

The following special provisions are in the 2014 Supplemental Specifications and Recurring Special Provisions:

<u>File Name</u>	<u>Special Provision Title</u>	<u>New Location</u>	<u>Effective</u>	<u>Revised</u>
80309	Anchor Bolts	Articles 1006.09, 1070.01, and 1070.03	Jan. 1, 2013	
80276	Bridge Relief Joint Sealer	Article 503.19 and Sections 588 and 589	Jan. 1, 2012	Aug. 1, 2012
80312	Drain Pipe, Tile, Drainage Mat, and Wall Drain	Article 101.01, 1040.03, and 1040.04	Jan. 1, 2013	
80313	Fabric Bearing Pads	Article 1082.01	Jan. 1, 2013	
80169	High Tension Cable Median Barrier	Section 644 and Article 1106.02	Jan. 1, 2007	Jan. 1, 2013
80320	Liquidated Damages	Article 108.09	April 1, 2013	
80297	Modified Urethane Pavement Marking	Section 780, Articles 1095.09 and 1105.04	April 1, 2012	
80253	Moveable Traffic Barrier	Section 707 and Article 1106.02	Jan. 1, 2010	Jan. 1, 2013
80231	Pavement Marking Removal	Recurring CS #33	April 1, 2009	
80321	Pavement Removal	Article 440.07	April 1, 2013	
80022	Payments to Subcontractors	Article 109.11	June 1, 2000	Jan. 1, 2006

<u>File Name</u>	<u>Special Provision Title</u>	<u>New Location</u>	<u>Effective</u>	<u>Revised</u>
80316	Placing and Consolidating Concrete	Articles 503.06, 503.07, and 516.12	Jan. 1, 2013	
80278	Planting Woody Plants	Section 253 and Article 1081.01	Jan. 1, 2012	Aug. 1, 2012
80305	Polyurea Pavement Markings	Article 780.14	Nov. 1, 2012	Jan. 1, 2013
80279	Portland Cement Concrete	Sections 312, 503, 1003, 1004, 1019, and 1020	Jan. 1, 2012	Nov. 1, 2013
80218	Preventive Maintenance – Bituminous Surface Treatment	Recurring CS #34	Jan. 1, 2009	April 1, 2012
80219	Preventive Maintenance – Cape Seal	Recurring CS #35	Jan. 1, 2009	April 1, 2012
80220	Preventive Maintenance – Micro Surfacing	Recurring CS #36	Jan. 1, 2009	April 1, 2012
80221	Preventive Maintenance – Slurry Seal	Recurring CS #37	Jan. 1, 2009	April 1, 2012
80224	Restoring Bridge Approach Pavements Using High-Density Foam	Recurring CS #39	Jan. 1, 2009	Jan. 1, 2012
80255	Stone Matrix Asphalt	Sections 406, 1003, 1004, 1030, and 1011	Jan. 1, 2010	Aug. 1, 2013
80143	Subcontractor Mobilization Payments	Article 109.12	April 2, 2005	April 1, 2011
80308	Synthetic Fibers in Concrete Gutter, Curb, Median and Paved Ditch	Articles 606.02 and 606.11	Nov. 1, 2012	
80286	Temporary Erosion and Sediment Control	Articles 280.04 and 280.08	Jan. 1, 2012	
80225	Temporary Raised Pavement Marker	Recurring CS #38	Jan. 1, 2009	
80256	Temporary Water Filled Barrier	Section 708 and Article 1106.02	Jan. 1, 2010	Jan. 1, 2013
80273	Traffic Control Deficiency Deduction	Article 105.03	Aug. 1, 2011	
80270	Utility Coordination and Conflicts	Articles 105.07, 107.19, 107.31, 107.37, 107.38, 107.39 and 107.40	April 1, 2011	Jan. 1, 2012

The following special provisions require additional information from the designer. 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

**STATE OF ILLINOIS**

**SPECIAL PROVISIONS**

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction", Adopted January 1, 2012, the latest edition of the "Manual of Uniform Traffic Control Devices for Streets and Highways", the "Manual of Test Procedures for Materials" in effect on the date of invitation for bids, the latest edition of the Standard Specifications for Water and Sewer Main Construction in Illinois (SSWSCl), and the Supplemental Specifications and Recurring Special Provisions indicated on the Check Sheet included herein which apply to and govern the construction of Williams Road Bridge over the West Branch of the DuPage River, Section 09-00030-00-BR, Federal Project Number BRM-4003(344) in DuPage County, and in case of conflict with any part, or parts, of said Specifications, the said Special Provisions shall take precedence and shall govern.

**CONTRACT NO. 63761**

**LOCATION OF PROJECT**

The project is located at the Williams Road Bridge (existing SN 022-3024) over the West Branch of the DuPage River and extends from Batavia Road to Morris Court in the City of Warrenville, DuPage County. The project is located in the SE 1/4 of Section 27, Township 39 North, Range 9 East of the Third Principal Meridian. The gross and net length is 1,254 feet (0.238 miles).

**DESCRIPTION OF PROJECT**

This work consists of removing and replacing the existing bridge structure (proposed SN 022-3126). The proposed improvements consist of earth excavation, placement of aggregate subgrade, combination concrete curb and gutter, hot-mix asphalt binder, hot-mix asphalt surface course, hot-mix asphalt shoulder and aggregate shoulder, sidewalk, storm sewer, sanitary sewer, forcemain and water main installation, guard rail, PPC deck beams, PCC wearing surface, pavement marking, lighting, landscaping and all other appurtenant work required to complete the project in accordance with the plans, specifications and all other applicable standards. Williams Road will be closed to traffic during construction.

**MAINTENANCE OF ROADWAYS**

Effective: September 30, 1985

Revised: November 1, 1996

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

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

### **COMPLETION DATE**

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

Interim and final completion dates have been set for this contract as noted below. Should the Contractor fail to complete the work on or before the interim or final completion dates stipulated or within such extended time as may have been allowed, liquidated damages as stated in Article 108.09 of the Standard Specifications shall be assessed.

Sanitary sewer from STA 18+20 (LT) to STA 23+23 (LT) fully constructed, tested and operational.

Interim Completion Date: May 14, 2015

Completion Date (work substantially complete and roadway open to traffic): November 16, 2015

After the completion date, an additional 5 working days will be allowed to complete punch list items and other off road work items.

ComEd will move the power poles in two phases. Phase I is scheduled to begin on October 13, 2014 and last four weeks (ComEd duration only). The work in this phase will consist of moving all poles on the east side of Williams Road and associated line work. The pole at STA 20+25.10, 17.6' LT will be braced and the guy wires removed as part of this Phase I work. Comcast and AT&T will then follow ComEd with their Phase I work.

Phase II will start on May 15, 2015 and last one to two weeks (ComEd duration only). The work in this phase will consist of moving all poles on the west side of Williams Road and associated line work. The completion date of May 14, 2015 specified above is required to allow ComEd to proceed with setting the new poles as a part of their Phase II work. Comcast and AT&T will then follow ComEd with their Phase II work.

See the STATUS OF UTILITIES TO BE ADJUSTED Special Provision for additional information.

It is the intent of the Department and the City of Warrenville that the project be constructed in an orderly and timely manner. The Contractor shall take special note of the provisions of Article 105.06, Article 108.02 and 108.08 of the Standard Specifications, which shall be enforced.

### **PROTECTION OF TREES**

Extra care shall be exercised when operating equipment around trees or shrubs to remain, including protecting the tree trunks, branches, and roots from damage. All pruning and protection in accordance with Section 201 of the Standard Specifications will not be paid for separately but shall be included in the contract.

**STATUS OF UTILITIES TO BE ADJUSTED**

Effective: January 30, 1987

Revised: January 24, 2013

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

<b><u>Name of Utility</u></b>	<b><u>Type</u></b>	<b><u>Location</u></b>	<b><u>Estimated Duration of Time for the Completion of Relocation or Adjustments</u></b>
AT&T 65 W. Webster St. Floor 1 Joliet, IL 60432 Attn: John Evers (815) 727-8017	Phone	Cables on ComEd Poles, Two underground cables on West Side (Morris to End of Project)	Cable (on pole) relocations and cable (underground) relocations; Early in construction (after ComEd moves poles); 4-5 weeks for Phase I, 2 weeks for Phase II.
ComEd 1N423 Swift Road Lombard, IL 60148 Attn: Ana Kunze (630) 437-2129	Overhead Electric	Lines and poles on East Side of Williams Rd (Batavia to Morris) and West Side (Morris to End of Project), Underground on west side of Williams Road north of the river	Pole and cable relocations and potential underground relocations; Phase I (east side of road) scheduled to begin on October 13, 2014 and last 4 weeks; Phase II (west side of road) to start on May 15, 2015 and last 1-2 weeks; See Completion Date specification for more information
Comcast 688 Industrial Drive Elmhurst, IL 60126 Attn: Martha Gieras (630) 600-6352	Cable TV	Cables on ComEd Poles	Cable (on pole) relocations; Early in construction (after ComEd moves poles); 1 week for Phase I, 1 week for Phase II.
Nicor Gas 1844 Ferry Road Naperville, IL 60563 Attn: Connie Lane (630) 388-2362	Gas Main	East Side of Williams Road	Gas main relocations; 3-4 weeks; completed as of July 25, 2014.
City of Warrenville 3S258 Manning Ave Warrenville, IL 60555 Attn: Michael Smith (630) 393-9050	Water Main, Sanitary Sewer	Water Main and Sanitary Sewer on Batavia Road. No existing facilities on Williams Road.	No conflicts anticipated.

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

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

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

**EARTH EXCAVATION, CHANNEL EXCAVATION, FURNISHED EXCAVATION AND EMBANKMENT**

This work shall be in accordance with Sections 202, 203, 204 and 205 of the Standard Specifications insofar as applicable and the following provisions.

Earth Excavation shall not include removal of any existing hot-mix asphalt pavement; pavement removal shall be paid for separately.

All topsoil stripping within the project limits shall be included in the cost of Earth Excavation. Excavation for the roadway has been computed on the basis of cut and fill to the subgrade of the proposed topsoil.

The excavation of material between the existing and proposed bridge abutments on the south side of the bridge shall be paid for as Channel Excavation as shown in the plans.

It is the intent of the contract to use on-site excavated material and Furnished Excavation for embankment throughout the improvement. If on-site material is not available for use as embankment, Furnished Excavation may be used as approved by the Engineer. Embankment shall not be paid for separately but shall be included in the cost of Earth Excavation or Furnished Excavation as appropriate.

Earth moved more than once due to construction staging, stockpiling, or procedures selected by the Contractor will not be paid for separately but shall be considered included in the cost of Earth Excavation, Channel Excavation or Furnished Excavation as appropriate. The Contractor shall provide a staging schedule to the Engineer for approval, which shall include the staging of earthwork and underground construction.

Payment shall be based on actual volume of excavation completed in accordance with Article 104.02 of the Standard Specifications.

Earth Excavation to be used as embankment may require a reduction in moisture content that typically can be achieved by spreading the material in a single lift and aerating with a continuous disking operation. All embankments shall be constructed according to Section 205 of the Standard Specifications.



### **GRADING AND SHAPING DITCHES**

This work shall be in accordance with Section 214 of the Standard Specifications insofar as applicable and the following provisions.

This work consists of grading and shaping ditches to provide adequate drainage at locations shown on the plans and according to the details in the plans. The top four inches of material of the final graded ditches shall be topsoil. If required, the Contractor shall excavate additional material in order to place four inches of topsoil.

No extra payment shall be provided for removal of surplus material. Surplus material shall be disposed of on-site.

This work will be paid for at the Contract unit price per foot for GRADING AND SHAPING DITCHES including any necessary excavation, disposal of excess material, and shaping required to provide a continuous slope for drainage. The placement of topsoil, seed, fertilizer and mulch on these areas shall be paid for separately.

### **EROSION CONTROL**

This work shall be in accordance with Sections 250, 251, 280, and 281 of the Standard Specifications insofar as applicable and the following provisions.

Major changes to the Erosion Control Plans should be avoided.

Recommendations by the Engineer shall be implemented. The Contractor, with the consent of the Engineer, may increase erosion-control measures to protect against sediment transport from the construction site.

Costs incurred by penalties, obtaining additional permits, or delays due to insufficient maintenance or construction of the erosion-control measures shall be at the Contractor's expense, with no additional compensation.

The Contractor shall comply with the following standards:

- Unless otherwise indicated, all vegetative and structural erosion and sediment control practices will be constructed according to minimum standards and specifications in the Illinois Urban Manual.
- A copy of the approved erosion control plan shall be maintained on the site at all times.
- Prior to commencing land-disturbing activities in areas other than indicated on these plans (including but not limited to additional phases of development and off-site borrow or waste areas), a supplementary erosion-control plan shall be submitted to the City and Engineer for review.
- The Contractor is responsible for installation of any additional erosion-control measures necessary to prevent erosion and sedimentation as determined by the City and Engineer.

- The Contractor shall allow a City, National Resource Conservation District (NRCS) or Army Corps of Engineers District representative the right to conduct on-site investigations through all active construction phases to determine whether all necessary soil erosion and sediment control practices have been installed and are functioning properly.

When water is encountered in a trench or any excavation, it shall be removed during construction operations. During dewatering operations, water shall be pumped into an above ground dewatering/pumping basin. Dewatering directing into field tiles, stormwater structures, sanitary sewer, or the river is prohibited.

Dewatering and above ground dewatering/pumping basin work shall be in accordance the details shown in the plans, the manufacturer's recommendations and the special provision below.

#### DEWATERING

The Contractor shall be solely responsible for the choice of product(s) and equipment; for the design, installation and operation; as well as "means and methods" of performing the work; and subsequent removal of dewatering systems and their safety and conformity with local codes, regulations and these specifications. All product(s), equipment and "means and methods" selected shall be adequate for the intended use/application.

Contractor shall submit a dewater plan to the Kane DuPage Soil and Water Conservation District. No work shall begin until the agency has signed off on the submittal. A description of dewatering techniques and equipment to be used, together with detail drawings showing lengths of discharge piping and point(s) of discharge including erosion control procedures.

The review does not relieve the Contractor from compliance with the requirements of the drawings, specifications or this special provision. The review of dewatering techniques and equipment shall in no way be construed as creating any obligation on the part of Engineer or reviewing agencies.

The Contractor shall select the pumps he/she desires to use and the rate at which the pumps discharge, but adequate protection at the pump discharge shall be provided by the Contractor. The Contractor shall ensure that downstream water quality shall not be impaired.

At all times during the excavation period and until completion and acceptance of the Work at Final Inspection, ample means and equipment shall be provided with which to remove promptly and dispose of properly all water entering any excavation or any other parts of the Work.

All water pumped from the work pad area of the site shall be deposited into the Above Ground Dewatering/Pumping Basin.

Dewatering will not be paid for separately but shall be included in the cost of the contract. This includes the cost of providing all labor, tools, equipment and materials necessary to dewater the

related work areas of the project to relatively dry conditions and maintain suitable working conditions so that the modifications/improvements may be constructed in the dry.

ABOVE GROUND DEWATERING/PUMPING BASIN

The Contractor shall submit a design and an installation, maintenance, clean out, disposal and removal plan for the above ground dewatering/pumping basin to the Engineer for review by the Kane DuPage Soil and Water Conservation District. No work shall begin until the agency has signed off on the submittal.

The review does not relieve the Contractor from compliance with the requirements of the drawings, specifications or this special provision. The review of the submittal shall in no way be construed as creating any obligation on the part of the Engineer or reviewing agencies.

The Contractor shall provide a storage tank, into which all dewatering and/or pumping operations shall outfall. Water from the Concrete Washout will not be permitted to pass through the basin. The storage tank shall contain a system of baffles to slow the flow of water, allowing suspended soil particles to fall out. The use of polymers is strongly recommended in order to reduce the time the water must remain in the tank. The polymers must be documented to be environmentally friendly and to not harm fish or wildlife. The sediment shall be removed from the tank when 50% of the tank capacity is filled with sediment.

Above Ground Dewatering/Pumping Basin will not be paid for separately but shall be included in the cost of the contract. This includes the cost of providing all labor, tools, equipment and materials necessary to design, install, maintain, clean out and remove an above ground dewatering/pumping basin.

TURF REINFORCEMENT MAT

This work shall be in accordance with Section 251 of the Standard Specifications insofar as applicable and the following provisions.

This work consists of installing a permanent turf reinforcement mat at the locations shown on the plan and as directed by the Engineer.

This work will be paid for at the contract unit price per square yard for TURF REINFORCEMENT MAT. This price shall include all material, equipment, and labor necessary for a complete installation.

EROSION CONTROL BLANKET

This work shall be in accordance with Section 251 of the Standard Specifications insofar as applicable and the following provisions.

The erosion control blanket shall be installed according to Article 251.04 of the Standard Specifications and shall be "Futerra" as manufactured by Profile Products, 750 Lake Cook Road, Suite 400, Buffalo Grove, IL 60089.

Failure of the erosion control blanket to prevent slope erosion shall be corrected within 24 hours or before any precipitation as predicted by the National Weather Service for Warrenville, Illinois, or as directed by the Engineer. Maintenance of the failed erosion control blanket shall include additional topsoil, seeding of the type specified for the area, and additional erosion control blanket (if necessary) at no additional compensation to the Contractor.

This work shall be measured in place and paid for at the contract unit price per square yard of EROSION CONTROL BLANKET. This price shall include earth staples, excelsior blanket, and all material, equipment, and labor necessary for a complete installation.

### **TEMPORARY EROSION CONTROL**

Maintenance of the temporary erosion control systems in accordance with Article 280.05 of the Standard Specifications, including replacement if necessary, shall not be paid for but shall be included in the contract unit price for the installed system. Removal of temporary erosion control items shall occur only upon approval of the Engineer.

Maintenance of temporary erosion control systems, including repair of various systems, removal of entrapped sediment and cleaning of any silt filter fabric, will not be paid for separately but shall be included in the contract unit price for each temporary erosion control system. If the Contractor fails to maintain the temporary erosion control systems as directed by the Engineer, the Engineer is required to file an Incidence of Non-Compliance (ION) with the Illinois Environmental Protection Agency, as required by the Storm Water Pollution Prevention Plan.

### **AGGREGATE FOR TEMPORARY ACCESS**

This work shall be in accordance with Section 402 of the Standard Specifications insofar as applicable and the following provisions.

The Contractor shall maintain ingress and egress to all abutting properties during construction operation. Temporary driveways and temporary roads shall be constructed of aggregate to the dimensions determined by the Engineer.

This work shall be in accordance with Articles 107.09, 301.05, and 1004.04 of the Standards Specifications, with the exception that the materials shall be limited to crushed gravel, crushed stone, or crushed concrete. The plasticity index requirements and the requirements for adding water at the central mixing plant will be waived.

After the temporary driveways and temporary roads have served their purpose, the suitable aggregate shall be removed, and at the direction and approval of the Engineer, utilized for other purposes such as embankment construction or other driveway aprons.

This work shall be paid for at the contract unit price per ton for AGGREGATE FOR TEMPORARY ACCESS, which price shall be payment in full for furnishing, transporting, placing, maintaining and removing, reusing, or disposing of the aggregate, herein specified and as directed by the Engineer.

Payment for aggregate will be determined by weight tickets and will be paid for its initial use only, regardless of the number of times the aggregate is moved.

### **INCIDENTAL HOT-MIX ASPHALT SURFACING**

This work shall be in accordance with Section 408 of the Standard Specifications insofar as applicable and the following provisions.

This item is to be used as temporary asphalt ramps or patches throughout construction of the project as directed by the Engineer. This item may be used adjacent to entrances, at drainage structures located at low spots in the curb line (to allow for positive drainage), at the approach slab to the bridge, or as directed by the Engineer.

If this item is used, the temporary ramps shall be removed just prior to placing the final surface course. The removal and disposal of the asphalt shall be included in this pay item.

This work will be paid for at the contract unit price per ton for INCIDENTAL HOT-MIX ASPHALT SURFACING which price shall include all material, labor, and equipment necessary for a complete installation and removal.

### **DUCTILE IRON WATER MAIN**

This work shall be in accordance with Section 561 of the Standard Specifications, the SSWSCI, and the City of Warrenville Standard Specifications for Water Main, Sanitary Sewer, and Storm Sewer (City Specifications) insofar as applicable and the followings provisions:

- Piping: Class 52 ductile iron conforming to AWWA C-151 and ANSI A21.51 with cement mortar lining conforming to AWWA C-104.
- Joints: Push-on joint conforming to AWWA C-111
- Fittings: Ductile iron, 250 psi pressure rating, cement mortar lined with restrained push-on joint or mechanical joint with MEGALUG retainer glands.
- Water Main Bolts, Nuts, Springs, and Washers: Stainless steel ASTM 304.

- **Restrained Joints:** All fittings shall have restrained joints. All water main piping in casing shall have restrained joints. Restrained joints shall be push-on joints with a field lock gasket or a mechanical joint with MEGALUG retainer glands. All bends, tees, and dead end piping must be restrained in accordance with the detail provided in the construction plans.

All ductile iron pipes and fittings are required to be encased in 8-mil polyethylene conforming to AWWA C-105.

It shall be the responsibility of the Contractor to obtain and supply certification for all materials. Certification shall be submitted to and approved by the Engineer before installation.

Depth of bury for the water main is 5.5' (minimum) and as indicated on the contract plans. Excavation and backfill for water mains shall conform to the details shown in the plans and shall conform to the provisions of Sections 20, 21 and 22 of the SSWSCI.

The pipe shall be laid on sound soil cut true and even so that the barrel of the pipe will have a bearing for its full length. Bell holes shall be excavated for joints. Any part of the trench excavated below grade shall be corrected with an approved material and thoroughly compacted.

When water is encountered in the trench, it 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. Dewatering, if required, shall be considered included in the cost of the Contract.

Thrust concrete blocking of all fittings, hydrants, and dead end piping is required.

The Contractor shall perform Hydrostatic Tests in accordance with Section 41-2.14 of the SSWSCI, and applicable provisions of AWWA C 600 and C 603. The water mains shall maintain a 150 psi average for up to 4 hours during the test. Allowable leakage shall be as set forth in SSWSCI, and at no time shall the pressure loss be greater than 2 psi. Duration of the test shall be two (2) hours minimum. The pressure gauge should be of good quality and condition, and be fluid filled. The pressure gauge shall have a minimum accuracy of one (1) psi. The testing length shall be limited to 1,000 lineal feet. If more than 1,000 lineal feet of water main is tested, the allowable leakage will be based upon 1,000 lineal feet. The City water operator in charge or person authorized by the City water operator in charge shall be present during all testing. The Contractor shall use a pressure gauge supplied by the City for the test.

Upon completion of the newly laid water main, the water main shall be disinfected in accordance with the American Water Works Association, Procedure Designation, AWWA C-651. The Contractor is responsible for collecting samples and having bacteriological testing performed as required by the Illinois Environmental Protection Agency (IEPA). The City and Engineer shall be present when the samples are taken.

Water samples collected on two (2) successive days from the treated piping system shall show satisfactory bacteriological results. Bacteriological analyses must be performed by a laboratory certified by the IEPA and approved by the Engineer.

Should the initial treatment result in an unsatisfactory bacterial test, the original chlorination procedure shall be repeated by the Contractor until satisfactory results are obtained.

The Contractor shall furnish to the City the required documentation, test results, etc., required by the IEPA for placing the water main in service.

Upon completion, the system should be thoroughly flushed with fresh potable water and retested to verify the disinfectant chlorine level has been reduced to potable drinking water concentrations in all water services and branch lateral pipes.

Trench backfill will be paid for separately. Ductile iron fittings required to construct the water main are included in the cost of the WATER MAIN.

Basis of Payment. This work shall be paid for at the contract unit price per foot for DUCTILE IRON WATER MAIN of the size specified which shall include fittings, removal and disposal of excavated material, dewatering, and all labor, materials, and equipment necessary to complete the work. The contract unit price per foot for DUCTILE IRON WATER MAIN also includes all necessary labor and materials to pressure test, disinfect, and test the water main, all as required to place the water main in service in accordance with the IEPA regulations.

## **WATER VALVES**

This work shall be in accordance with Section 561 of the Standard Specifications, SSWSCI, and the City Specifications insofar as applicable and the following provisions. This work shall consist of furnishing and installing gate valves, of the specified size.

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

All valves shall be in accordance with AWWA C-509, latest revision, and shall be resilient wedge gate valves manufactured by Mueller, Waterous, or Clow. All bolts, nuts, springs, and washers shall be stainless steel ASTM 304.

Gate Valves shall be installed with Wedge Action Retainer Glands. Valves shall be furnished with mechanical joint connections and restrained with Mega Lugs. Valves twelve inch (12") and smaller shall be bubble tight at 200 psi water working pressure. All gate valves shall have a non-rising stem, shall have a standard 2" square operating nut and shall open in a counter-clockwise direction.

Each valve shall have manufacturer's name, pressure rating and year in which manufactured cast on the body. Prior to shipment from the factory, each valve shall be tested by hydrostatic pressure equal to twice the specified working pressure.

Basis of Payment. This work shall be paid for at the contract unit price each for WATER VALVES, of the size specified, which price shall include providing and installing the valve, retaining glands, fittings, and all materials, labor, and equipment for a complete installation.

### **WATER SERVICE LINE**

This work shall be in accordance with Section 562 of the Standard Specifications, the SSWSCI, and the City Specifications insofar as applicable and the following provisions.

The location of the water services shown on the drawings is for reference only. The final location for any service shall be determined by City staff prior to the start of any work. All taps shall be witnessed by a representative of the City or Engineer.

All water service lines shall be placed at a minimum depth of 5.5 feet and a maximum depth of 6.5 feet.

The minimum water service size is 1". Type "K" copper pipe shall be the only material permitted.

Per Illinois Plumbing Code, all water service connections and water services shall be installed by a plumber licensed in the State of Illinois.

Trench backfill shall be included in the cost of the water service line.

Basis of Payment. This work shall be paid for at the contract unit price per foot for WATER SERVICE LINE, of the size specified, which shall include removal and disposal of excavated material, trench backfill, and all labor, materials, and equipment necessary to complete the work.

### **CORPORATION STOPS**

This work shall be in accordance with Section 562 of the Standard Specifications, the SSWSCI, and the City Specifications insofar as applicable and the following provisions. This work shall include tapping the water main and furnishing and installing the corporation stop for the water service connections and on each side of the valve at STA 14+35 and STA 16+10 to allow insertion of a small meter to determine leakage and obtain water samples.

The location of the water services shown on the drawings is for reference only. The final location for any service shall be determined by City staff prior to the start of any work. All taps shall be witnessed by a representative of the City or their designated representative.

All corporation stops shall be brass and manufactured by Mueller with a 1" compression connection and a stainless steel retaining ring. Compression fittings must be of the stainless full circle ring retainage. No set screws are allowed. Flair fittings are acceptable.

Tapping saddles shall be epoxy coated ductile with two stainless steel bands or stainless steel saddles manufactured in the USA.

Per Illinois Plumbing Code, all water service connections and water services shall be installed by a plumber licensed in the state of Illinois.

Basis of Payment. This work shall be paid for at the contract unit price per each for CORPORATION STOPS, of the size specified, which shall include removal and disposal of excavated material, and all labor, materials, and equipment necessary to complete the work.



## **FIRE HYDRANT COMPLETE**

This work shall be in accordance with Section 564 of the Standard Specifications, SSWSCI insofar as applicable and the following provisions. This work includes providing and installing the tee (MJ) at the water main, the 6" ductile iron class 52 water main pipe lead, hydrant, auxiliary valve and valve box, fittings, retaining glands, cross-arm, backfill material, trench backfill, disposal of removed material, and thrust blocking as detailed on the plans.

Hydrants shall be FM approved and UL listed, shall conform to AWWA C-502, and shall be manufactured conforming to the current AWWA Specifications C-502-05, "Standard for Dry Barrel Fire Hydrants" and be of the break away style traffic design.

Hydrant operating threads shall be contained in an oil cup reservoir, sealed away from water, moisture and foreign matter by utilizing o-ring seals and shall further be protected by the use of a weather shield and nut.

Hydrants shall be installed so that nozzles are 18" to 24" above the hydrant ground line to fully comply with the National Fire Protection Association, Fire Protection Handbook, 20<sup>th</sup> Edition.

All contractors/suppliers shall include (A) a detailed drawing, including a parts list indicating the material construction and applicable ASTM Standards for each part or item; and, (B) flow data for the proposed hydrant if requested.

Hydrants shall be equipped with automatic drains.

Fire Hydrants to be supplied shall be Mueller Centurion, Clow Medallion or Waterous WB67-250 (break away style traffic design). The main valve opening shall be five and one quarter inch (5-1/4") in diameter, compression type, with a brass drain valve. Nozzles shall have threaded male ends conforming to "American National Standard Fire Hose Connection Screw Threads." The hydrant shall have two 2.5" nozzles and one 4.5" pumper nozzle with caps and chains. Hydrants shall have a minimum working pressure of 175 psi. Hydrants shall open in a counter-clockwise direction, as indicated by the CITY and the word "OPEN" on the dome.

Hydrants shall be painted a high visibility red, factory applied paint. Hydrant installations shall have a minimum of 5.5' depth of cover. All hydrants shall have a bronze cross arm/ top plate. Connecting piping shall be six-inch (6") diameter.

Hydrants shall have a six-inch (6") auxiliary gate valve with box on the water main lead. The 6" auxiliary gate valve shall be manufactured by Mueller, Waterous, or Clow, and the valve box shall be cast iron. Auxiliary valve attached to hydrant shall have stainless steel bolts, nuts, and washers at the flange inlet. Connection of six-inch (6") water main lead shall be restrained joints from the tee at the water main to the inlet of the hydrant with field lock gaskets for push-on joint and MEGALUG retainer glands for mechanical joint.

All bolts, nuts, springs, and washers shall be stainless steel ASTM 304 from and including the breakaway flange to the inlet on the hydrant shoe.

Basis of Payment. This work shall be paid for at the contract unit price each for FIRE HYDRANT COMPLETE which price shall include providing and installing the tee (MJ) at the water main, the 6" ductile iron class 52 water main pipe lead, hydrant, auxiliary valve and valve box, fittings, retaining glands, cross-arm, backfill material, trench backfill, disposal of removed material, thrust blocking as detailed on the plans, and all material, labor, and equipment for a complete installation.

## **FIRE HYDRANTS**

This work shall be in accordance with Section 564 of the Standard Specifications, the SSWSCI, and the City Specifications insofar as applicable and the following provisions. This work includes providing and installing the hydrant, fittings, retaining glands, cross-arm, backfill material, trench backfill, disposal of removed material, and thrust blocking as detailed on the plans.

Hydrants shall be FM approved and UL listed, shall conform to AWWA C-502, and shall be manufactured conforming to the current AWWA Specifications C-502-05, "Standard for Dry Barrel Fire Hydrants" and be of the break away style traffic design.

Hydrant operating threads shall be contained in an oil cup reservoir, sealed away from water, moisture and foreign matter by utilizing o-ring seals and shall further be protected by the use of a weather shield and nut.

Hydrants shall be installed so that nozzles are 18" to 24" above the hydrant ground line to fully comply with the National Fire Protection Association, Fire Protection Handbook, 20<sup>th</sup> Edition.

All contractors/suppliers shall include (A) a detailed drawing, including a parts list indicating the material construction and applicable ASTM Standards for each part or item; and, (B) flow data for the proposed hydrant if requested.

Hydrant shall be equipped with automatic drain.

Fire Hydrants to be supplied shall be Mueller Centurion, Clow Medallion or Waterous WB67-250 (break away style traffic design). The main valve opening shall be five and one quarter inch (5-1/4") in diameter, compression type, with a brass drain valve. Nozzles shall have threaded male ends conforming to "American National Standard Fire Hose Connection Screw Threads." The hydrant shall have two 2.5" nozzles and one 4.5" pumper nozzle with caps and chains. Hydrants shall have a minimum working pressure of 175 psi. Hydrants shall open in a counter-clockwise direction, as indicated by the CITY and the word "OPEN" on the dome.

Hydrants shall be painted a high visibility red, factory applied paint. Hydrant installations shall have a minimum of 5.5' depth of cover. All hydrants shall have a bronze cross arm/ top plate. Connecting piping shall be six-inch (6") diameter.

Hydrants shall have a six-inch (6") auxiliary gate valve with box on the inlet piping. The 6" auxiliary gate valve shall be manufactured by Mueller, Waterous, or Clow, and the valve box

shall be cast iron. Auxiliary valve attached to hydrant shall have stainless steel bolts, nuts, and washers at the flange inlet. Connection of six-inch (6") piping shall be restrained joints from the reducer at the water main to the inlet of the hydrant with field lock gaskets for push-on joints and MEGALUG retainer glands for mechanical joints.

All bolts, nuts, springs, and washers shall be stainless steel ASTM 304 from and including the breakaway flange to the inlet on the hydrant shoe.

Basis of Payment. This work shall be paid for at the contract unit price each for FIRE HYDRANTS which price shall include providing and installing the hydrant, fittings, retaining glands, cross-arm, backfill material, trench backfill, disposal of removed material, and thrust blocking as detailed on the plans and all materials, labor, and equipment for a complete installation.

### **DOMESTIC WATER SERVICE BOXES**

This work shall be in accordance with Section 565 of the Standard Specifications, the SSWSCI, and the City Specifications insofar as applicable and the following provisions. This work shall include the furnishing and installation of the curb stop and curb box, joint materials and other required fittings.

The location of the water service connections on the drawings is for reference only. The final location for any service shall be determined by City staff prior to the start of any work.

All curb stops shall be Mueller. Ball type roundways shall have a compression connection with a stainless steel retaining ring.

All curb boxes shall be Mueller, Arch Pattern Base Curb Box with 1" iron pipe upper section, pentagon nut access, and a 36" epoxy coated stationary rod, enlarged base for 1-1/2" roundways and larger. The box shall have an extended range of five and a half feet (5.5').

Per Illinois Plumbing Code, all water service connections and water services shall be installed by a plumber licensed in the State of Illinois.

Basis of Payment. This work shall be paid for at the contract unit price per each for DOMESTIC WATER SERVICE BOXES, which shall include removal and disposal of excavated material, and all labor, materials, and equipment necessary to complete the work. The curb stop and curb box, joint materials, other required fittings, backfill, and trench backfill are included in the cost of the DOMESTIC WATER SERVICE BOXES.

### **TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT**

This work shall be in accordance with Section 631 of the Standard Specifications insofar as applicable, the detail in the plans and the following provisions.

This work consists of installing a Traffic Barrier Terminal Type 1 (Special) Tangent per the detail in the plans. The length of the Terminal section shall be 37'6".

This work will be paid for at the contract unit price per each for TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT. This price shall include all material, equipment, and labor necessary for a complete installation.

### **TRAFFIC CONTROL PLAN**

Effective: September 30, 1985

Revised: January 1, 2007

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

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

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

### **STANDARDS:**

- 701006-05, Off-Rd Operations, 2L, 2W, 15' (4.5 m) to 24" (600 mm) from pavement edge
- 701301-04, Lane Closure, 2L, 2W, Short Time Operations
- 701311-03, Lane Closure 2L, 2W Moving Operations – Day Only
- 701501-06, Urban Lane Closure, 2L, 2W, Undivided
- 701801-05, Sidewalk, Corner or Crosswalk Closure
- 701901-03, Traffic Control Devices
- B.L.R. 21-9, Typical Application of Traffic Control Devices for Construction on Rural Local Highways
- B.L.R. 22-7, Typical Application of Traffic Control Devices for Construction on Rural Local Highways (Two-Lane Two Way Rural Traffic) (Road Closed to Thru Traffic)

### **DETAILS:**

- District Standard TC-10, Traffic Control and Protection for Side Roads, Intersections, and Driveways
- District Standard TC-13, Typical Pavement Markings
- District Standard TC-21, Detour Signing for Closing State Highways

### **SPECIAL PROVISIONS:**

- Maintenance of Roadways

- Traffic Control and Protection (Arterials)
- Pavement Patching (BDE)

### **TRAFFIC CONTROL AND PROTECTION (ARTERIALS)**

Effective: February 1, 1996

Revised: March 1, 2011

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

Method of Measurement: All traffic control (except Changeable Message Signs) indicated on the traffic control plan details and specified in the Special Provisions will be measured for payment on a lump sum basis.

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

Temporary Pavement Markings will be paid for separately, unless shown on a standard.

### **ELECTRIC SERVICE INSTALLATION**

**Description.** This item shall consist of all material and labor required to extend, connect or modify the electric services, as indicated or specified, which is over and above the work performed by the utility. Unless otherwise indicated, the cost for the utility work, if any, will be reimbursed to the Contractor separately under ELECTRIC UTILITY SERVICE CONNECTION. This item may apply to the work at more than one service location and each will be paid separately. Service will be required to the lighting controller and sanitary sewer lift station control panel. Meters shall be of the type approved by ComEd and shall be mounted on the main controller in a location approved by the City and ComEd.

**Materials.** Materials shall be in accordance with the Standard Specifications.

#### **CONSTRUCTION REQUIREMENTS**

**General.** The Contractor shall ascertain the work being provided by the electric utility and shall provide all additional material and work not included by other contract pay items required to complete the electric service work in complete compliance with the requirements of the utility, National Electrical Code NFPA 70 and City ordinances.

No additional compensation will be allowed for work required for the electric service, even though not explicitly shown on the Drawings or specified herein.

**Method Of Measurement.** Electric Service Installation shall be counted, each.

**Basis of Payment.** This work will be paid for at the contract unit price each for **ELECTRIC SERVICE INSTALLATION** which shall be payment in full for the work specified herein.

## **ELECTRIC UTILITY SERVICE CONNECTION**

**Description.** This item shall consist of payment for work performed by ComEd in providing or modifying electric service as indicated. THIS MAY INVOLVE WORK AT MORE THAN ONE ELECTRIC SERVICE. Refer to ComEd Service Entrance Sketch for additional information.

### **CONSTRUCTION REQUIREMENTS**

**General.** It shall be the Contractor's responsibility to contact ComEd. The Contractor shall coordinate his work fully with ComEd both as to the work required and the timing of the installation. No additional compensation will be granted under this or any other item for extra work caused by failure to meet this requirement. **Please contact ComEd, New Business Call Center, at 866-NEW-ELECTRIC (1-866-639-3532) to begin the service connection process. The Call Center Representatives will create a work order for the service connection. The representative will ask the requestor for information specific to the request. The representatives will assign the request based upon the location of the project.**

The Contractor should make particular note of the need for the earliest attention to arrangements with ComEd for service. In the event of delay by ComEd, no extension of time will be considered applicable for the delay unless the Contractor can produce written evidence of a request for electric service within 30 days of execution.

**Method Of Payment.** The Contractor will be reimbursed to the contract amount of money as billed by ComEd for its services. Work provided by the Contractor for electric service will be paid separately as described under ELECTRIC SERVICE INSTALLATION. No extra compensation shall be paid to the Contractor for any incidental materials and labor required to fulfill the requirements as shown on the plans and specified herein.

For bidding purposes, this item shall be estimated as \$10,000.00.

**Basis of Payment.** This work will be paid for at the contract unit price each for **ELECTRIC UTILITY SERVICE CONNECTION** which shall be reimbursement in full for electric utility service charges.

## **UNIT DUCT**

Effective: January 1, 2012

Revise the first paragraph of Article 810.04 to read:

"The unit duct shall be installed at a minimum depth of 30-inches (760 mm) unless otherwise directed by the Engineer."

Revise Article 1088.01(c) to read:

"(c) Coilable Nonmetallic Conduit.

**General:**

The duct shall be a plastic duct which is intended for underground use and which can be manufactured and coiled or reeled in continuous transportable lengths and uncoiled for further processing and/or installation without adversely affecting its properties of performance. The duct shall be a plastic duct which is intended for underground use and can be manufactured and coiled or reeled in continuous transportable lengths and uncoiled for further processing and/or installation without adversely affecting its properties of performance.

The duct shall be made of high density polyethylene which shall meet the requirements of ASTM D 2447, for schedule 40. The duct shall be composed of black high density polyethylene meeting the requirements of ASTM D 3350, Class C, Grade P33. The wall thickness shall be in accordance with Table 2 for ASTM D 2447.

The duct shall be UL Listed per 651-B for continuous length HDPE coiled conduit. The duct shall also comply with NEC Article 354.100 and 354.120.

Submittal information shall demonstrate compliance with the details of these requirements.

**Dimensions:**

Duct dimensions shall conform to the standards listed in ASTM D2447. Submittal information shall demonstrate compliance with these requirements.

<b>Nominal Size</b>		<b>Nominal I.D.</b>		<b>Nominal O.D.</b>		<b>Minimum Wall</b>	
mm	in	mm	in	mm	in	mm	in
31.75	1.25	35.05	1.380	42.16	1.660	3.556 +0.51	0.140 +0.020
38.1	1.50	40.89	1.610	48.26	1.900	3.683 +0.51	0.145 +0.020

<b>Nominal Size</b>		<b>Pulled Tensile</b>	
mm	in	N	lbs
31.75	1.25	3322	747
38.1	1.50	3972	893

**Marking:**

As specified in NEMA Standard Publication No. TC-7, the duct shall be clearly and durably marked at least every 3.05 meters (10 feet) with the material designation (HDPE for high density polyethylene), nominal size of the duct and the name and/or trademark of the manufacturer.

Performance Tests:

Polyethylene Duct testing procedures and test results shall meet the requirements of UL 651. Certified copies of the test report shall be submitted to the Engineer prior to the installation of the duct. Duct crush test results shall meet or exceed the following requirements:

Duct Diameter		Min. force required to deform sample 50%	
mm	in	N	lbs
35	1.25	4937	1110
41	1.5	4559	1025

**WIRE AND CABLE**

Effective: January 1, 2012

Add the following to the first paragraph of Article 1066.02(a):

“The cable shall be rated at a minimum of 90°C dry and 75°C wet and shall be suitable for installation in wet and dry locations, and shall be resistant to oils and chemicals.”

Revise the Aerial Electric Cable Properties table of Article 1066.03(a)(3) to read:

Aerial Electric Cable Properties

Phase Conductor		Messenger wire			
Size AWG	Stranding	Average Insulation Thickness		Minimum Size AWG	Stranding
		mm	mils		
6	7	1.1	(45)	6	6/1
4	7	1.1	(45)	4	6/1
2	7	1.1	(45)	2	6/1
1/0	19	1.5	(60)	1/0	6/1
2/0	19	1.5	(60)	2/0	6/1
3/0	19	1.5	(60)	3/0	6/1
4/0	19	1.5	(60)	4/0	6/1

Add the following to Article 1066.03(b) of the Standard Specifications:

“Cable sized No. 2 AWG and smaller shall be U.L. listed Type RHH/RHW and may be Type RHH/RHW/USE. Cable sized larger than No. 2 AWG shall be U.L. listed Type RHH/RHW/USE.”

Revise Article 1066.04 to read:

“Aerial Cable Assembly. The aerial cable shall be an assembly of insulated aluminum conductors according to Section 1066.02 and 1066.03. Unless



otherwise indicated, the cable assembly shall be composed of three insulated conductors and a steel reinforced bare aluminum conductor (ACSR) to be used as the ground conductor. Unless otherwise indicated, the code word designation of this cable assembly is "Palomino". The steel reinforced aluminum conductor shall conform to ASTM B-232. The cable shall be assembled according to ANSI/ICEA S-76-474."

Revise the second paragraph of Article 1066.05 to read:

"The tape shall have reinforced metallic detection capabilities consisting of a woven reinforced polyethylene tape with a metallic core or backing."

### **REMOVE EXISTING FLARED END SECTION**

This work shall be in accordance with Section 605 of the Standard Specifications insofar as applicable and the following provisions.

This work consists of the removal of existing flared end sections where shown on plan. All materials resulting from the removing of existing flared end sections shall be disposed of by the contractor according to Article 202.03.

The work of removing existing flared end sections where the existing inlet and/or outlet pipes are to be abandoned will be paid for at the contract unit price per each for REMOVE EXISTING FLARED END SECTION. This price shall include disposal of excess excavated material, and all material, equipment, and labor necessary to complete this work.

### **SANITARY SEWER LIFT STATION**

This work shall be in accordance with the Standard Specifications, SSWSCI, and City Specifications insofar as applicable and the following provisions. The lift station and valve vault components shall meet the requirements of Title 35: Illinois Administrative Code, Subtitle C: Chapter II, Part 370: Illinois Design Standards for Sewage Works (Revised: 03/09/90) or latest edition, Section 370.134. This work shall consist of furnishing and installing a wet well, valve vault, the force main within and between the two structures, guiderail or guide cable system for pump removal without entering the wet well, two submersible pumps with hydraulic sealing flanges, power cord, pump guides, pump mounting plates with discharge elbows and guide rail supports, access frames and covers, guiderail supports, carrier assembly, stainless steel lifting chain with hooks, vent, quick connect, check valves, plug valves, fittings, all link seals or rubber boots for penetrations into the concrete structures, concrete foundation for the control panel, sump pump, and all related appurtenances and Contractor and pump manufacturer's start-up services.

This work shall be completed by an experienced and qualified contractor who has completed a minimum of five (5) similar facilities in type and size within the last five (5) years.

General: The precast concrete wet well and external valve vault shall be furnished and installed. The wet well shall have an inside diameter of 6'-0" and an inside height as shown on the plans. The valve vault shall have an inside diameter of 6'-0" and an inside height as shown on the plans. The valve vault shall also have an 18" diameter x 18" deep sump pit with stainless steel grate, and GFI outlet for use with the sump pump. (The GFI outlet for use with the sump pump is included in the contract lump sum price for PUMP STATION ELECTRICAL WORK.) The access frame with hinged covers shall be cast into each basin top. Pump mounting plates shall be bolted to basin bottom. Discharge piping from pump bases shall be installed in the wet well and extend through the wet well wall.

Piping: Piping in the wet well and valve vault and between the wet well and valve vault shall be 4" PVC C900, PC200, DR14 with restrained joints requiring ductile iron mechanical joint fittings. Stainless steel bolts, nuts, and springs shall be used in both the wet well and valve vault. The valve vault shall include two (2) 4" full bodied check valves (wafer style check valves will not be allowed) and three (3) 4" plug valves as manufactured by DeZurik, Clow, or Val-matic. One of the plug valves shall be for use with a by-pass riser and quick disconnect hose coupling for portable pump connection, as shown on the plans. The 10" inlet pipe into the wet well shall have either a rubber boot with stainless steel rings or link seal, as shown on the plans. The pump guide rails shall be 2" stainless steel pipe. Intermediate guide rail supports shall be used since the wet well is more than 15 feet deep. Lift station discharge pipe shall be PVC C900, PC200, DR14.

Wet Well Protective Coating: Provide protective coating on the inside and outside of the wet well as follows:

Exterior:

1. Surface preparation: Allow new concrete to cure 28 days, verify dryness, remove laitance, sealer, form release agent or any other contamination that may affect adhesion.
2. Apply one coat of a Polyamide Epoxy-Coal Tar coating at a dry film thickness of 16.0 – 20.0 mils.

Interior:

1. Surface Preparation: Allow new concrete to cure 28 days, verify dryness, abrasive blast clean all in accordance with SSPC SP-13 to remove laitance, form release agents, curing compounds, sealers and to provide profile. A surface profile in accordance with ICRI CSP-5 is required.
2. Specific surface preparation requirements
  - a. Where the coating is specified to be terminated, the CONTRACTOR shall prepare and apply materials as outlined in Drawing TLS-01, Leading Edge Termination Detail.
  - b. For applications around pipe penetrations and/or drains, the CONTRACTOR shall prepare and apply coatings as detailed on Drawing TLS-03, Pipe Penetrations.
  - c. Prepare and apply coatings and caulk in joints as detailed on DWG. No. TLS-10, & 08.
3. Patch and resurfacer: Apply 100% solid by volume, Epoxy Modified Cementitious Mortar to the entire surface to restore the concrete surface to a contiguous plane and to reduce

outgassing of the concrete (1/16-inch DFT). Fill and patch larger voids with 100% solid by volume, Epoxy Modified Cementitious Mortar mixed with pea gravel.

The resurfacing materials must not require wet or membrane curing compounds for preservation of moisture, nor shall require additional surface preparation prior to receiving subsequent lining materials.

4. The concrete substrate surface should be "pre-wet" or dampened with potable water to a Saturated Surface Dry (SSD) condition; the concrete is darkened by water but there is no pooling of water on the concrete. This can be done by using a Hudson pump-up sprayer or heavy nap roller cover dampened with potable water. Note: Do not over saturate the surface.
5. 1st coat: Apply a 100% solids, aggregate reinforced Modified Aliphatic Amine Epoxy Mortar designed for severe wastewater immersion and fume environments that is specifically formulated to withstand high levels of hydrogen sulfide gas (H<sub>2</sub>S), sulfuric acid (H<sub>2</sub>SO<sub>4</sub>), as well as other gases common to sewer exposures at 125 mils (1/8") DFT. Color shall be 5022 Beige

Lining is to be trowel applied; Mortar Hawk & steel concrete finishing trowels are required to spread the 100% solids, aggregate reinforced hybrid epoxy mortar to an even, minimum 1/8" thickness and finish rolled using a high quality 1/4" nap, shed resistant, woven fabric roller, lightly dampened with the manufacture's recommended thinner.

6. Glaze coat: Apply a versatile, thick film, 100% solids, abrasion-resistant Modified Polyamine Epoxy lining specifically designed for wastewater immersion and fume environments that provides low permeation to H<sub>2</sub>S gas, protects against MIC and provides chemical resistance to severe wastewater environments at a dry film thickness of 15.0 – 20.0 mils. Color shall be 5022 Chicago Beige.

Roller applied using a high quality 3/8" to 1/2" synthetic woven nap roller covers.

All application, handling, storage, and preparation of materials shall be per the manufacturer's recommendations.

#### High-Performance Coatings for Piping, Pumps, Motors, and Galvanized Steel within the Valve Vault:

1. Surface Preparation
  - a. Steel surfaces shall be blast cleaned to a commercial finish in accordance with the SSPC Specification SP 10 Near White Metal Blast.
  - b. Ductile Iron Pipe shall be blast cleaned in accordance with NAPF 500-03-04 and 05. Bituminous-coated pipe shall not be used.
  - c. Galvanized steel shall be blasted in accordance with SSPC SP 16 "Brush-off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-ferrous Metals". Remove all soluble and insoluble contaminants per SSPC-

SP 1 Solvent Cleaning (which is included in SSPC-SP 16). Remove any storage stains per Section 6.2 of ASTM D6386. Sweep (Abrasive) Blasting per ASTM D 6386 to achieve a uniform anchor profile (1.0 - 2.0 mils).

2. Shop Primer: Apply one coat of Polyamidoamine Epoxy. This coating to be applied at a dry film thickness of 3.0 mils. Color to be 1255 Chicago Beige.
3. Field Touch-up: Same as shop primer.
4. Penultimate Coat: Apply one coat of Polyamidoamine Epoxy. This coating to be applied at a minimum dry film thickness of 4.0 mils.
5. Finish Coat: Same as Penultimate Coat. (omit for Galvanized Metal and Stainless Steel)
6. Furnish and install polyurethane sealant on all ductile iron pipe joints where flanges are threaded on spool pipe. Color to be gray. Application to immediately follow finish coat application and drying.

All application, handling, storage, and preparation of materials shall be per the manufacturer's recommendations.

High-Performance Coatings for Piping within the Wet Well:

1. Surface Preparation
  - a. Steel surfaces shall be blast cleaned to a commercial finish in accordance with the SSPC Specification SP 10 Near White Metal Blast.
  - b. Ductile Iron Pipe shall be blast cleaned in accordance with NAPF 500-03-04 and 05. Bituminous-coated pipe shall not be used.
2. Shop Primer: Apply one coat of Polyamidoamine Epoxy. This coating to be applied at a dry film thickness of 3.0 mils. Color to be 1255 Chicago Beige.
3. Field Touch-up: Same as shop primer.
4. Finish Coat: Modified Polyamine Ceramic Epoxy, Color shall be 5024 Sewer Pipe Green. Carbon Steel: 30.0 to 50.0 mils (762 to 1270 microns) in one or more coats. Ductile Iron: 40 mils (1015 microns) (nominal) in one or more coats. Scarify the prime coat with fine abrasive if more than seven days have lapsed.
5. Furnish and install polyurethane sealant on all ductile iron pipe joints where flanges are threaded on spool pipe. Color to be gray. Application to immediately follow finish coat application and drying.

All application, handling, storage, and preparation of materials shall be per the manufacturer's recommendations.

Guide Rail System: The guide rail system shall include a discharge base elbow, sealing flange with rail guide, upper guide bracket, 5/16" stainless steel lifting chain, and stainless steel guide rails.

The discharge base elbow shall be mounted directly on the sump floor and sized according to the plans. It shall have a standard 125 lb flange, with machined face. The design shall be such that the pump to discharge connection is made without the need for any nuts, bolts, or gaskets. The base elbow shall also anchor two (2) 2" stainless steel guide rails. The pump guide rails shall be 2" stainless steel pipe or stainless steel, vinyl coated aircraft cable as provided by the pump manufacture. Guide cable systems shall include a 10 year non-prorated guarantee by the manufacturer.

The sealing flange/rail guide bracket shall be mounted on each pump discharge. It shall have a machined mating flange which matches the base elbow discharge connection. Sealing of this discharge connection shall be accomplished by simple linear downward motion of the pump culminating with the entire weight of the pumping unit supported entirely by the base elbow.

The upper guide bracket shall align and support the two guide rails at the top of the wet well. It shall bolt directly to the hatch frame and incorporate an expandable rubber grommet.

Each pump shall be provided with a stainless steel lifting chain, and be of sufficient length to extend from the pump to the top of the wet well. The access frame shall provide a hook to attach the chain when not in use. The lifting chain shall be sized according to the pump weight.

Access Frames and Covers: A double door access frame and cover shall be provided for the wet well. The access frames and covers shall be fabricated of aluminum and shall be of 300 psf rating. Access frame and covers shall be cast into the flat-top of the basin. The frame within the wet well shall support guide rails and electrical cable holder. A separate hinged cover shall be provided for each pump. The cover shall be provided with a lifting handle and safety latch to hold the cover in the open position. The door panel shall be 0.25" Aluminum Diamond Plate and shall open to 90 degrees and have a compression spring system which shall require no more than 30 pounds of force to open. Locking hasps shall be furnished for each cover. The hatch for the valve vault shall be a single door (HS30x30 Aluminum Access Hatch with bituminous coating). Each door shall have a recessed padlock housing.

Sump Pump: A sump pump shall be provided for dewatering the valve vault to the wet well. The pump shall be 1/3 hp, 1 phase, 60 hz, 115v motor designed for automatic operation through a piggy-back diaphragm switch. The pump discharge shall be 1.5" and be of cast iron construction.

Valve Vault Sump Pump Outlet: A 1.5" PVC Schedule 80 pipe shall be furnished and installed from the sump pump to the wet well as shown on the plans and includes the 1.5" check valve as shown on the Sanitary Sewer Lift Station – Wet Well and Valve Vault drawing. This work shall include core drilling and placing a rubber boot with stainless steel rings or a link seal within the valve vault and wet well.

Wet Well and Valve Vault Construction: This work shall be in accordance with the special provision for MANHOLES, SANITARY, as applicable and the following provisions.

- The dimensions and thicknesses are as shown on the plans.
- Trench backfill will not be paid for separately but shall be considered included in the contract lump sum price for SANITARY SEWER LIFT STATION.
- Access hatches are provided in lieu of the Type 1 frames and grates.
- An external chimney seal is not required.
- All penetrations shall have a water-tight seal. Rubber boots with stainless steel rings or link seals shall be provided at all pipe and conduit openings accordingly.

The valve vault shall include an access hatch, detachable ladder, check valves and plug valves of the size shown. The check valves shall be Valmatic and plug valves shall be Valmatic, Dezurik, or Clow. The bottom slab shall be 3,500 psi concrete.

Submersible Pumps: Each pump shall be of the sealed submersible type. The pump shall be capable of handling raw, unscreened sewage non-clog type recessed impellers. Pump casing shall be fitted with a bronze wear ring. Pump shall have two mechanical seals with oil chamber between the seals. Rotating seal faces shall be silicon carbide and stationary seal faces shall be silicon carbide. Pump motor shall be of the sealed submersible type with standard insulation for operation in high-dielectric oil to give better heat dissipation and longer bearing life. Motor stator shall be held in place with a removable end ring so that it can be removed for repair without heating outer shell or using a press. Motor housing shall be filled with high-dielectric oil and no pressure balancing devices shall be used. Pump motor shaft shall be made of 416 stainless steel. Pump shall be a standard production pump with attached rail guides. Discharge lifting loads will come on the guide supports and not on the pump or motor housing. For each pump, openings for a 4" suction inlet and 4" discharge with a standard 4" discharge connection shall be provided. A lifting chain and hook shall be supplied for each pump. Each pump motor will be provided with heat sensing units which shall trip the breaker if the motor overheats. Seal chamber shall be fitted with an electrode probe to detect water in the seal chamber.

Pump Schedule:

ITEM	Description
<b>Type of Pump Station</b>	<b>Duplex</b>
<b>Max. Pump Speed</b>	<b>1750 rpm</b>
<b>Pump Speed</b>	<b>Variable</b>
<b>Flow, GPM @ Primary design point</b>	<b>119</b>
<b>TDH, Ft. @ Primary design point</b>	<b>33</b>
<b>Minimum Efficiency at design</b>	<b>32%</b>

All pumps must be grinder pumps, have a recessed impeller, have oil-filled motors, and be explosion proof, FM approved for Class I, Division I Hazardous locations.

**Power Cord:** Each power and sensor cord should be designed for flexibility and serviceability under conditions of "extra hard usage" and should meet the requirements of the National Electrical Code (NEC) for flexible cords in sewage pumping stations and shall be of sufficient length to reach the control panel without the need of any splices (a minimum of 50 feet of submersible power cable). The power cable entry into the cord cap assembly shall first be made with a compression fitting. Each individual lead shall be stripped down to bare wire, at staggered intervals, and each strand shall be individually separated. This area of the cord cap shall then be fitted with an epoxy compound potting which will prevent water contamination to

gain entry even in the event of wicking or capillary attraction. There shall be an additional epoxy compound potting area separating the motor housing from the cord cap assembly for added protection. The motor shall be suitable for variable speed operation. The power cord shall be sized according to NEC and ICEA standards and also meet with P-MSHA Approval.

The motor and cable shall be capable of continuous submergence underwater without loss of watertight integrity to a depth of 65'.

The motor horsepower shall be adequate so that the pump is non-overloading throughout the entire pump performance curve from shut-off through run-out.

Operating Conditions: Each pump shall be rated for a capacity of 119 g.p.m. at a total head of 33 feet when operating at 1750 r.p.m. The pump motor shall be sized to meet the duty condition, and shall be 7.5 HP, 1750 r.p.m., 3 phase, 240 volts, 60 Hz. The motor shall be non-overloading across the entire pump performance curve. The Contractor shall coordinate with the utility company to confirm system voltage prior to ordering.

Quality Assurance: In addition to what has been outlined in these special provisions regarding quality assurance, the following shall be adhered to in regard to the submersible pumps:

1. The pump(s) shall be heavy duty, electric submersible, centrifugal non-clog units designed for handling unscreened sewage/wastewater and shall be fully guaranteed for this use. The pumps provided shall be capable of operating in a liquid temperature up to 104 Deg F. Since the high temperature of 104 deg F is specified by the National Electrical Manufacturers Association (NEMA) and Factory Mutual (FM), motors operating below 104 deg F shall not be acceptable.
2. The pump and motor unit shall be suitable for continuous operation at full nameplate load while the motor is completely submerged, partially submerged or totally non-submerged. The use of shower systems, secondary pumps or cooling fans to cool the motor shall not be acceptable.
3. Factory Service: Factory-approved service facilities with qualified factory-trained mechanics shall be available within 75 miles of jobsite for prompt emergency and routine service.
4. The pump manufacturer shall have a minimum of 10,000 heavy-duty submersible wastewater pumps installed and operating for no less than 5 years in the United States.
5. All controls, pumps, and motors shall be furnished by one equipment supplier. The equipment supplier shall have responsibility for the complete and proper operation of the new and existing pumping equipment, control equipment, and program as specified and furnished. The system supplier shall furnish 24 hour service for the complete system, and shall stock all parts used of the installation.
6. Substitute Pump Manufacturers:
  1. The consideration of a substitute manufacturer shall be for the source and associated pump model number. The substitute manufacturers' equipment is required to be in full compliance with the specifications. If the Contractor wants to use a substitute manufacturer, verification of acceptability by the City and Engineer is required prior to bidding on the Contract.
  2. The City is under no obligation to accept a substitute manufacturer. Substitutes will be evaluated only after the contract is signed.

Testing:

1. Testing performed upon each pump shall include the following inspections:
  - a. Impeller, motor rating and electrical connections shall be checked for compliance with this specification.
  - b. Prior to submergence, each pump shall be run dry to establish correct rotation.
  - c. Each pump shall be run submerged in water.
  - d. Motor and cable insulation shall be tested for moisture content or insulation defects.
2. Upon request, a written quality assurance record confirming the above testing/inspections shall be supplied with each pump at the time of shipment.
3. The pump(s) shall be rejected if the above requirements are not satisfied.
4. The pump supplier will have a local testing facility within 75 miles from job site to conduct certified performance testing for the pump. Certified Performance tests shall be conducted for both pumps in the Lift Station in compliance with the Hydraulic Institute and ASME power code. The following data shall be recorded, if applicable: Suction and discharge head, speed, flow, volts, amps, h.p., vibrations at the rated design condition, bearing temperature. At least seven points along the pump curve shall be recorded and plotted with the parameters outlined.

Manufacturer's Services: The pump and control manufacturer shall provide start-up and training services for a minimum of one (1) man-day to start up the station and to instruct the City's operating personnel in the operation and maintenance of the equipment provided. A representative of the contractor shall also be on-site during this time.

Component Standards: All equipment and materials shall be new and shall bear the manufacturers name and trade name. In cases where the standard has been established for the particular material, the material shall be so labeled. The equipment to be furnished shall essentially be the standard product of a manufacturer regularly engaged in the production of the required type of equipment for this type of work and shall be the manufacturers latest approved design. Equipment and material shall be suitably delivered and stored and shall be readily accessible for inspection. All items subject to moisture damage shall be stored in dry spaces. All material and equipment shall be protected against dirt, dust, water and chemical or mechanical injury, vandalism and theft.

Submittals: The contractor shall submit a minimum of six (6) copies of all shop drawings/information to the Engineer for approval. Of these, four (4) copies will be returned to the Contractor with appropriate action taken. Receipt of less than the minimum required number of copies will be cause for withholding the shop drawings from being checked until receipt of the necessary additional copies. At a minimum, shop drawings/information shall be provided for the following items:

1. Aluminum Wet Well Duplex Hatch
2. Aluminum Valve Vault Duplex Hatch
3. Sealing Flange and Sealing Flange Assemblies
4. Base Elbow and Base Elbow Assemblies
5. Stainless Steel Lifting Handles
6. Stainless Steel Lifting Chain



7. Non-Witness Pump Testing
8. Link Seal
9. Valve Vault Sump Pump
10. Valve Vault Structural Details
11. Wet Well Structural Details
12. Detail Drawings of the Lift Station (including Wet Well, Valve Vault, and Connection Piping)
13. Plug Valve
14. Check Valve
15. Pipe Support
16. Elapsed Time Meter
17. Product Sheets – Paint
  - a. Wet Well (Interior and Exterior)
  - b. Pumps, Valves, Piping, and Fittings
18. Rail System
19. Pipe Support Brackets
20. Submersible Non-Clog Pumps
  - a. Curves:
    - i. Showing the following relations:
      1. The relation between GPM and total head
      2. The relation between GPM and BHP
      3. The relation between GPM and overall efficiency
      4. The relation between GPM and net positive suction head
    - ii. Drawn to such a scale that values may be read accurately within 1%.
  - b. Product Data
21. Sump Pump
22. All other information necessary to enable the Engineer to determine whether the proposed equipment meets the specifications.

All drawings are to be computer generated showing dimensions of all equipment.

The Engineer reserves the right to approve or disapprove any and all equipment and/or material based upon his evaluation. Approval for fabrication and installation will be made only after submittal and review of all shop contract documents.

Record Documents And Testing:

1. Four (4) sets of as-built drawings are to be supplied depicting “as built” conditions. This submittal is to include any field modifications made by the authorized start-up personnel during installation, start-up or testing and shall include control cabinet schematics.
2. Original copy of the final Quality Control report.
3. A complete detailed O & M manual specifically prepared for this system in a 3-ring binder. A typical general O & M manual will not be acceptable. It shall include, at a minimum, installation instructions, operating instructions, control cabinet schematics, wiring diagrams, parts list, and, where applicable, test data and curves shall be provided.
4. All other information necessary to enable the Engineer to determine whether the proposed equipment meets the specifications.

Warranty:

All components covered under this pay item shall carry, at a minimum, comprehensive, parts and labor, twelve (12) months guarantee against defects in workmanship and material from the date of final inspection and acceptance.

In the event a component fails to perform as specified or is proven defective during the warranty period, excluding items of supply normally expended during operation, the manufacturer shall provide a replacement part without cost to the City.

Basis of Payment. This work shall be paid for at the contract lump sum price for SANITARY SEWER LIFT STATION which price shall include furnishing and installing the wet well structure, valve vault structure, and all piping, pumps, valves, fittings, and accessories within both structures and between the wet well and valve vault exclusive of all electrical and SCADA related items. The lift station shall include a guiderail or guide cable system for pump removal without entering the wet well, two submersible pumps with hydraulic sealing flanges, power cords, pump guides, pump mounting plates, with discharge elbows and upper and lower guide rail supports, sealing flanges, access frames and covers, ladders, guide rail supports, carrier assembly, stainless steel pump lifting chain with hooks, vent piping, sump pumps, the valve vault sump pump outlet pipe, the wet well protective coating, concrete foundation for the control panel, and the Contractor and pump manufacturer's start-up services. This price shall also include excavation, backfill, trench backfill, dewatering, and disposal of removed material associated with these items.

**PUMP STATION ELECTRICAL WORK**

This work shall be in accordance with Division 800 of the Standard Specifications, NFPA 70 National Electrical Code, the manufacturer's instructions and recommendations, the Electrical Diagram in the drawings, and the Supplemental Specifications for the Pump Station Electrical Work contained herein. This work shall include furnishing and installing all necessary items related to both the electrical and control systems associated with the sanitary sewer lift station, including all labor, materials, and equipment for a complete, tested and ready for operation system.

Any apparatus, appliance, material, work or minor details not shown in plan or specified, but necessary for proper installation and operation, shall be included in the price of this item at no additional cost to the City, the same as if herein specified or shown.

This work shall be completed by an experienced and qualified electrical contractor who has completed a minimum of five (5) similar facilities in type and size within the last five (5) years.

This item includes all SCADA and electrical items including conduits, wires, cables, GFI outlets, NEMA-3R weatherproof pad mounted traffic enclosure for controls, meter, automatic transfer switch, connection for a portable generator, transducers, and SCADA and float switches. This price shall also include excavation, backfill, trench backfill, dewatering, and disposal of removed material associated with these items. This work shall also include start-up and testing of all electrical systems and the lift station.

### ELECTRICAL SYSTEMS:

Electrical equipment, materials and workmanship shall comply with all applicable codes, safety and fire law regulations at the location of the work and shall conform to applicable codes and standards of the organizations listed below.

1. Institute of Electrical and Electronic Engineers. (IEEE)
2. National Electric Code. (NEC)
3. National Electrical Manufacturers Association (NEMA)
4. American National Standards Institute. (ANSI)
5. Underwriters Laboratories. (UL-508 or 913 for intrinsically safe)

Refer to the Supplemental Specifications for Pump Station Electrical Work for additional detail and information regarding the electrical systems.

#### Miscellaneous:

1. A GFI 15A 120V receptacle shall be mounted in the valve vault for use with the sump pump.
2. Cable Holder: Cable holders shall provide cord grip holders for the pump cords and the control cords. All cords shall extend from cable holder through conduit to control panel. No splices shall be made in the wiring. Continuous cords must be used from control panel to pumps and controls. Cable holder shall be fastened to access frame. Kellum connectors shall be furnished for each pump cord.

### CONTROL SYSTEMS:

The Contractor shall furnish, install, test, and place into operation a pump control system designed to operate sewage pumps in a sanitary sewer lift station as described herein.

General: Provide a standard pump controller that is manufactured in the State of Illinois and serviced within 75 miles of the project site. The controls shall include all of the items mentioned within this special provision. Control panel shall have a NEMA-1 enclosure and shall be dead front with a separate removable inside sub panel to mount electrical equipment. A lock hasp shall be provided on outside door. A circuit breaker shall be provided for each pump, as well as a breaker for the sump pump, and a magnetic starter with 3-leg overload protection shall be supplied for each pump. The panel shall be equipped with a phase monitor as required. H-O-A switches and run lights shall be supplied for each pump. A terminal strip shall be provided for connecting pump and control wires. Elapsed Time Meters shall be furnished for each pump and installed in the panel. The panel shall include: a weatherproof GFI 15A 120V receptacle mounted to the control panel exterior, interior incandescent 60W lamp with wire shatter-resistant shield, and battery back-up system.

The pumping system shall be supervised and controlled by a microprocessor based control computer. The control panel shall be a complete automatic control package consisting of the control computer, operator interface, and discreet operator controls. All components shall be

enclosed in a NEMA -1 enclosure. The control panel shall be completely pre-wired and tested at the factory. All connections shall be wired to individually numbered terminals and wires shall be numbered at both ends for ease of troubleshooting. The operator interface screen shall be mounted on the enclosure door. The control panel shall be as manufactured by Metropolitan Equipment Company (Division of Metropolitan Industries, Inc. Romeoville, Il.).

Referenced Standards:

- National Electrical Manufacturers Association (NEMA)
  - NEMA 250-1991, Enclosures for Electrical Equipment (1000 Volts Maximum)
- Institute of Electrical and Electronic Engineers
- ANSI / IEEE C37.90, Surge withstand capability
- Federal Communications Commission
- FCC Part 15 Subpart J, Class A, Radio Emissions

Control Panel:

Primary operation of the system shall be controlled by a Programmable Logic Controller (PLC). The PLC shall have a Central Processing Unit that is microprocessor based with a real-time multi-tasking executive operating system stored in EPROM. The CPU shall provide a minimum of 32k of CMOS RAM for user programs and data. The memory shall be protected by an on-board lithium battery. The CPU shall be equipped with a hardware clock/calendar and watchdog timer.

CPU shall function as specified over an ambient temperature range of -40 degrees to +60 degrees C with a relative humidity up to 95%.

Central Processing Unit shall be certified and proven to conform to radio frequency emissions standards DOC/CSA C108.8 and FCC Part 15 Subpart J.

The following diagnostic indicators shall be provided:

1. Power supply output status of all outputs
2. Program execution status
3. Processor reset status
4. Error status by flashing a binary error code

The controller shall utilize a switch mode power supply exhibiting at least 70% efficiency to minimize heat buildup. The inputs to the power supply shall be 24vac, 60hz  $\pm$  20%, or 12vdc to 40vdc. The ac and dc inputs will be separate and independently fused.

Control functions shall include real-time, multi-tasking PID program blocks for feedback control algorithms. Up to 16 PID loops shall be capable of executing at the same time.

Each control loop shall have an independent execution period. The PID block shall support set point tracking, cascade set points, anti-integral windup, derivative gain limiting, output limiting, square root extraction and input/output biasing.

The controller shall be equipped with the required number of analog inputs complete with surge suppression and filtering. Optional measurement ranges shall include 0-1v, 0-5v, 0-20ma, and 0-10v.

Analog inputs shall be differential (floating) with respect to ground, and shall operate accurately with up to 35 volts of common-mode voltage. The inputs shall provide a minimum of 400 k-ohms impedance relative to ground and 800 k-ohms differentially.

The analog to digital converter shall provide a minimum of 14 bits bipolar (14 bit plus sign). Analog inputs shall provide an absolute accuracy of 0.1 percent over the specified temperature range. Analog inputs shall be configurable for filter constants to automatically dampen signal noise.

In addition to external analog inputs, the controller shall have internal analog input channels to measure the temperature of the controller and lithium backup battery voltage. These signals may be used by the program to annunciate excessive temperatures or impending need for battery replacement.

The controller shall be equipped with the required number of analog outputs. The controller shall include an onboard power source to drive the outputs. Each analog output shall be capable of driving 20ma. If the output is a 4-20ma output, it shall be capable of driving the 20ma into a 1000 ohm load. The output shall maintain the last output value until it is updated. The resolution of the output shall be 12 bits.

The controller shall be configured with the appropriate number of digital inputs/outputs. All inputs shall be optically isolated with surge suppression. Each input shall be completely independent without a common ground. Outputs shall be individually isolated without a common ground. Solid state triac or transistor outputs are acceptable. The controller shall also be capable of providing dry contact, form C relay outputs.

All inputs and outputs shall survive ANSI/IEEE C37.90 surge withstand capability tests without damage.

Operator controls and indicators shall include:

1. Run light for each
2. Control power light (on touch screen)
3. Pump fault light (on touch screen)
4. Pump Hand/Off/Automatic selectors
5. Run light for each pump
6. Elapsed time meter for each pump
7. High water alarm light & contacts
8. Float/transducer/ automatic control selector
9. Operator interface (touch screen)
10. Intrusion switches for access hatches and control enclosure

The control panel manufacturer shall be listed with Underwriters Laboratories under UL508 (Type L) listing category for the manufacture of control equipment. The control panel shall contain UL listed components.

Operator Interface:

The operator interface shall show system status, and shall provide the operator with convenient touch screen for the entry of pass codes, set points, and commands. Touch screen shall produce instructional screens that will guide the operator in set point entry and alarm diagnosis. Multi-level password protection shall be available to prevent unauthorized set point changes. All information displayed on the screen shall be in plain English or simple graphic representations.

The touch screen operator interface shall be a 7" color TFT. SVGA(800X600) with 128MB Flash ROM and have RS232/485/422 ports as well as Host and high speed Client USB connections

Statistical display screen:

1. Pump status (off/running/alarm) (Each pump)
2. Wet well level
3. Level set points
4. Alarm conditions
5. Pump failure
6. Transducer failure

Set point screens:

1. Level set points
2. Pump curve staging points
3. Control loop constants
4. Alarm set points
5. All set points shall be pass word protected

Pump Controller "Traffic" Enclosure:

The control panel / SCADA panel and all above mentioned equipment shall be mounted in a free standing, traffic type, Stainless Steel NEMA-3R module. In addition to the control panel, the traffic box shall include a dual 120 volt AC GFI convenience outlet. A meter socket shall be supplied and mounted by the contractor. The Main Service Disconnect and automatic transfer switch shall be located in the traffic box enclosure.

SCADA:

The SCADA controls shall allow the transducer primary control and use the float system as a backup in case the transducer fails. A separate conduit shall be installed for the transducer. The pump station controls shall include a modem that shall be tied into the City's SCADA system Master PLC located at City Hall for monitoring the necessary alarms similar to that installed at the City's Cerny Park lift station. A copy of the monitoring schedule (list of inputs and outputs) is on file with the Engineer for reference.

The SCADA system shall use a dedicated phone line that communicates from the new pump controller located at the Williams Road pump station to the master computer located at City Hall.

The contractor shall coordinate with the telephone utility and provide an unshielded twisted pair connection between the service installation and the control panel. The Contractor shall provide all materials, labor, and equipment to meet all requirements for a NetPOP network point of presence and buried feed.

The Contractor shall provide all programming at the Williams Road lift station and associated programming at the master computer located at City Hall for the complete system. All SCADA system equipment shall be manufactured and serviced within 75 miles of the project site.

Submersible Level Transducer (Primary):

Wet well level shall be sensed with a submersible level transducer. The transducer housing shall be 316 stainless steel fitted with a stainless steel cable support bracket. The transducer shall be designed for direct submergence in a tank.

Liquid level shall be sensed by the deflection of a stainless steel diaphragm having a displacement of less than 5 cu.mm from 0 to full scale. The atmospheric pressure side of the diaphragm shall be bonded to a silicon strain sensor coupled to an integral bridge circuit. Transmitters requiring separate, sealed, expansion breathing systems will not be accepted.

Electrical connections shall be 2 wire, 4-20 mA<sub>dc</sub>, and shall be reverse polarity and surge protected.

Accuracy shall be 0.6 percent of full scale. Full scale range shall be 0 to 19 feet (or as shown on the plans). Temperature compensated range shall be -20 to 122 degrees F., maximum operating temperature shall be -40 to 176 degrees F.

Chain and Anchor Float Mounting System:

Only the transducer shall be mounted to a 5/16 stainless steel chain with anchor shackles and a 10lb. anchor, and mounted on a stainless steel hook at the rim of the wet well. All fasteners must be stainless steel parts including all bolts, nuts, springs, and washers.

Float Switch Secondary:

Sealed float type mechanical switches shall be supplied. The mechanical tube switches shall be sealed in a solid polyurethane float for corrosion and shock resistance. The support wire shall have a heavy neoprene jacket and a weight shall be attached to the cord above the float to hold the switch in place in the wet well. The weight shall be above the float to prevent sharp bends in the cord when the float operates under water. The float switches shall hang in the wet well supported only by the cord that is held to the wiring channel. Four (4) float switches shall be used to control level. One for pump turn on, one for high water alarm, one for pump turn off, and one for both pumps turn on. With the Float/Transducer/Automatic selector switch in the Automatic position, automatic activation of the float back-up system shall occur upon activation of the High Level Float Switch. The PLC shall be capable of resetting the system to normal operation automatically after self verification of the operation of the transducer. Float switches shall be Metropolitan Model No. 2900.

High Water Alarm:

For the high water alarm, contacts shall be supplied for separate remote alarm.

Operation of System:

On sump level rise, the pressure shall energize and start lead pump. With lead pump operating sump level shall lower until the off level is reached, thereby de-energizing the lead pump. The system shall alternate on the stopping of "lead" pump so the opposite lag pump will start on next operation. If sump level continues to rise when lead pump is operating, the lag pump shall start upon reaching the override. Both lead and lag pump shall operate together until the off level is reached. If level continues to rise when both pumps are operating, and the high level is reached, the high level alarm shall be activated. If one pump should fail for any reason, the second pump shall operate on the override control.

QUALITY ASSURANCE:

Testing:

1. Automatic Transfer Switch and all required provisions for portable generator.
2. The control panel shall be thoroughly tested at the factory prior to shipment.

Equipment Identification: All electrical equipment shall be identified in accordance with these specifications. All identification labels, both within the enclosure and external, shall be laser-screened, laminated Mylar. All control wiring shall be numbered on each termination.

Screw-in type, engraved nameplates or laser-screened laminated Mylar shall be provided to identify all individually mounted push-buttons, rocker switches, lights, meters, disconnect switches, circuit breakers, motor starters, transformers, relays, fuses, phase monitors, surge arrestors and any other equipment for which identification is required for eventual service or replacement. This includes the appropriate equipment within the cabinet. Embossed tape is not acceptable.

A factory ID label shall be installed inside the outer door including the following information:

1. Factory Order Number
2. Factory Ship Date
3. Supply Voltage, Phase and Frequency
4. Control Voltage
5. Electrical Wiring Diagram Number
6. Wire (number of incoming wires)
7. Motor HP and Full Load Current

A warning label stating "DANGER - Disconnect all sources of power before opening door" shall be installed on the door.

Control switches, indicators and all back panel-mounted components shall be clearly labeled in accordance with the schematic ladder diagram.

Component Standards: All equipment and materials shall be new and shall bear the manufacturers' name and trade name. In cases where the standard has been established for the particular material, the material shall be so labeled. The equipment to be furnished shall be



the standard product of a manufacturer regularly engaged in the production of the required type of equipment and shall be the manufacturer's latest approved design. Equipment and material shall be suitably delivered and stored and shall be readily accessible for inspection. All items subject to moisture damage shall be stored in dry spaces. All material and equipment shall be protected against dirt, dust, water and chemical or mechanical injury, vandalism and theft.

Shop Drawings: The contractor shall submit a minimum of six (6) copies of all shop drawings to the Engineer for approval. Of these, two copies will be returned to the Contractor with appropriate action taken. Receipt of less than the minimum required number of copies will be cause for withholding the shop drawings from being checked until receipt of the necessary additional copies.

Each set of shop drawings shall include, but not necessarily be limited to:

1. Drawings showing dimensions of all equipment
2. Control details and electrical schematic diagrams
3. Cable Holder
4. Cast Iron Anchor and Stainless Steel Chain Float Mounting System
5. Float Mounting System
6. Float Switch
7. Exploded detail of every control faceplate, light, switch or meter mounted on the exterior of the enclosure
8. Elapsed time meter
9. Phase monitor
10. Breakers
11. All other information necessary to enable the Engineer to determine whether the proposed equipment meets the requirements.

All drawings are to be of the computer generated showing dimensions of all equipment.

The Engineer reserves the right to approve or disapprove any and all equipment and/or material based upon his evaluation. Approval for fabrication and installation will be made only after submittal and review of all shop drawings.

Warranty:

All components covered under this pay item shall carry, at a minimum, comprehensive, parts and labor, twelve (12) months guarantee against defects in workmanship and material from the date of final inspection and acceptance.

In the event a component fails to perform as specified or is proven defective during the warranty period, excluding items of supply normally expended during operation, the manufacturer shall provide a replacement part without cost to the City.

Record Documents And Testing:

1. Four (4) sets of as built drawings are to be supplied depicting "as built" conditions. This submittal is to include any field modifications made by the authorized start-up personnel during installation, start-up or testing and shall include control cabinet schematics.
2. Original copy of the final Quality Control report.

3. A complete detailed O & M manual specifically prepared for this system in a 3-ring binder. A typical general O & M manual will not be acceptable. It shall include, at a minimum, installation instructions, operating instructions, control cabinet schematics, wiring diagrams, parts list, and, where applicable, test data and curves shall be provided.
4. Control details and electrical schematic diagrams.
5. All other information necessary to enable the Engineer to determine whether the proposed equipment meets the specifications.

Basis of Payment. This work shall be paid for at the contract lump sum price for PUMP STATION ELECTRICAL WORK which price shall include furnishing and installing the electrical system and the Supervisory Control and Data Acquisition (SCADA) system for a complete installation as indicated on the drawings and outlined in the provisions above and Supplemental Specifications for Pump Station Electrical Work. The electrical system includes assembling and mounting the control panel, the pump controller, automatic transfer switch, all connections and controls for connection to a portable generator, feeds to the pumps, GFI outlets, conduits, cables, connections, grounding, and all associated items and electrical testing. SCADA system includes furnishing and installing the floats and level transducers and feeds to the floats and level transducers, related appurtenances, programming, and all SCADA testing. The lump sum price shall also include one full day of start-up services, excavation, backfill, trench backfill, dewatering, and disposal of removed material.

#### **REMOVE EXISTING VALVE AND VAULT**

This work shall be in accordance with Section 605 of the Standard Specifications insofar as applicable and the following provisions. This work shall consist of all work necessary for the full depth removal of the valve vault and removal and salvage of the existing valve. The valve shall be delivered to the City yard. Delivery shall be included in the cost of the item being removed.

This work will be paid for at the contract unit price per each for REMOVE EXISTING VALVE AND VAULT which includes all material, equipment, and labor for a complete removal, including delivery of the salvaged valve to the City yard.

#### **CONCRETE BRIDGE RAIL, SIDEWALK MOUNTED**

This work consists of constructing a sidewalk mounted concrete bridge rail at the locations shown on the plans. This work shall be in accordance with the applicable articles of Section 503 of the Standard Specifications, the details in the plans and the following provisions.

Concrete Bridge Rail, Sidewalk Mounted will be measured for payment in place in feet. Reinforcement bars in the concrete bridge rail will not be measured for payment separately.

This work will be paid for at the contract unit price per foot for CONCRETE BRIDGE RAIL, SIDEWALK MOUNTED. Reinforcement bars in the concrete bridge rail will not be paid for separately, but shall be included in the cost of this item.

### **CONCRETE BRIDGE RAILING**

This work consists of constructing a concrete bridge rail at the locations shown on the plans. This work shall be in accordance with the applicable articles of Section 503 of the Standard Specifications, the details in the plans and the following provisions.

Concrete Bridge Railing will be measured for payment in place in feet. Reinforcement bars in the concrete bridge rail will not be measured for payment separately.

This work will be paid for at the contract unit price per foot for CONCRETE BRIDGE RAILING. Reinforcement bars in the concrete bridge rail will not be paid for separately, but shall be included in the cost of this item.

### **SANITARY SEWER REMOVAL**

This work shall be in accordance with Section 551 of the Standard Specifications insofar as applicable and the following provisions. This work consists of the removal of existing sanitary sewer at locations shown on the plans. The sanitary sewer removed shall not be salvaged. The existing sanitary manhole to remain where sanitary sewer has been removed shall have the resultant hole securely sealed with concrete.

Trench backfill will not be paid for separately but shall be included in the cost of this item.

Basis of Payment. This work shall be paid for at the contract unit price per foot for SANITARY SEWER REMOVAL, of the diameter specified, which includes excavation and removing and disposing of the existing pipe, trench backfill, and all material, labor, and equipment for a complete removal.

### **TEMPORARY FENCE (SPECIAL)**

This work shall be in accordance with Sections 201 and 664 of the Standard Specifications insofar as applicable, and the following provisions.

This work shall consist of constructing a temporary chain link fence from approximately STA 18+53.6, 49.5' LT to STA 20+36.1, 49.5' LT and as directed by the Engineer. The centerline of the fence shall generally be located approximately 0.5' east of the existing easement line except near the driveway at STA 19+38. At this location the fence will follow and parallel the temporary easement line from approximately STA 19+23.1, 49.5' LT to STA 19+23.1, 69.5' LT to STA 19+52.1, 69.5' LT to STA 19+52.1, 49.5' LT. The location of the fence shall be field verified by the Contractor and coordinated with the Engineer.

The fence shall be erected early in construction before major earthwork and utility operations take place and as directed by the Engineer. The purpose of the temporary fence is to provide an enclosure of the property at this location while the permanent fence will be removed and

replaced by others (the property owners). The Contractor shall remove the fence near at the end of the project after the property owners construct their new fence.

The temporary fence shall be not less than 42 inches in height with in-ground base posts to secure the chain link. The manner of supporting the poles in the ground shall be approved by the Engineer. The temporary fence shall have no openings or breaks, except for a self-closing, self-latching gate(s) located at the driveway at STA 19+38. The gate shall open wide enough to provide full access to the driveway at all times. The temporary fence shall connect to the existing fence according to Article 664.10 such that there is no opening between the temporary fence and existing fence.

The temporary fence connections may need maintenance and adjustments throughout the project, particularly after the existing fence is removed by others. The temporary fence may need to be reset during the project, particularly when the property owners are replacing the proposed fence. The temporary fence shall remain erected until after the permanent fence is built by the property owner. The temporary fence shall be removed as directed by the Engineer. It is anticipated that the permanent fence will be erected no earlier than after the driveway entrance is completed and the final grade has been restored within the temporary construction easement. The cost of maintaining the fence in an acceptable condition, including any coordination with the property owner fence, shall be included in the cost of this pay item.

Once the temporary fence is removed, any disturbed area shall be cleaned, layered with topsoil and seeded as shown on the plans. Any required restoration will be paid for at the contract unit prices of the landscaping related items (topsoil, fertilizer, seed, etc.). No additional compensation will be provided for any additional mobilization required to provide this work.

Measurement of the item TEMPORARY FENCE (SPECIAL) shall be along the top of the fence from center to center of end posts, including the gate. The gate shall not be paid for separately. If the fence and gate are moved due to construction staging, construction activities, procedures selected by the Contractor, or to construct the project in accordance with the plans and specifications, this work will not be paid for separately but shall be considered included in the cost of TEMPORARY FENCE (SPECIAL).

This work, as herein specified, will be paid for at the contract unit price per FOOT for TEMPORARY FENCE (SPECIAL), which price shall include installation and removal, relocating the temporary fence as necessary, the gate, connections, and all material, equipment and labor necessary to complete this work.

#### **HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH**

This work shall be in accordance with Section 440 of the Standard Specifications insofar as applicable and the following provisions.

This work shall consist of the removal of the existing hot-mix asphalt surface to a depth as specified below (including all loose and defective surface), and as directed by the Engineer, in

preparation for hot-mix asphalt surfacing. The depth of Hot-Mix Asphalt Surface Removal, Variable Depth shall be sufficient as to place Leveling Binder (if shown) and Hot-Mix Asphalt Surface Course to the grades shown on the cross sections in the plans. The locations and depths of Hot-Mix Asphalt Surface Removal, Variable Depth are generally as follows:

- Williams Road STA 10+21 to STA 10+45: variable depth ranging in depth from zero (0) inches to two (2) inches
- Williams Road STA 20+90 to STA 20+65: nominally two (2) inches

Hot-Mix Asphalt Surface Removal, Variable Depth shall be measured in place and the areas computed in square yards. The area measured shall be the actual areas required as directed by the Engineer. If additional pavement is removed or damaged due to negligence on the part of the Contractor, the additional quantities shall not be measured for payment.

This work will be paid for at the contract unit price per square yard for HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH. This price shall include all material, equipment, and labor necessary to complete this work.

#### **WATER MAIN REMOVAL, 8"**

This work shall be in accordance with Section 561 of the Standard Specifications and the SSWSCI, insofar as applicable, and the following provisions.

This item shall consist of removing existing water main at locations shown in the plans. Proposed water main will be constructed at the same location as the water main to be removed. Backfill of the existing trench after water main removal is not required; this will occur after proposed water main construction.

The removal of the existing tee and bend shall be coordinated as described in the CONNECTION TO EXISTING WATER MAIN special provision.

This work will be paid for at the contract unit price per foot for WATER MAIN REMOVAL, 8", which price shall include disposing of the existing water main and all material, equipment, and labor necessary for a complete removal.

#### **CONNECTION TO EXISTING WATER MAIN**

This work shall be in accordance with Sections 561 and 563 of the Standard Specifications, SSWSCI, and the City Specifications insofar as applicable and the following provisions. This work shall include all labor, material, and equipment to connect the proposed water main via a cut-in tee connection to the existing water main. This work includes all sleeves, fittings, dewatering, disposal of abandoned pipe, backfilling any voids, trench backfill, thrust blocking and all materials, labor, and equipment necessary to properly connect to the existing water main.

The Contractor shall perform cut-in connections to the existing water main at locations shown on the drawings.

The connection of new work and old requires interruption of services and notification of customers affected. The City, the Engineer and the Contractor shall mutually agree upon a date and time for connections which will allow ample time to assemble labor and materials, and to notify all customers affected. Customers shall be notified at least 48 hours prior to being taken out of service.

The Contractor shall not operate valves on existing mains (unless otherwise authorized by the City) and will be closed and opened only by the employees of the City's Public Works Department.

The Contractor shall expose the water main to be connected to and shall confirm the size and type of piping present. The Contractor shall obtain the necessary materials required to make a proper connection. The Contractor shall not proceed until he has all the required materials on site. The Contractor shall limit the time for connections to four (4) hours. In no case, shall a customer(s) be out of service overnight.

This work shall be coordinated with the City and the Engineer prior to starting the work. Damage to the existing water main and appurtenances will result in repairs and/or replacements at the Contractor's expense.

Once the new water main has been tested and approved for service, the Contractor shall, under the direction of the Engineer and City, place the new water main in service.

This work will be paid for at the contract unit price per each for CONNECTION TO EXISTING WATER MAIN, of the existing water main size specified, which price shall include all sleeves, fittings, dewatering, disposal of abandoned pipe, bedding, backfilling any voids, trench backfill, and all materials, labor, and equipment necessary to properly connect to the existing water main.

#### **CATCH BASINS, TYPE A, 4'-DIAMETER, WITH SPECIAL FRAME AND GRATE**

This work shall be in accordance with Section 602 of the Standard Specifications insofar as applicable, the detail in the plans and the following provisions.

This work consists of installing a Catch Basin, Type A, 4'-Diameter, with a Special Frame and Grate that is detailed in the plans. The Frame and Grate shall be a Neenah R-3281-AL, with a Reversible Vane Grate (Type L) and Curb Plate.

This work will be paid for at the contract unit price per each for CATCH BASINS, TYPE A, 4'-DIAMETER, WITH SPECIAL FRAME AND GRATE. This price shall include all material, equipment, and labor necessary for a complete installation.

### **MANHOLES, SANITARY**

This work shall be performed in accordance with Section 602 of the Standard Specifications, the SSWSCI, and City Specifications insofar as applicable and the following provision. This work shall include furnishing and installing manhole, frame and lid, trench backfill, dewatering, and backfill material as detailed on the plans and disposal of all excess materials.

Frames and lids shall be Type 1 frame and grate and the word "SANITARY" shall be cast in the cover. The lid shall be a self-sealing solid lid with watertight gasket and concealed pickhole.

All sanitary sewer manholes shall be set in butyl rope joint sealant, including all component parts, bottoms, barrels, adjusting rings and castings. The outside joints shall be provided with a four (4) inch wide strip of butyl-resin sealant completely around each joint with vertical lap of one (1) inch and horizontal lap of six (6) inches.

Sanitary manholes shall have a poured concrete bench. Cast iron steps shall be installed in manholes.

External chimney seals shall be installed on all sanitary manholes.

Sanitary sewer manholes shall have openings for the pipe connections cast into the wall of the structure. Rubber boots with stainless steel bands / retainers shall be per ASTM C-923.

The Contractor shall perform vacuum testing of the manholes in accordance with the SSWSCI.

No ground water will be allowed to enter the sanitary sewer or manholes during or after construction. When water is encountered in the excavation for the manhole, it shall be removed. Provisions shall be made to prevent floating of the structure. Dewatering, if required, shall be included in the cost of this item.

Basis of Payment. This work shall be paid for at the contract unit price per each for MANHOLES, SANITARY, of the diameter specified, of the frame and lid specified, which price shall include providing and installing the manhole, frame and lid, chimney seal, cast iron steps, rubber boots, trench backfill, dewatering, and backfill material as detailed on the plans, and all manhole vacuum testing, materials, labor, and equipment for a complete installation.

### **SANITARY MANHOLE, SPECIAL**

This work shall be in accordance with the special provision for MANHOLES, SANITARY, and the following. The Contractor shall provide a protective coating on the inside and outside of the force main discharge manhole as follows:

Exterior:

1. Surface preparation: Allow new concrete to cure 28 days, verify dryness, remove laitance, sealer, form release agent or any other contamination that may affect adhesion.
2. Apply one coat of a Polyamide Epoxy-Coal Tar coating at a dry film thickness of 16.0 – 20.0 mils.

Interior:

1. Surface Preparation: Allow new concrete to cure 28 days, verify dryness, abrasive blast clean all in accordance with SSPC SP-13 to remove laitance, form release agents, curing compounds, sealers and to provide profile. A surface profile in accordance with ICRI CSP-5 is required.
2. Specific surface preparation requirements
  - a. Where the coating is specified to be terminated, the CONTRACTOR shall prepare and apply materials as outlined in Drawing TLS-01, Leading Edge Termination Detail.
  - b. For applications around pipe penetrations and/or drains, the CONTRACTOR shall prepare and apply coatings as detailed on Drawing TLS-03, Pipe Penetrations.
  - c. Prepare and apply coatings and caulk in joints as detailed on DWG. No. TLS-10, & 08.
3. Patch and resurfacer: Apply 100% solid by volume, Epoxy Modified Cementitious Mortar to the entire surface to restore the concrete surface to a contiguous plane and to reduce outgassing of the concrete (1/16-inch DFT). Fill and patch larger voids with 100% solid by volume, Epoxy Modified Cementitious Mortar mixed with pea gravel.

The resurfacing materials must not require wet or membrane curing compounds for preservation of moisture, nor shall require additional surface preparation prior to receiving subsequent lining materials.

The concrete substrate surface should be "pre-wet" or dampened with potable water to a Saturated Surface Dry (SSD) condition; the concrete is darkened by water but there is no pooling of water on the concrete. This can be done by using a Hudson pump-up sprayer or heavy nap roller cover dampened with potable water. Note: Do not over saturate the surface.

4. 1st coat: Apply a 100% solids, aggregate reinforced Modified Aliphatic Amine Epoxy Mortar designed for severe wastewater immersion and fume environments that is specifically formulated to withstand high levels of hydrogen sulfide gas ( $H_2S$ ), sulfuric acid ( $H_2SO_4$ ), as well as other gases common to sewer exposures at 125 mils (1/8") DFT. Color shall be 5022 Beige

Lining is to be trowel applied; Mortar Hawk & steel concrete finishing trowels are required to spread the 100% solids, aggregate reinforced hybrid epoxy mortar to an even, minimum 1/8" thickness and finish rolled using a high quality 1/4" nap, shed resistant, woven fabric roller, lightly dampened with the manufacture's recommended thinner.



5. Glaze coat: Apply a versatile, thick film, 100% solids, abrasion-resistant Modified Polyamine Epoxy lining specifically designed for wastewater immersion and fume environments that provides low permeation to H<sub>2</sub>S gas, protects against MIC and provides chemical resistance to severe wastewater environments at a dry film thickness of 15.0 – 20.0 mils. Color shall be 5022 Chicago Beige

Roller applied using a high quality 3/8" to 1/2" synthetic woven nap roller covers.

All applications, handling, storage, and preparation of materials shall be per the manufacturer's recommendations.

Minimum Coating and Lining Performance Requirements.

***Polyamide Epoxy-Coal Tar***

**ABRASION**

METHOD: ASTM D 4060, (CS-17 Wheel, 1,000 grams load).

SYSTEM: One coat cured 30 days at 75°F (24°C).

REQUIREMENT: No more than 142 mg loss after 1,000 cycles.

METHOD: ASTM D 968, (Method A, Falling Sand).

SYSTEM: One coat cured seven days at 75°F (24°C).

REQUIREMENT: 22 liters per mil.

**ADHESION**

METHOD: ASTM D 4541.

SYSTEM: One coat applied to concrete and cured seven days outdoors.

REQUIREMENT: Exceeds the cohesive strength of the concrete substrate (400 psi), average of three tests. (TR1170)

**HARDNESS**

METHOD: ASTM D 3363 (Pencil).

SYSTEM: One coat applied to SSPC-SP10/NACE No. 2 Near-White Metal Blast Cleaned steel and cured 14 days at 75°F (24°C).

REQUIREMENT: Must pass F (gouge).

**IMMERSION**

METHOD: ASTM D 870.

SYSTEM: One coat applied to SSPC-SP6/NACE No. 3 Commercial Blast Cleaned steel and cured for seven days.

REQUIREMENT: No blistering, cracking, softening or delamination of film after one year continuous immersion in tap water.

**IMPACT**

METHOD: ASTM D 2794 (Intrusion).

SYSTEM: One coat applied to SSPC-SP10/NACE No. 2 Near-White Metal Blast Cleaned steel and cured 14 days at 95°F to 100°F (35°C to 38°C).  
REQUIREMENT: No visible cracking or delamination after 40 in/lbs (4.52 J) direct impact.

#### SALT SPRAY (FOG)

METHOD: ASTM B 117.

SYSTEM: One coat applied to SSPC-SP6/NACE No. 3 Commercial Blast Cleaned steel and cured seven days at 75°F (24°C).

REQUIREMENT: No blistering, cracking, checking, rusting or delamination of film. No rust creepage at scribe after 9,000 hours continuous exposure.

#### ***Polyamidoamine Epoxy***

##### ABRASION

METHOD: ASTM D 4060, (CS-17 Wheel, 1,000 grams load).

SYSTEM: Two coats cured seven days at 75°F (24°C).

REQUIREMENT: No more than 140 mg loss after 1,000 cycles.

##### ADHESION

METHOD: ASTM D 4541 Type V Self-Aligning Adhesion Tester.

SYSTEM: Two coats cured 14 days at 75°F (24°C).

REQUIREMENT: No less than 1,943 psi (13.40 MPa) pull, average of three tests.

##### EXTERIOR EXPOSURE

METHOD: ASTM D 1014.

SYSTEM: Two coats at 5.0 mils DFT per coat applied to SSPC-SP10/NACE No. 2 Near-White Metal Blast Cleaned steel with a 2.0 mil profile.

PURPOSE: To evaluate when exterior exposed at 45 degrees south.

REQUIREMENT: No blistering, cracking, checking, rusting or delamination of film. No rust creepage at scribe after 5 years exposure.

##### HUMIDITY

METHOD: ASTM D 4585.

SYSTEM: Two coats at 9.0 mils total DFT applied to SSPC-SP10/NACE No. 2 Near-White Metal Blast Cleaned steel with a 1.5 mil profile.

REQUIREMENT: No blistering, cracking, checking, rusting or delamination of film after 10,000 hours exposure.

##### IMMERSION

METHOD: ASTM D 870.

SYSTEM: Two coats at 4.5 to 5.0 mils DFT per coat applied to SSPC-SP10/NACE No. 2 Near-White Metal Blast Cleaned steel with 2.0 mil profile.

REQUIREMENT: No blistering, cracking, checking, rusting or delamination of film after two years continuous water immersion.

METHOD: ASTM D 870.

SYSTEM: Two coats Series at 10.1 - 10.2 mils DFT total applied to SSPC-SP10/NACE No. 2 Near-White Metal Blast Cleaned steel with a 1.5 mil profile, cured 14 days at 75°F (24°C).

REQUIREMENT: No blistering, cracking, rusting or delamination of film after 2,000 hours continuous immersion in deionized water at 140°F, average of three tests.

#### MOISTURE VAPOR TRANSMISSION

METHOD: ASTM D 1653.

SYSTEM: Free film

REQUIREMENT: No more than 4.30 g/m<sup>2</sup> 24 hours water vapor transmission and no more than 0.31 grains/ft<sup>2</sup>/hour in Hg water vapor permeability.

#### PROHESION

METHOD: ASTM G 85.

SYSTEM: Two coats at 5.0 mils DFT per coat applied to SSPC-SP10/NACE No. 2 Near-White Metal Blast Cleaned steel with a 2.0 mil profile.

REQUIREMENT: No blistering, cracking, checking, rusting or delamination of film. No more than 1/8" rust creepage at scribe after 5,000 hours exposure.

#### SALT SPRAY (FOG)

METHOD: ASTM B 117.

SYSTEM: Two coats applied to SSPC-SP10/NACE No. 2 Near-White Metal Blast Cleaned steel with a 1.5 mil profile and cured for 14 days.

REQUIREMENT: No blistering, cracking or delamination of film. No more than 1% rusting on plane. No more than 1/16" rust creepage at scribe after 6,700 hours exposure.

#### ***Modified Polyamine Ceramic Epoxy***

##### ABRASION

METHOD: ASTM D 4060-07 (CS-17 Wheel, 1,000 cycles, 1,000 gram load).

SYSTEM: Applied to SSPC-SP 1 Solvent Cleaned steel and cured seven days at 75°F (24°C).

REQUIREMENT: No more than 76 mg loss, average of three tests.

METHOD: BS EN 598: 2007+A1: 2009 (Rocking Abrasion).

SYSTEM: Applied to NAPF 500-04-03 Abrasive Blast Cleaned ductile iron pipe and cured 30 days.

REQUIREMENT: No more than 0.01 mm (0.6 mils) thickness of coating loss after 50,000 cycles.

METHOD: BS EN 598: 2007+A1: 2009 (Rocking Abrasion).

SYSTEM: Applied to NAPF 500-04-03 Abrasive Blast Cleaned ductile iron pipe and cured 30 days.

REQUIREMENT: No more than 0.14 mm (5.5 mils) thickness of coating loss after 1,000,000 cycles.

METHOD: ASTM D 968.

SYSTEM: Applied to SSPC-SP5/NACE No. 1 White Metal Blast Cleaned steel and cured >30 days at 75°F (24°C).

REQUIREMENT: No more than 500 Liters/mil (25 microns) loss.

#### ADHESION

METHOD: ASTM D 4541-09 (Method E, Type V Tester, Scored).

SYSTEM: Applied to NAPF 500-03-04 Abrasive Blast Cleaned ductile iron pipe and cured seven days at 75°F (24°C).

REQUIREMENT: No less than 1,131 psi (7.8 MPa) pull, average of three tests.

METHOD: ASTM D 4541-09 (Method E, Type V Tester, Scored).

SYSTEM: Applied to SSPC-SP5/NACE No. 1 White Metal Blast Cleaned steel and cured seven days at 75°F (24°C).

REQUIREMENT: No less than 1,770 psi (12.2 MPa) pull, average of three tests.

METHOD: ASTM D 4541-09e1 (Method E, Type V Tester, 20mm).

SYSTEM: Applied to NAPF 500-03-04 Internal Pipe Surface Condition (full removal of annealing oxide layer) cleaned ductile iron and cured >30 days at 75°F (24°C).

REQUIREMENT: No failure. Adhesion strength greater than 3,000 psi (20.68 MPa) and exceeded the limitations of the equipment, average of three tests.

#### CATHODIC DISBONDMENT

METHOD: ASTM G 8-96 (2003) e1.

SYSTEM: Applied at 37 mils average DFT and cured 14 days at 75°F (24°C).

REQUIREMENT: Classification Group A. No more than 0.00 inch (0.00 mm) disbanded equivalent circle diameter, average of two tests.

#### CHEMICAL IMMERSION

METHOD: NACE TM 0174-2002.

SYSTEM: Applied to SSPC-SP5/NACE No. 1 White Metal Blast Cleaned steel and cured 30 days at 75°F (24°C).

REQUIREMENT: No blistering, cracking, checking, erosion or delamination of film after one year continuous immersion at 72°F (22°C).

Reagents:

Hydrochloric Acid 5%, Sulfuric Acid 5%, Hydrochloric Acid 10%, Sulfuric Acid 25%, Sodium Hypochlorite 13%, Sulfuric Acid 50%, Sodium Potassium Acetate 50%, Urea Liquid

#### CHEMICAL RESISTANCE

METHOD: BS EN 598: 2007+A1: 2009 (Chemical Resistance to Effluents).

SYSTEM: Applied to NAPF 500-04-03 Abrasive Blast Cleaned ductile iron pipe and cured 14 days at 75°F (24°C).

REQUIREMENT: No blistering, checking, disbonding, softening, discoloration or loss of gloss following six months immersion, recirculated at 1.0 l/min and maintained at 64°F (18°C).

Reagents:

Sulfuric acid solution, pH 3, Sodium hydroxide solution, pH 13

#### DIELECTRIC STRENGTH

METHOD: ASTM D 149.

SYSTEM: Cured 30 days at 75°F (24°C).

REQUIREMENT: Not less than 618 V/mil dielectric strength, average of five tests.

#### HARDNESS

METHOD: ASTM D 2240-05.

SYSTEM: Cured 30 days at 75°F (24°C).

REQUIREMENT: No less than a Shore Type D hardness of 78, average of five tests.

#### IMMERSION

METHOD: ASTM D 870-09.

SYSTEM: Applied to NAPF 500-04-03 Abrasive Blast Cleaned ductile iron pipe and cured 14 days.

REQUIREMENT: No rusting, cracking, checking, or delamination of film after 4,000 hours continuous immersion in 140°F deionized water.

#### IMPACT

METHOD: ASTM D 2794-93 (2010) (modified)

SYSTEM: Applied to SSPC-SP5/NACE No. 1 White Metal Cleaned steel and cured 30 days at 75°F (24°C).

REQUIREMENT: No visible cracking or delamination of film after 160 inch-pounds direct impact to 1/8 inch steel panel.

METHOD: ASTM D 2794-093

SYSTEM: Series 431 Perma-Shield PL applied to NAPF-500-04-03 ductile iron pipe panel and cured 30 days at 75°F (24°C).

REQUIREMENT: No visible cracking or delamination of film after 160 inch-pounds direct impact to Class 350 ductile iron pipe panel.

#### SALT SPRAY (FOG)

METHOD: ASTM B 117-09.

SYSTEM: Applied to ductile iron and cured 14 days at 75°F (24°C).

REQUIREMENT: No blistering, cracking or delamination of film after 10,000 hours exposure.

#### SEVERE WASTEWATER ANALYSIS TEST (S.W.A.T.)

METHOD: ASTM G 210.

SYSTEM: Applied to SSPC-SP5/NACE No. 1 White Metal Blast Cleaned steel.

REQUIREMENT: Initial impedance of 10.3 log-Z at 0.01 Hz (ohms cm<sup>2</sup>). No cracking, checking or delamination. No less than 84.5% retention or not more than 1.6 ohms cm<sup>2</sup> reduction in log-Z electrochemical impedance at 0.01 Hz after 28 days exposure.

#### SPECIAL QUALIFICATIONS

METHOD: Ductile Iron Pipe Research Association (DIPRA).

REQUIREMENT: Ceramic filled amine epoxy containing 20% ceramic microspheres suitable for use in 120-150°F operating temperature septic sewers.

METHOD: High-Velocity Jet Sewer Cleaning (Hydrocleaning).

REQUIREMENT: Compatible with 2,500 psi (172 bar) water pressure. 80 gpm (302 Lpm) flow rate, 0° fixed jet nozzles, 60s stationary time (hold time).

METHOD: Above Ground Storage Life.

REQUIREMENT: Up to 3 years (exposure) with only minor chalking, no cracking, checking, rusting, undercutting or disbondment of the film.

#### TENSILE STRENGTH, ELONGATION, MODULUS OF ELASTICITY

METHOD: ASTM D 2370-98 (2010)

SYSTEM: Cured 30 days at 75°F (24°C).

REQUIREMENT: No less than 3,400 psi (23.4 MPa) tensile strength, 3.5% elongation at break, and 152,000 psi (1,048 MPA) tensile modulus of elasticity, average of ten tests.

#### WATER ABSORPTION

METHOD: ASTM C 413-01 (2006).

SYSTEM: Cured 14 days at 75°F (24°C).

REQUIREMENT: No water absorption, average of three tests.

#### WATER VAPOR TRANSMISSION

METHOD: ASTM D 1653-03 (2008) (Method B Wet Cup, Condition C).

SYSTEM: Cured 30 days at 75°F (24°C).

REQUIREMENT: No more than 1.25 g/m<sup>2</sup> per 24h water vapor transmission (WVT), and no more than 0.09 perms (0.06 metric perms) water vapor permeance (WVP), average of three tests. (TR6186-D)

METHOD: ASTM E 96/E96M-05 (Procedure D).

SYSTEM: Cured 30 days at 75°F (24°C).

REQUIREMENT: No more than 0.09 perms (0.06 metric perms) water vapor permeance (WVP), average of three tests.

METHOD: ASTM D 1653.

SYSTEM: Cured >30 days at 75°F (24°C).

REQUIREMENT: No more than 0.71 g/m<sup>2</sup> per 24h water vapor transmission (WVT) and no more than 0.103 perms (0.0028 metric perms) water vapor permeance (WVP).

***Epoxy Modified Cementitious Mortar***

**BOND STRENGTH**

METHOD: ASTM C 882.

SYSTEM: Cured seven days at 75°F (24°C).

REQUIREMENT: No less than 1,040 psi (7.17 MPa) bond strength by slant shear, average of three tests.

METHOD: ASTM D 7234 (50 mm dolly).

SYSTEM: Applied to SSPC-SP13/NACE No. 6 Surface Preparation of Concrete and cured 14 days at 75°F (24°C).

REQUIREMENT: No less than 500 psi (3.86 MPa) adhesion, average of three tests.

**COMPRESSIVE STRENGTH**

METHOD: ASTM C 579.

SYSTEM: Cured 28 days at 75°F (24°C).

REQUIREMENT: No less than 7,100 psi (48.95 MPa) compressive strength, average of three tests.

**DRYING SHRINKAGE**

METHOD: ASTM C 596.

SYSTEM: Cured 56 days at 75°F (24°C).

REQUIREMENT: No more than  $2.5 \times 10^{-6}$  inches linear shrinkage, average of five tests.

**FLEXURAL STRENGTH AND MODULUS OF ELASTICITY**

METHOD: ASTM C 580.

SYSTEM: Cured 28 days at 75°F (24°C).

REQUIREMENT: No less than 1,290 psi (8.89 MPa) flexural strength, average of six tests. No less than  $8.9 \times 10^5$  psi ( $6.19 \times 10^3$  MPa) flexural modulus of elasticity, average of six tests.

**SHRINKAGE**

METHOD: ASTM C 531.

SYSTEM: Cured 28 days at 75°F (24°C).

REQUIREMENT: No more than  $3.1 \times 10^{-6}$  inches (80 micrometers) linear shrinkage, average of three tests.

**SPLITTING TENSILE STRENGTH**

METHOD: ASTM C 496.

SYSTEM: Cured 28 days at 75°F (24°C).

REQUIREMENT: No less than 640 psi (4.42 MPa) splitting tensile strength.

**THERMAL EXPANSION**

METHOD: ASTM C 531.

SYSTEM: Cured 28 days at 75°F (24°C).

REQUIREMENT: No more than  $3.15 \times 10^{-6}$  inches linear coefficient of thermal expansion in/in/°F, average of three tests.

**100% solids, aggregate reinforced Modified Aliphatic Amine Epoxy**

**ABRASION**

METHOD: ASTM D 4060, (CS-17 Wheel, 1,000 gram load).

SYSTEM: Cured seven days at 75°F (24°C).

REQUIREMENT: No more than 88 mg loss after 1,000 cycles, average of three tests.

**ADHESION**

METHOD: ASTM D 4541 (Method B, Type II), scored.

SYSTEM: Applied to SSPC-SP10/NACE No. 2 Near-White Metal Blast Cleaned steel and cured seven days at 75°F (24°C).

REQUIREMENT: Not less than 933 psi (6.44 MPa) pull, average of three tests.

METHOD: ASTM D 7234 (20 mm dolly).

SYSTEM: Resurfacer and Lining applied to SSPC-SP13/NACE No. 6, ICRI-CSP5 prepared concrete and cured seven days at 75°F (24°C).

REQUIREMENT: Exceeds the cohesive strength of the concrete substrate (400 psi).

METHOD: ASTM D 7234 (20 mm dolly).

SYSTEM: Applied to SSPC-SP13/NACE No. 6, ICRI-CSP5 prepared concrete and cured seven days at 75°F (24°C).

REQUIREMENT: Exceeds the cohesive strength of the concrete substrate (400 psi).

**CHEMICAL IMMERSION**

METHOD: NACE TM 0174, Continuous Immersion at 72°F (22°C).

SYSTEM: Applied to SSPC-SP5/NACE No. 1 White Metal Blast Cleaned steel and cured seven days at 75°F (24°C).

REQUIREMENT: No blistering, cracking, erosion, swelling, loss of adhesion or gloss loss after six months continuous immersion.

Reagents: Acetic Acid, 5% Nitric Acid, 5% Calcium Hydroxide, 5% Phosphoric Acid, 5% Calcium Hypochlorite, 5% Potassium Hydroxide, 5% Citric Acid, 5%, 20%, 50% Sulfuric Acid, 10% Lactic Acid, 5%, 20%

**CHEMICAL RESISTANCE**

METHOD: ASTM C 868 (Atlas Cell).

SYSTEM: Applied to SSPC-SP5/NACE No. 1 White Metal Blast Cleaned steel and cured 14 days at 75°F (24°C).

REQUIREMENT: No blistering, cracking, erosion, softening, swelling, loss of adhesion or gloss loss after 100 days continuous immersion at 100°F (38°C) in 25% sulfuric acid.

**COMPRESSIVE STRENGTH**



METHOD: ASTM D 695.

SYSTEM: Cured 30 days at 75°F (24°C).

REQUIREMENT: Not less than 12,331 psi (85.0 MPa) compressive strength, average of five tests.

METHOD: ASTM C 579.

SYSTEM: Cured 14 days at 75°F (24°C).

REQUIREMENT: No less than 5,060 psi (34.9 MPa) compressive strength, average of three tests.

#### FLEXURAL STRENGTH AND MODULUS OF ELASTICITY

METHOD: ASTM C 580 (Method A).

SYSTEM: Cured 14 days at 75°F (24°C).

REQUIREMENT: Not less than 3,200 psi (22 MPa) flexural strength and no less than 1.1 x 10<sup>6</sup> psi (7,600 MPa) flexural modulus of elasticity, average of three tests.

#### HUMIDITY

METHOD: ASTM D 4585.

SYSTEM: Resurfacer and Lining applied to SSPC-SP13/NACE No. 6, ICRI-CSP5 prepared concrete and cured 30 days at 75°F (24°C).

REQUIREMENT: No blistering, cracking or delamination after 4,000 hours exposure.

METHOD: ASTM D 4585.

SYSTEM: Applied to SSPC-SP13/NACE No. 6, ICRI-CSP5 prepared concrete and cured 30 days at 75°F (24°C).

REQUIREMENT: No blistering, cracking or delamination after 4,000 hours exposure.

#### IMPACT

METHOD: ASTM D 2794.

SYSTEM: Applied to SSPC-SP7/NACE No. 4 Brush-Off Blast Cleaned steel and cured 30 days at 75°F (24°C).

REQUIREMENT: No visible cracking or delamination after 160 inch-pounds (18.1 J) direct impact.

#### IMPACT

METHOD: ASTM D 2794.

SYSTEM: Applied to SSPC-SP7/NACE No. 4 Brush-Off Blast Cleaned steel and cured 30 days at 75°F (24°C).

REQUIREMENT: No visible cracking or delamination after 160 inch-pounds (18.1 J) direct impact.

#### SEVERE WASTEWATER ANALYSIS TEST (S.W.A.T.)

METHOD: ASTM G 210.

SYSTEM: Applied to SSPC-SP5/NACE No. 1 White Metal Blast Cleaned steel.

REQUIREMENT: Initial impedance of 10.6 log-Z at 0.01 Hz (ohms cm<sup>2</sup>). No blistering, cracking or checking. No less than 86.7% retention or not more than 1.4 ohms cm<sup>2</sup> reduction in log-Z electrochemical impedance at 0.01 Hz after 28 days exposure.

#### SHRINKAGE

METHOD: ASTM C 531.

SYSTEM: Series 434 Perma-Shield H2S cured 14 days at 75°F (24°C).

REQUIREMENT: No more than 0.013% linear shrinkage, average of four tests.

#### SPECIAL QUALIFICATIONS

METHOD: LACSD Evaluation of Protective Coatings for Concrete.

REQUIREMENT: No application problems, good bond to concrete and excellent resistance to acid with only surface discoloration following 430 days exposure, 10% H<sub>2</sub>SO<sub>4</sub>.

#### TENSILE STRENGTH, ELONGATION, MODULUS OF ELASTICITY

METHOD: ASTM C 307.

SYSTEM: Cured 14 days at 75°F (24°C).

REQUIREMENT: Not less than 2,030 psi (14.0 MPa) tensile strength, average of three tests.

#### THERMAL EXPANSION

METHOD: ASTM C 531.

REQUIREMENT: No more than  $6.3 \times 10^{-5}$  linear coefficient of thermal expansion in/in/°F, average of four tests.

#### WATER ABSORPTION

METHOD: ASTM C 413.

SYSTEM: Cured 30 days at 75°F (24°C).

REQUIREMENT: No more than 0.035 grams water absorption, average of three tests.

#### WATER VAPOR TRANSMISSION

METHOD: ASTM E 96, Procedure D.

SYSTEM: Cured 14 days at 75°F (24°C).

REQUIREMENT: No more than 3.22 g/m<sup>2</sup>/24h water vapor transmission and no more than 0.274 grains/ft<sup>2</sup>/hr/in Hg water vapor permeance, average of three tests.

#### **100% solids, abrasion-resistant Modified Polyamine Epoxy**

##### ABRASION

METHOD: ASTM D 4060, (CS-17 Wheel, 1,000 gram load).

SYSTEM: Cured seven days at 75°F (24°C).

REQUIREMENT: No more than 124 mg loss after 1,000 cycles, average of three tests.

##### ADHESION

METHOD: ASTM D 4541 (Method E, Type V Tester, 20 mm dolly), scored.

SYSTEM: Applied to SSPC-SP5/NACE No. 1 White Metal Blast Cleaned steel and cured seven days at 75°F (24°C).

REQUIREMENT: No less than 1,806 psi (12.46 MPa) adhesion, average of three tests.

METHOD: ASTM D 7234 (20 mm dolly).

SYSTEM: Applied to SSPC-SP13/NACE No. 6, ICRI-CSP5 prepared concrete and cured seven days at 75°F (24°C).

REQUIREMENT: Exceeds the cohesive strength of the concrete substrate (400 psi).

METHOD: ASTM D 7234 (20 mm dolly).

SYSTEM: Aggregate reinforced Modified Aliphatic Amine Epoxy & Glaze Coat applied to SSPC-SP13/NACE No. 6, ICRI-CSP5 prepared concrete and cured seven days at 75°F (24°C).

REQUIREMENT: Exceeds the cohesive strength of the concrete substrate (400 psi).

#### CHEMICAL IMMERSION

METHOD: NACE TM 0174, Continuous Immersion at 72°F (22°C).

SYSTEM: Applied to SSPC-SP5/NACE No. 1 White Metal Blast Cleaned steel and cured 14 days at 75°F (24°C).

REQUIREMENT: No blistering, cracking, erosion, swelling, loss of adhesion or gloss loss after six months continuous immersion.

Reagents: Acetic Acid, 5% Nitric Acid, 5%, Calcium Hydroxide, 5% Phosphoric Acid, 5%, Calcium Hypochlorite, 5% Potassium Hydroxide, 5% Citric Acid, 5%, 20%, 50% Sulfuric Acid, 10%, Lactic Acid, 5%, 20%

#### CHEMICAL RESISTANCE

METHOD: ASTM C 868 (Atlas Cell).

SYSTEM: Aggregate reinforced Modified Aliphatic Amine Epoxy & Glaze Coat applied to SSPC-SP5/NACE No. 1 White Metal Blast Cleaned steel and cured 14 days at 75°F (24°C).

REQUIREMENT: No blistering, cracking, erosion, softening, swelling, loss of adhesion or gloss loss after 100 days continuous immersion at 100°F (38°C) in 25% sulfuric acid.

#### COMPRESSIVE STRENGTH

METHOD: ASTM D 695.

SYSTEM: Cured 30 days at 75°F (24°C).

REQUIREMENT: No less than 9,427 psi (65.0 MPa) compressive strength, average of five tests.

METHOD: ASTM C 579.

SYSTEM: Cured 14 days at 75°F (24°C).

REQUIREMENT: No less than 4,390 psi (30.2 MPa) compressive strength, average of three tests.

#### FLEXURAL STRENGTH AND MODULUS OF ELASTICITY

METHOD: ASTM D 790.

SYSTEM: Cured 30 days at 75°F (24°C).

REQUIREMENT: Not less than 3,289 psi (22.68 MPa) flexural strength and 15,790 psi (108.87 MPa) flexural modulus of elasticity.

#### HARDNESS

METHOD: ASTM D 2240.

SYSTEM: Applied to SSPC-SP13/NACE No. 6, ICRI-CSP5 prepared concrete and cured 14 days at 75°F (24°C).

REQUIREMENT: Not less than a Shore Type D hardness of 77, average of five tests.

#### HUMIDITY

METHOD: ASTM D 4585.

SYSTEM: Resurfacer and Glaze coat applied to SSPC-SP13/NACE No. 6, ICRI-CSP5 prepared concrete and cured 30 days at 75°F (24°C).

REQUIREMENT: No blistering, cracking or delamination of film after 4,000 hours exposure.

METHOD: ASTM D 4585.

SYSTEM: Applied to SSPC-SP13/NACE No. 6, ICRI-CSP5 prepared concrete and cured 30 days at 75°F (24°C).

REQUIREMENT: No blistering, cracking or delamination of film after 1,500 hours exposure.

#### IMMERSION

METHOD: ASTM D 870.

SYSTEM: 1) Aggregate reinforced Modified Aliphatic Amine Epoxy & Glaze Coat applied to SSPC-SP13/NACE No. 6, ICRI-CSP5 prepared concrete and cured 14 days at 75°F (24°C).

2) applied to SSPC-SP5/NACE No. 1 White Metal Blast Cleaned steel and cured seven days at 75°F (24°C).

REQUIREMENT: No blistering, cracking, checking, rusting or delamination of film after 2,000 hours continuous immersion in deionized water at 140°F.

#### IMPACT

METHOD: ASTM D 2794.

SYSTEM: applied to SSPC-SP7/NACE No. 4 Brush-Off Blast Cleaned steel and cured seven days at 75°F (24°C).

REQUIREMENT: No visible cracking or delamination after 56 inch-pounds (6.3 J) direct impact.

#### SEVERE WASTEWATER ANALYSIS TEST (S.W.A.T.)

METHOD: ASTM G 210.

SYSTEM: Applied to SSPC-SP5/NACE No. 1 White Metal Blast Cleaned steel.

REQUIREMENT: Initial impedance of 8.5 log-Z at 0.01 Hz (ohms cm<sup>2</sup>). No blistering, cracking or checking. No less than 100% retention and no reduction in electrochemical impedance after 28 days exposure.

TENSILE STRENGTH, ELONGATION, MODULUS OF ELASTICITY

METHOD: ASTM D 638.

SYSTEM: Cured 30 days at 75°F (24°C).

REQUIREMENT: No less than 1,865 psi (12.86 MPa) tensile strength and 5.15% elongation.

METHOD: ASTM D 2370.

SYSTEM: Cured 30 days at 75°F (24°C).

REQUIREMENT: No less than 2,053 psi (14.16 MPa) tensile strength and 1,180 psi (8.14 MPa) tensile modulus of elasticity.

METHOD: ASTM D 2370.

SYSTEM: Cured 30 days at 75°F (24°C).

REQUIREMENT: No less than 14.1% elongation, average of ten tests.

WATER ABSORPTION

METHOD: ASTM C 413.

SYSTEM: Cured 30 days at 75°F (24°C).

REQUIREMENT: No absorption after three trials.

WATER VAPOR TRANSMISSION

METHOD: ASTM D 1653, Method B Wet Cup, Condition C.

SYSTEM: Cured a minimum of 37 days at 75°F (24°C).

REQUIREMENT: No more than 3.16 g/m<sup>2</sup> per 24h water vapor transmission rate (WVT) and no more than 0.243 perms and 0.160 metric perms water vapor permeance (WVP), average of three tests. (TR4663)

Basis of Payment. This work shall be paid for at the contract unit price per each for SANITARY MANHOLE, SPECIAL, which price shall include providing and installing the manhole, frame and lid, chimney seal, cast iron steps, rubber boots, protective coating, trench backfill, dewatering, and backfill material as detailed on the plans and all manhole vacuum testing, materials, labor, and equipment for a complete installation.

**SANITARY MANHOLES TO BE RECONSTRUCTED WITH NEW TYPE 1 FRAME, CLOSED LID**

This work shall be in accordance with Section 602 of the Standard Specifications insofar as applicable and the following provisions. This work shall consist of installing a new connection to the existing precast concrete manhole at the intersection of Williams Road and Batavia Road.

When connecting to the existing manhole, the hole must be cored (with a coring machine) and a rubber boot with stainless steel bands / retainers shall be provided in accordance with ASTM C-923. The bench shall be removed and repoured, if necessary.

External chimney seals shall be installed on the sanitary manhole.

Benches shall be cored or poured to form a smooth transition to the existing flow line.

The Contractor shall perform vacuum testing of the manholes in accordance with the SSWSCI.

The new frame and lid shall be set to final finished grade.

This work shall be paid for at the contract unit price per each for SANITARY MANHOLES TO BE RECONSTRUCTED WITH NEW TYPE 1 FRAME, CLOSED LID, which price shall include core drilling, frame and lid, manhole vacuum testing, and all materials, labor, and equipment for a complete installation.

#### **CONCRETE GUTTER (SPECIAL)**

This work shall be in accordance with Section 606 of the Standard Specifications and the detail in the plans insofar as applicable and the following provisions.

This work shall consist of installing a one foot wide concrete edge gutter around the driveway at STA 11+18. The gutter shall be 12" of Portland Cement Concrete placed on 4" of Aggregate Base Course, Type B as shown in the detail on the plans.

This work will be paid for at the contract unit price per foot for CONCRETE GUTTER (SPECIAL), which shall be payment in full for all material, equipment and labor necessary for a complete installation.

#### **CHAIN LINK GATES (SPECIAL)**

This work shall be in accordance with Section 664 of the Standard Specifications and Highway Standard 664001 insofar as applicable and the following provisions.

This work consists of furnishing and installing a chain link gate, 6' x 11' double, as shown on the plan, in accordance with the manufacturer's specifications.

The gate shall be 6' high with two gates that together equal 11' in length. The chain link fence and gates must be obtained from a single source. All gate parts and accessories shall match the fence. The Contractor shall provide a sonotube for casting plunger rod foundation in concrete slab.

This work will be paid for at the contract unit price per each for CHAIN LINK GATES (SPECIAL), measured in place. The price shall include the cost of all excavation, concrete, fence appurtenances and hardware, gate, and all material, labor, and equipment necessary to make a complete and finished installation.

### **TELEPHONE SERVICE INSTALLATION**

**Description.** This item shall consist of all material and labor required to extend, connect or modify the phone services, as indicated or specified, which is over and above the work performed by AT&T. The cost for the AT&T utility work, if any, will be paid for by the City. Service will be required to the sanitary sewer lift station control panel.

**Materials.** Materials shall be in accordance with the Standard Specifications.

### **CONSTRUCTION REQUIREMENTS**

**General.** It shall be the Contractor's responsibility to contact AT&T. The Contractor shall coordinate his work fully with AT&T both as to the work required and the timing of the installation. No additional compensation will be granted under this or any other item for extra work caused by failure to meet this requirement. **Please contact AT&T Customer Service, at 888-944-0447 to begin the service connection process. The Call Center Representatives will create a work order for the service connection. The representative will ask the requestor for information specific to the request. The representatives will assign the request based upon the location of the project.**

The Contractor should make particular note of the need for the earliest attention to arrangements with AT&T for service. In the event of delay by AT&T, no extension of time will be considered applicable for the delay unless the Contractor can produce written evidence of a request for telephone service within 30 days of execution.

The Contractor shall ascertain the work being provided by AT&T and shall provide all additional material and work not included by other contract pay items required to complete the telephone service work in complete compliance with the requirements of the utility and City ordinances. A 2" conduit shall be installed from the AT&T service entrance location to the pump control panel.

No additional compensation will be allowed for work required for the telephone service, even though not explicitly shown on the Drawings or specified herein.

**Basis of Payment.** This work will be paid for at the contract lump sum price for TELEPHONE SERVICE INSTALLATION which shall be payment in full for the work specified herein. No extra compensation shall be paid to the Contractor for any ancillary materials and labor required to fulfill the requirements as shown on the plans and specified within the contract documents. AT&T charges are to be excluded and paid by the City.

### **LIGHTING UNIT COMPLETE, SPECIAL**

This work shall be in accordance with Sections 821 and 830 of the Standard Specifications insofar as applicable and the following provisions.

This work shall consist of furnishing and installing a luminaire and light pole complete, and all hardware and accessories required for the intended permanent use of the lighting unit.

The luminaire shall be a post mounted, LED light fixture with a black finish, model 1430LED/5P/PT-SLIPFIT 3" OD x 3" TALL TENON/2 ARC30T3/w/STIPPLED LENS/BK as manufactured by Sternberg.

The light pole shall be 4"-3" diameter smooth tapered shaft, one-piece, 6063-T6 structural grade aluminum pole with a black finish and an access door. The pole wall thickness shall be 0.125 inches. The pole base shall be secured by four (4) ½-inch diameter anchor bolts. The pole shall be model 36, T4 shaft Williamsburg as manufactured by Sternberg.

The pole length shall be 12'-0" for lighting units on Light Pole Foundation, Special, and either 10'-0" (Lighting Units A3, A4, A5) or 8'-8½" (Lighting Units B3, B4, B5) for lighting units mounted on the bridge.

The light pole shall be installed on a Light Pole Foundation, Special or the bridge railing. The foundation or railing will be paid for separately.

This work will be paid for at the contract unit price per each for LIGHTING UNIT COMPLETE, SPECIAL, which shall be payment in full for the luminaire and light pole specified herein, hardware, accessories and all material, equipment and labor necessary for a complete installation.

### **LIGHTING CONTROLLER, SPECIAL**

This work shall be in accordance with Section 825 of the Standard Specifications insofar as applicable and the following provisions.

The electric power for the lighting circuits shall be controlled by photocell. The photocell shall comply with the Article 1068.01(e) (2) of the Standard Specifications. The photocell shall be mounted on the control cabinet as detailed in the plan.

An electric meter shall be mounted to the side of the control cabinet as shown in the plan.

The control cabinet shall be a single-door, stainless steel cabinet and shall have the dimensions as shown in the plans.

This work shall include the installation of the concrete foundation, ground rod, anchor bolts, raceways and all electrical items.



This work will be paid for at the contract unit price per each for LIGHTING CONTROLLER, SPECIAL, which shall be payment in full for the enclosure and control type specified herein, the concrete foundation, ground rod, anchor bolts, raceways, electrical items and all material, equipment and labor necessary for a complete installation.

#### **LIGHT POLE FOUNDATION, SPECIAL**

This work shall be in accordance with Section 836 of the Standard Specifications insofar as applicable and the following provisions.

The concrete foundation diameter shall be 18 inches.

This work will be paid for at the contract unit price per foot for LIGHTING POLE FOUNDATION, SPECIAL. This price shall include all material, equipment, and labor necessary for a complete installation.

#### **SANITARY SEWER SERVICE**

This work shall be in accordance with SSWSCI and the City's Specifications insofar as applicable and the following provisions.

All sanitary sewer services shall be PVC SDR 26 meeting ASTM D-2241 and joints shall meet the requirements of ASTM D-3139. (This is a pressure rated pipe meeting the requirements of water main quality pipe.) Sanitary sewer services shall be a minimum of 6-inches in diameter.

The location of the sanitary sewer service connections on the drawings is for reference only. The final location for any give service shall be determined by City staff prior to the start of any work. During the installation of the new sanitary sewer, wyes shall be installed at the designated locations by the City.

Excavation and backfill for sanitary sewer service shall conform to the trench details shown in the plans.

Sanitary sewer services shall be capped since service will not be provided at this time.

The Contractor shall perform air exfiltration of the sanitary sewer service in accordance with the SSWSCI.

No ground water will be allowed to enter the sanitary sewer service during or after construction. When water is encountered in the trench, it 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. Dewatering, if required, shall be included in the cost of this item.

Trench backfill will be included in the cost of this item.

Basis of Payment. All sanitary sewer service work shall be paid for at the contract unit price per foot for SANITARY SEWER SERVICE, of the size specified, which shall include all fittings, removal and disposal of excavated material, air testing and all material, labor and equipment for a complete installation.

### **CONCRETE SLAB**

This work shall be in accordance with Sections 351 and 424 of the Standard Specifications and the detail in the plans insofar as applicable and the following provisions.

This work shall consist of installing a concrete slab at the Sanitary Sewer Lift Station. The slab shall be 5" of Portland Cement Concrete placed on 4" of Aggregate Base Course, Type B as shown in the detail on the plans. The slab shall be reinforced with 6x6 - W1.4 x W1.4 Welded Wire Reinforcement.

The Aggregate Base Course, Type B shall extend one foot beyond the perimeter of the concrete slab and be brought to grade.

The lighting controller foundation, sanitary sewer lift station control panel, and other items related to the Sanitary Sewer Lift Station shall be paid for separately.

This work will be paid for at the contract unit price per square yard for CONCRETE SLAB, which shall be payment in full for all material, equipment and labor necessary for a complete installation.

### **FORCE MAIN**

Force main shall be installed in accordance with the SSWSCI and the City Specifications insofar as applicable and the following provisions.

All force main shall be PVC C900, PR200, DR14 and shall have rubber gasket mechanical or push-on type joints per AWWA C907. All fittings shall be PVC conforming to AWWA C907 and shall have restrained joints and thrust blocking.

Depth of bury for the force main is 5.5 feet minimum unless noted otherwise or indicated on the contract plans. Excavation and backfill for force mains shall conform to the trench details in the plans and the SSWSCI.

When water is encountered in the trench, it 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. Dewatering, if required, shall be included in the cost of this item.

The Contractor shall perform Hydrostatic Tests in accordance with Section 41-2.14 of the SSWSCI, and applicable provisions of AWWA C 600 and C 603. The force mains shall maintain a 150 psi average for up to 4 hours during the test. Allowable leakage shall be as set forth in SSWSCI, and at no time shall the pressure loss be greater than 2 psi. Duration of the test shall be two (2) hours minimum. The pressure gauge should be of good quality and condition, and be fluid filled. The pressure gauge shall have a minimum accuracy of one (1) psi. The testing length shall be limited to 1,000 lineal feet. The City's representative shall be present during all testing. If requested, the Contractor shall use a pressure gauge supplied by the City for the test.

Thrust blocking of all fittings is required. PVC fittings required to construct the force main are included in the cost of the force main.

Trench backfill will be paid for separately.

Basis of Payment. All force main work shall be paid for at the contract unit price per foot for FORCE MAIN, of the size specified, which shall include all labor, materials, thrust blocking, fittings, removal and disposal of excavated material, and equipment necessary to complete the work.

### **STEEL CASING PIPE AUGERED AND JACKED 30"**

This work shall consist of furnishing and installing by augering and jacking steel casing pipe of the size specified and in conformance with the detailed plans.

The casing pipe material shall be welded and seamless steel pipe meeting ASTM A-139, Grade B. The casing pipe shall have an inside diameter as specified in the plans.

The Contractor may install larger-diameter pipe than called for above, if the Contractor believes it would be beneficial for pipe stability. The pay item shall remain the same.

Casing pipe shall be installed to the line and grade shown on the plans. If required, the outside of the casing shall be lubricated with bentonite clay. The lead pipe of the casing shall be provided with an approved tunneling shield. The work shall be kept dewatered until the carrier pipe has been installed and tested.

The work of installing the casing pipe shall be done by a Contractor who is fully experienced and equipped for this specialized construction and is approved by the Engineer and/or other supervisory authorities.

After completion of the casing pipe, the storm sewer shall be installed through the same on spacers in a manner which will provide for continuous and smooth installation of the storm sewer without obstructions of any kind. Storm sewer shall be jointed and installed from one end in a manner to keep the entire pipeline under compression during installation.

The casing pipe shall be sealed by constructing masonry bulkheads at each end to preclude entrance of foreign material into the casing which might prevent ready removal of the storm sewer at some future date.

Jacking pits shall be tight sheeted and braced on all sides. Sheetting shall be of adequate strength to withstand all surcharge loads to be imposed on it and shall be cut off 4' above existing ground. In lieu of the 4' cut-off height on sheetting, the Contractor may erect a 4' high fence around the excavation. Lights and warning signs as necessary shall be erected around all jacking pits.

The reaction block for the jacking mechanism shall be adequately designed to distribute the loads to the soil without excessive soil deflection and in a manner to avoid any disturbance of adjacent structures or utilities.

Hydraulic jacks and jacking frame shall be designed to apply a uniform pressure over the entire circumferential area of the pipes being jacked.

Upon completion of the jacking operation, pipe bedding within the jacking pit shall be placed in accordance with the special plan details and/or Special Provisions.

Alternate methods of construction meeting all conditions set forth herein will be considered and will be subject to the approval of the Engineer and City.

Compensation for any alternate construction method will be at the contract unit price for casing pipe as set forth in the proposal. No extra compensation will be allowed for additional work incurred because of the alternative method of construction.

Casing pipe shall be measured for payment in feet along the centerline of the completed pipe from end to end of casing installed. Under no circumstance will the pay length exceed the staked length.

If the size of casing pipe specified is insufficient to accommodate the type of pipe and spacers the Contractor uses, the increased cost to furnish and provide the work necessary to install the larger-diameter casing pipe shall be provided by the Contractor at no increase in contract unit price for the casing pipe specified, regardless of diameter.

This work will be paid for at the contract unit price per foot for STEEL CASING PIPE AUGURED AND JACKED 30", measured in place, unless otherwise specified.

This price shall include the cost of all pipe, fittings, joint materials, blocking, spacers, bulkheads, and all material, labor, and equipment necessary to make a completed and finished installation.

Storm sewer installed within the casing pipe shall be paid for at the contract unit price for Storm Sewer as set forth in these Special Provisions.

### **INSULATION**

This work shall be in accordance with Dow Chemical Company recommendations insofar as applicable, the detail in the plans and the following provisions.

The contractor will be required to insulate the proposed sanitary sewer and proposed force main at the locations shown on the plans with three (3") inch extruded polystyrene insulation.

At the locations shown on the plans, insulation will be placed a minimum of two (2') feet in any direction from the centerline of the proposed sanitary sewer, proposed force main, around any sanitary manholes, sanitary services, and as directed by the Engineer.

All CA-7 backfill needed for installation per the detail in the plans shall be considered included in the cost of INSULATION.

This work will be paid for at the contract unit price per square foot for INSULATION. This price shall include all material, labor, and equipment needed to install the sanitary sewer insulation.

### **STABILIZED DRIVEWAY PAVEMENT**

This work shall be in accordance with Sections 351 and 406 of the Standard Specifications insofar as applicable, the detail in the plans and the following provisions.

This work consists of constructing asphalt commercial driveways as shown on the plans. As depicted in the detail, the driveway shall be constructed of 8" Aggregate Base Course, Type B, 2.25" of Hot-Mix Asphalt Binder Course, IL-19.0, N50 and 2" of Hot-Mix Asphalt Surface Course, Mix "D", N50.

This work will be paid for at the contract unit price per square yard for STABILIZED DRIVEWAY PAVEMENT. This price shall include all material, equipment, and labor necessary for a complete installation.

### **STAMPED COLORED PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH**

This work shall be in accordance with Section 424 of the Standard Specifications insofar as applicable and the following provisions.

This work shall consist of constructing colored Portland Cement Concrete sidewalk with a stamped finish at locations shown on the plans, or as directed by the Engineer. The concrete shall be stamped in a weave pattern and colored red. The exact pattern and color are to be approved by the Engineer.

This work will be paid for at the contract unit price per square foot for STAMPED COLORED PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH, which shall be payment in full for forming, coloring and finishing the concrete, and all material, equipment and labor necessary for a complete installation.

### **FENCE REMOVAL**

This work shall consist of the removal and disposal of existing fence, regardless of type, at locations indicated on the plans or as directed by the Engineer.

Fence, fence posts, and foundations shall be removed to the satisfaction of the Engineer.

As indicated on the plans, the fence at 2S580 Williams Road will be removed by others.

This work shall be paid for at the contract unit price per foot for FENCE REMOVAL, which price shall include all equipment, labor, disposal of excess materials, and excavation needed for a complete removal.

### **SEDIMENT CONTROL, SILT CURTAIN**

This work shall consist of the furnishing and installing a temporary silt curtain, at locations indicated on the plans or as directed by the Engineer, in accordance with the detail in the plans.

A silt curtain will be placed in the river downstream of all construction activities only during installation of cofferdams and during bridge removal. The silt curtain shall remain in-place a maximum of one week. The silt curtain shall extend, at a minimum, between the double row perimeter erosion barrier at the downstream project limits in the river as shown on plan. No additional compensation will be allowed if site conditions require that the silt curtain be extended beyond these limits to adequately function as a form of sediment control. The silt curtain shall be a minimum of 3 feet deep.

Maintenance, repair, replacement if necessary, and removal shall not be paid for separately but shall be included in the contract unit price for the installed system.

This work shall be paid for at the contract unit price per each for SEDIMENT CONTROL, SILT CURTAIN, which shall be a complete installation of silt curtain across the width of the river. This price shall include all equipment, labor, and materials needed for a complete installation and removal.

### **SANITARY SEWER**

This work shall be in accordance with the Standard Specifications, SSWSCI, and the City Specifications insofar as applicable and the following provisions.

All sanitary sewer shall be PVC SDR 26 meeting ASTM D-2241 and joints shall meet the requirements of ASTM D-3139. (This is a pressure rated pipe meeting the requirements of water main quality pipe.)

Excavation and backfill for sanitary sewer shall conform to the trench details shown in the plans and the SSWSCI.

The Contractor shall perform air exfiltration and deflection testing of the sanitary sewer in

accordance with SSWSCI. In addition, all sanitary sewers shall be televised. The Contractor shall televise the sanitary sewer in conformance with the SSWSCI. Two (2) copies of the report shall be submitted to the ENGINEER upon completion, and these reports shall include DVD's of the televising. The reports shall also be bound with a cover page indicating the title of the project. In addition, a table of contents should be included that lists each run and indicates on which DVD the run is located. If any defects are found during the air exfiltration testing, deflection testing, and/or televising of the sewer, the Contractor shall make all repairs at no cost to the City.

When water is encountered in the trench, it 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. Dewatering, if required, shall be included in the cost of this item.

Trench backfill will be paid for separately.

Basis of Payment. All sanitary sewer work shall be paid for at the contract unit price per foot for SANITARY SEWER, of the size specified, which price shall include removal and disposal of excavated material, air testing, mandrel testing, televising of the sanitary sewers, and all materials, labor, and equipment for a complete installation.

### **STABILIZED DRIVEWAYS 10"**

This work shall be in accordance with Sections 351 and 406 of the Standard Specifications insofar as applicable, the detail in the plans and the following provisions.

This work consists of constructing asphalt residential driveways as shown on the plans. As depicted in the detail, the driveway shall be constructed of 8" Aggregate Base Course, Type B and 2" of Hot-Mix Asphalt Surface Course, Mix "D", N50.

This work will be paid for at the contract unit price per SQ YD for STABILIZED DRIVEWAYS 10". This price shall include all material, equipment, and labor necessary for a complete installation.

**WATER MAIN 12"**

This work shall be in accordance with Section 561 of the Standard Specifications, SSWSCI, the City Specifications, and the Supplemental Specifications for Horizontal Drilling contained herein. This work shall consist of furnishing, horizontally directionally drilling, installing, and testing of high density polyethylene (HDPE) water main and fittings under the West Branch of the DuPage River as shown on the plans, and as specified herein.

The Contractor shall perform Hydrostatic Tests in accordance with Section 41-2.14 of the SSWSCI, applicable provisions of AWWA C 600 and C 603, and shall also comply with ASTM F 2164, ASTM F 1412, AWWA Manual of Practice M55 Chapter 9, and PPI Handbook of Polyethylene Pipe Chapter 2 (2<sup>nd</sup> Edition). If the test section fails testing, the Contractor shall repair or replace all defective materials and/or workmanship at no additional cost to the City. The pressure gauge should be of good quality and condition, and be fluid filled. The pressure gauge shall have a minimum accuracy of one (1) psi. The City water operator in charge or Engineer shall be present during all testing. (Pneumatic (compressed air) leakage testing of HDPE pressure piping is prohibited for safety reasons.)

Upon completion of the newly installed water main and pressure testing, the water main shall be disinfected in accordance with the American Water Works Association, Procedure Designation, AWWA C-651, and PPI Handbook of Polyethylene Pipe Chapter 2 (2<sup>nd</sup> Edition). The Contractor is responsible for collecting samples and having bacteriological testing performed as required by the Illinois Environmental Protection Agency. The City and Engineer shall be present when the samples are taken.

Water samples collected on two (2) successive days from the treated piping system shall show satisfactory bacteriological results. Bacteriological analyses must be performed by a laboratory certified by the IEPA and approved by the Engineer.

Should the initial treatment result in an unsatisfactory bacterial test, the original chlorination procedure shall be repeated by the Contractor until satisfactory results are obtained.

The Contractor shall furnish to the City the required documentation, test results, etc., required by the IEPA for placing the water main in service.

Upon completion, the system should be thoroughly flushed with fresh water, and retested to verify the disinfectant chlorine level has been reduced to potable drinking water concentrations.

Basis of Payment. This work shall be paid for at the contract unit price per foot for WATER MAIN 12" which price shall include all labor, material, and equipment to furnish, install, disinfect and test the water main under the West Branch of the DuPage River.



**FORCE MAIN, 4" (SPECIAL)**

This work shall be in accordance with Section 561 of the Standard Specifications, SSWSCI, City Specifications, and the Supplemental Specifications for Horizontal Directional Drilling contained herein, insofar as applicable and the following provisions. This work shall consist of furnishing, horizontally directionally drilling, installing and testing of high density polyethylene pipe (HDPE) force main and fittings under the West Branch of the DuPage River as shown on the plans, and as specified herein.

The Contractor shall perform Hydrostatic Tests in accordance with Section 41-2.14 of SSWSCI, applicable provisions of AWWA C 600 and C 603, and shall also comply with ASTM F 2164, ASTM F 1412, AWWA Manual of Practice M55 Chapter 9, and PPI Handbook of Polyethylene Pipe Chapter 2 (2<sup>nd</sup> Edition). If the test section fails testing, the Contractor shall repair or replace all defective materials and/or workmanship at no additional cost to the City. The pressure gauge should be of good quality and condition, and be fluid filled. The pressure gauge shall have a minimum accuracy of one (1) psi. The City water operator in charge or Engineer shall be present during all testing. (Pneumatic (compressed air) leakage testing of HDPE pressure piping is prohibited for safety reasons.)

The Contractor shall furnish to the City the required documentation, test results, etc., required by the IEPA for placing the force main in service.

Basis of Payment. This work shall be paid for at the contract unit price per foot for FORCE MAIN, 4" (SPECIAL) which price shall include all labor, material, and equipment to furnish, install, and test the force main under the West Branch of the DuPage River.

**EMBANKMENT I**

Effective: March 1, 2011

Revised: November 1, 2013

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

Material. All material shall be approved by the District Geotechnical Engineer. The proposed material must meet the following requirements.

- a) The laboratory Standard Dry Density shall be a minimum of 90 lb/cu ft (1450 kg/cu m) when determined according to AASHTO T 99 (Method C).
- b) The organic content shall be less than ten percent determined according to AASHTO T 194 (Wet Combustion).
- c) Soils which demonstrate the following properties shall be restricted to the interior of the embankment and shall be covered on both the sides and top of the embankment by a minimum of 3 ft (900 mm) of soil not considered detrimental in terms of erosion potential or excess volume change.
  - 1) A grain size distribution with less than 35 percent passing the number 75 um (#200) sieve.
  - 2) A plasticity index (PI) of less than 12.
  - 3) A liquid limit (LL) in excess of 50.
- d) Reclaimed asphalt shall not be used within the ground water table or as a fill if ground water is present.
- e) The RAP used shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications". Gradation deleterious count shall not exceed 10% of total RAP and 5% of other by total weight.

**CONSTRUCTION REQUIREMENTS**

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

Placing Material. In addition to Article 202.03, broken concrete, reclaimed asphalt with no expansive aggregate, or uncontaminated dirt and sand generated from construction or demolition activities shall be placed in 6 inches (150 mm) lifts and disked with the underlying lift until a uniform homogenous material is formed. This process also applies to the overlaying lifts. The disk must have a minimum blade diameter of 24 inches (600 mm).

When embankments are to be constructed on hillsides or existing slopes that are steeper than 3H:1V, steps shall be keyed into the existing slope by stepping and benching as shown in the plans or as directed by the engineer.

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

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

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

Stability. The requirement for embankment stability in Article 205.04 will be measured with a Dynamic Cone Penetrometer (DCP) according to the test method in the IDOT Geotechnical Manual. The penetration rate must be equal or less than 1.5 inches (38 mm) per blow.

Basis of Payment. This work will not be paid separately but will be considered as included in the various items of excavation.

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Section 09-00030-00-BR  
City of Warrenville, DuPage County  
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HEAT OF HYDRATION CONTROL FOR CONCRETE STRUCTURES (D-1)

Effective: November 1, 2013

Article 1020.15 shall not apply.

**GROUND TIRE RUBBER (GTR) MODIFIED ASPHALT BINDER (D-1)**

Effective: June 26, 2006  
 Revised: January 1, 2013

Add the following to the end of article 1032.05 of the Standard Specifications:

“(c) Ground Tire Rubber (GTR) Modified Asphalt Binder. A quantity of 10.0 to 14.0 percent GTR (Note 1) shall be blended by dry unit weight with a PG 64-28 to make a GTR 70-28 or a PG 58-28 to make a GTR 64-28. The base PG 64-28 and PG 58-28 asphalt binders shall meet the requirements of Article 1032.05(a). Compatible polymers may be added during production. The GTR modified asphalt binder shall meet the requirements of the following table.

Test	Asphalt Grade GTR 70-28	Asphalt Grade GTR 64-28
Flash Point (C.O.C.), AASHTO T 48, °F (°C), min.	450 (232)	450 (232)
Rotational Viscosity, AASHTO T 316 @ 275 °F (135 °C), Poises, Pa·s, max.	30 (3)	30 (3)
Softening Point, AASHTO T 53, °F (°C), min.	135 (57)	130 (54)
Elastic Recovery, ASTM D 6084, Procedure A (sieve waived) @ 77 °F, (25 °C), aged, ss, 100 mm elongation, 5 cm/min., cut immediately, %, min.	65	65

Note 1. GTR shall be produced from processing automobile and/or light truck tires by the ambient grinding method. GTR shall not exceed 1/16 in. (2 mm) in any dimension and shall contain no free metal particles or other materials. A mineral powder (such as talc) meeting the requirements of AASHTO M 17 may be added, up to a maximum of four percent by weight of GTR to reduce sticking and caking of the GTR particles. When tested in accordance with Illinois modified AASHTO T 27, a 50 g sample of the GTR shall conform to the following gradation requirements:

Sieve Size	Percent Passing
No. 16 (1.18 mm)	100
No. 30 (600 μm)	95 ± 5
No. 50 (300 μm)	> 20

Add the following to the end of Note 1. of article 1030.03 of the Standard Specifications:

“A dedicated storage tank for the Ground Tire Rubber (GTR) modified asphalt binder shall be provided. This tank must be capable of providing continuous mechanical mixing throughout by continuous agitation and recirculation of the asphalt binder to provide a uniform mixture. The tank shall be heated and capable of maintaining the temperature of the asphalt binder at 300 °F to 350 °F (149 °C to 177 °C). The asphalt binder metering systems of dryer drum plants shall be calibrated with the actual GTR modified asphalt binder material with an accuracy of  $\pm 0.40$  percent.”

Revise 1030.02(c) of the Standard Specifications to read:

“(c) RAP Materials (Note 3) .....1031”

Add the following note to 1030.02 of the Standard Specifications:

Note 3. When using reclaimed asphalt pavement and/or reclaimed asphalt shingles, the maximum asphalt binder replacement percentage shall be according to the most recent special provision for recycled materials.

**COARSE AGGREGATE FOR BACKFILL, TRENCH BACKFILL AND BEDDING (D-1)**

Effective: November 1, 2011

Revised: November 1, 2013

This work shall be according to Section 1004.05 of the Standard Specifications except for the following:

Reclaimed Asphalt Pavement (RAP) maybe blended with gravel, crushed gravel, crushed stone crushed concrete, crushed slag, chats, crushed sand stone or wet bottom boiler slag. The RAP used shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, “Reclaimed Asphalt Pavement (RAP) for Aggregate Applications”. The RAP shall be uniformly graded and shall pass the 1.0 in. (25 mm) screen. When RAP is blended with any of the coarse aggregate listed above, the blending shall be done mechanically with calibrated feeders. The feeders shall have an accuracy of  $\pm 2.0$  percent of the actual quantity of material delivered. The final blended product shall not contain more than 40 percent by weight RAP.

The coarse aggregate listed above shall meet CA 6 and CA 10 gradations prior to being blended with the processed and uniformly graded RAP. Gradation deleterious count shall not exceed 10% of total RAP and 5% of other by total weight.

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

Effective: November 1, 2012

Revise: August 15, 2014

Revise Section 1031 of the Standard Specifications to read:

**"SECTION 1031. RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES**

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

(a) Reclaimed Asphalt Pavement (RAP). RAP is the material resulting from cold milling or crushing an existing hot-mix asphalt (HMA) pavement. RAP will be considered processed FRAP after completion of both crushing and screening to size. The Contractor shall supply written documentation that the RAP originated from routes or airfields under federal, state, or local agency jurisdiction.

(b) Reclaimed Asphalt Shingles (RAS). Reclaimed asphalt shingles (RAS). RAS is from the processing and grinding of preconsumer or post-consumer shingles. RAS shall be a clean and uniform material with a maximum of 0.5 percent unacceptable material, as defined in Bureau of Materials and Physical Research Policy Memorandum "Reclaimed Asphalt Shingle (RAS) Sources", by weight of RAS. All RAS used shall come from a Bureau of Materials and Physical Research approved processing facility where it shall be ground and processed to 100 percent passing the 3/8 in. (9.5 mm) sieve and 90 percent passing the #4 (4.75 mm) sieve. RAS shall meet the testing requirements specified herein. In addition, RAS shall meet the following Type 1 or Type 2 requirements.

(1) Type 1. Type 1 RAS shall be processed, preconsumer asphalt shingles salvaged from the manufacture of residential asphalt roofing shingles.

(2) Type 2. Type 2 RAS shall be processed post-consumer shingles only, salvaged from residential, or four unit or less dwellings not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP).

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

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

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

- (1) Fractionated RAP (FRAP). FRAP shall consist of RAP from Class I, Superpave HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in FRAP shall be crushed aggregate and may represent more than one aggregate type and/or quality but shall be at least C quality. All FRAP shall be processed prior to testing and sized into fractions with the separation occurring on or between the #4 (4.75 mm) and 1/2 in. (12.5 mm) sieves. Agglomerations shall be minimized such that 100 percent of the RAP in the coarse fraction shall pass the maximum sieve size specified for the mix the FRAP will be used in.
  - (2) Restricted FRAP (B quality) stockpiles shall consist of RAP from Class I, Superpave (High ESAL), or HMA (High ESAL). If approved by the Engineer, the aggregate from a maximum 3.0 inch single combined pass of surface/binder milling will be classified as B quality. All millings from this application will be processed into FRAP as described previously.
  - (3) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I, Superpave HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in this RAP shall be crushed aggregate and may represent more than one aggregate type and/or quality but shall be at least C quality. This RAP may have an inconsistent gradation and/or asphalt binder content prior to processing. All conglomerate RAP shall be processed (FRAP) prior to testing. Conglomerate RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.
  - (4) Conglomerate "D" Quality (DQ). Conglomerate DQ RAP stockpiles shall consist of RAP from HMA shoulders, bituminous stabilized subbases or Superpave (Low ESAL)/HMA (Low ESAL) IL-19.0L binder mixture. The coarse aggregate in this RAP may be crushed or round but shall be at least D quality. This RAP may have an inconsistent gradation and/or asphalt binder content. Conglomerate DQ RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.
  - (5) Non-Quality. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Non-Quality".
- RAP or FRAP containing contaminants, such as earth, brick, sand, concrete, sheet asphalt, bituminous surface treatment (i.e. chip seal), pavement fabric, joint sealants, plant cleanout etc., will be unacceptable unless the contaminants are removed to the satisfaction of the Engineer. Sheet asphalt shall be stockpiled separately.
- (b) RAS Stockpiles. Type 1 and Type 2 RAS shall be stockpiled separately and shall be sufficiently separated to prevent intermingling at the base. Each stockpile shall be signed indicating what type of RAS is present.

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

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

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

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

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

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

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

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

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



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

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

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

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

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

Parameter	FRAP
No. 4 (4.75 mm)	$\pm 6 \%$
No. 8 (2.36 mm)	$\pm 5 \%$
No. 30 (600 $\mu\text{m}$ )	$\pm 5 \%$
No. 200 (75 $\mu\text{m}$ )	$\pm 2.0 \%$
Asphalt Binder	$\pm 0.3 \%$
$G_{mm}$	$\pm 0.03$ <sup>1/</sup>

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

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

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

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

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

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

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

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

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

The Engineer will notify the Contractor of observed deficiencies.

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

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

1/ Based on washed extraction.

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

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

**1031.05 Quality Designation of Aggregate in RAP and FRAP.**

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

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

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

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

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

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

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

- (b) RAS. RAS meeting Type 1 or Type 2 requirements will be permitted in all HMA applications as specified herein.
- (c) FRAP and/or RAS Usage Limits. Type 1 or Type 2 RAS may be used alone or in conjunction with FRAP in HMA mixtures up to a maximum of 5.0% by weight of the total mix.

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

Max Asphalt Binder Replacement for FRAP with RAS Combination

HMA Mixtures <sup>1/ 2/</sup> Ndesign	Maximum % ABR		
	Binder/Leveling Binder	Surface	Polymer Modified <sup>3/</sup>
30L	50	40	10
50	40	35	10
70	40	30	10
90	40	30	10 <sup>4/</sup>
4.75 mm N-50			30
SMA N-80			20

- 1/ For HMA "All Other" (shoulder and stabilized subbase) N-30, the percent asphalt binder replacement shall not exceed 50% of the total asphalt binder in the mixture.
- 2/ When the binder replacement exceeds 15 percent for all mixes, except for SMA and IL-4.75, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent binder replacement using a virgin asphalt binder grade of PG64-22 will be reduced to a PG58-28). When constructing full depth HMA and the ABR is less than 15 percent, the required virgin asphalt binder grade shall be PG64-28.
- 3/ When the ABR for SMA or IL-4.75 is 15 percent or less, the required virgin asphalt binder shall be SBS PG76-22 and the elastic recovery shall be a minimum of 80. When the ABR for SMA or IL-4.75 exceeds 15%, the virgin asphalt binder grade shall be SBS PG70-28 and the elastic recovery shall be a minimum of 80.
- 4/ For polymerized surface mix used for overlays, with up to 10 percent ABR, a SBS PG70-22 will be required. However, if used in full depth HMA, a SBS PG70-28 will be required.

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

- (a) FRAP and/or RAS. FRAP and /or RAS mix designs shall be submitted for verification. If additional FRAP or RAS stockpiles are tested and found to be within tolerance, as defined under "Evaluation of Tests" herein, and meet all requirements herein, the additional FRAP or RAS stockpiles may be used in the original design at the percent previously verified.
- (b) RAS. Type 1 and Type 2 RAS are not interchangeable in a mix design. A RAS stone bulk specific gravity (Gsb) of 2.500 shall be used for mix design purposes.

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

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

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

- (a) RAS. RAS shall be incorporated into the HMA mixture either by a separate weight depletion system or by using the RAP weigh belt. Either feed system shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes. The portion of RAS shall be controlled accurately to within  $\pm 0.5$  percent of the amount of RAS utilized. When using the weight depletion system, flow indicators or sensing devices shall be provided and interlocked with the plant controls such that the mixture production is halted when RAS flow is interrupted.
- (b) HMA Plant Requirements. HMA plants utilizing FRAP and/or RAS shall be capable of automatically recording and printing the following information.
  - (1) Dryer Drum Plants.
    - a. Date, month, year, and time to the nearest minute for each print.
    - b. HMA mix number assigned by the Department.
    - c. Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).

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

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

**1031.09 RAP in Aggregate Surface Course and Aggregate Shoulders.** The use of

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

- (a) Stockpiles and Testing. RAP stockpiles may be any of those listed in Article 1031.02, except "Non-Quality" and "FRAP". The testing requirements of Article 1031.03 shall not apply. RAP used to construct aggregate surface course and aggregate shoulders shall be according to the current Bureau of Materials and Physical Research's Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications"
- (b) Gradation. One hundred percent of the RAP material shall pass the 1 1/2 in. (37.5mm) sieve. The RAP material shall be reasonably well graded from coarse to fine. RAP material that is gap-graded, FRAP, or single sized will not be accepted for use as Aggregate Surface Course and Aggregate Shoulders."



## **SUPPLEMENTAL SPECIFICATIONS PUMP STATION ELECTRICAL WORK**

### REFERENCES

All work governed by this Supplemental Specification shall be in accordance with Division 800 of the Standard Specifications, the National Electrical Code NFPA 70 and the approved electrical amendments of the City of Warrenville. All three of these standards/codes together are referred to as the Code within the Supplemental Specification – Pump Station Electrical Work.

For reference, the City's Electrical Ordinance and Electrical Amendment can be found at: <http://www.warrenville.il.us/includes/uploads/File/2254%20and%202353%20and%202430%20and%202490%20Amendments.pdf>

### REVIEW OF THE CONTRACT DOCUMENTS AND FIELD CONDITIONS

1. The Contractor shall examine drawings relating to work of all trades and become fully informed as to extent and character of work required and its relation to all other work on the project.
2. The drawings shall serve to indicate the general layout of the equipment. The location is diagrammatic unless specifically shown or dimensioned.

### SUBMITTALS

1. The contractor shall prepare and submit to the City, Engineer, and utility companies the required drawings or equipment data sheets, which are required by these agencies, for their review and approval.
2. No equipment shall be ordered, purchased, or installed prior to review of the shop drawings, brochures, and performance data.

### INSPECTIONS OF ELECTRICAL EQUIPMENT

The Contractor shall be responsible for notifying the City and Engineer in order that local inspection may be carried out at the proper stage.

### GENERAL ELECTRICAL REQUIREMENTS

1. All materials and equipment shall be new, undamaged, and shall bear the UL label of approval and shall be listed for use in each specific application or location.
2. Equipment Finish: All electrical equipment shall be furnished factory painted or finished with two coats of high-grade enamel and in the manufacturer's standard colors unless otherwise specified. The color shall be selected by the City at the time of the shop drawing submittal
3. Painting: All exposed electrical equipment, cabinets, conduit and boxes (fronts and doors) shall be painted with two coats of high grade enamel, color selected by the City at the time of the shop drawing submittal, except as otherwise noted in the Supplemental Specifications: Pump Station Electrical Work, the Special provisions, and the Drawings.

The NEMA-3R Pump Control Panel "Traffic" Enclosure shall be stainless steel and does not require paint.

#### RACEWAY REQUIREMENTS

1. Raceways shall be securely supported by approved methods at five-foot intervals. The maximum number of conductors per wireway shall conform to the latest edition of the Code.
2. Shop Drawing Submittal: Provide manufacturer data sheets for all raceways used. Include all fittings and connectors.
3. Clean, dry and de-burr the inside of all raceways prior to installing the wire.
4. The system shall be installed complete with junction boxes, outlet fittings, cross-connected raceways, circuit conductors, conduit seals for hazardous locations, and wiring devices as indicated in the plans.
5. The entire conduit system shall be installed to provide a continuous ground bond throughout the system.
6. The number of conductors installed in any raceway shall not be greater than the number for which the raceway is approved.
7. All buried feeds are to be run not less than 30 inches below grade, unless indicated otherwise on the drawings.
8. All raceways, conduits and outlet boxes shall be buried or concealed, unless noted on the drawings.
9. All power, control and communications wiring shall be in conduit. The use of AC, MC, NM/NMC/NMS, and FCC cable shall not be allowed.
10. Raceway and conduit sizes shall be indicated on drawings, or minimum in accordance with the Code, including provision for green grounding conductors.
11. Minimum conduit size shall be 1 inch.

#### CONDUITS

1. Rigid galvanized steel conduit may be used for all conduits, unless specifically noted on the drawings and in the specifications. Rigid galvanized steel conduits shall be UL approved, low carbon, hot-dipped galvanized both inside and outside, with matching threaded joints. All rigid galvanized steel fittings shall be threaded. Tape the connectors when encased in concrete. Setscrew, threadless, or compression fittings shall not be used with rigid steel conduit.
2. Electrical grade plastic conduit (PVC) may be used for buried conduits only where allowed by the City's Code and outside the hazardous areas, or where noted on the plans. Only couplings and fittings designed specifically for PVC shall be used. Corrosion-resistant straps and clamps shall support PVC. The electrical contractor shall follow manufacturer's recommendations regarding the handling, bending, coupling, and installation of PVC specified herein.
3. Transitions between nonmetallic conduits and conduits of other materials shall be made with the manufacturer's standard adapters designed for such purpose.
4. All feeds emerging from below grade shall be rigid galvanized steel conduit.
5. Number of bends per run shall conform to the Code limitations.
6. Concealed conduits shall be run in a direct line with long sweep bends and offsets.
7. Exposed conduits shall be parallel to and at right angles to building lines.
8. Use conduit fittings for all turns and offsets.

9. Provide bushings for all conduits. Bushings for conduits 1 inch and smaller shall be listed insulated metallic type. Bushings for conduits larger than 1 inch shall be malleable iron body with an insulation ring. Grounding bushings shall be malleable iron, threaded with solder less lug.

#### SLEEVES AND OPENINGS

1. Where sleeves or conduits penetrate a wall below grade, provide a watertight link seal.
2. Where sleeves or conduits penetrate a wall above grade, provide a watertight seal using silicone caulk.

#### WIRES AND CABLES

1. Wire and cable shall meet all standards and specifications applicable, and shall be in conformance with the latest edition of the Code. Insulated wire and cable shall have size, type of insulation, voltage and manufacturer's name permanently marked on outer covering at regular intervals not exceeding four feet. Wire and cable shall be delivered in complete coils or reels with identifying tags, stating size, type of insulation, etc. Conductors shall be color coded in accordance with the Code.
2. Shop Drawing Submittal: Provide manufacturer data sheets for all wire types used.
3. All wire shall be a stranded soft drawn copper conductor, using 600-volt insulation. Wire #8 AWG or smaller may be solid or stranded, dual rated type THHN/THWN, 90C dry, 75C wet.
4. Minimum wire size shall be #12 AWG copper.
5. An insulated grounding wire shall be provided in all power conduits.
6. All branch circuit wiring shall have dedicated neutrals.

#### ELECTRICAL IDENTIFICATION

1. Provide a laminated plastic or rigid phenolic plastic nameplate with 1/8-inch engraved letters.
2. Mount a nameplate on distribution panel, distribution main and branch over current device, starter, disconnect switch, push button station, and generator and shall be tagged with additional information of feeder size and name of the source.
3. Attach nameplates with self-tapping sheet metal screws or pop-rivets. Embossed self-adhering plastic tape labels will not be accepted.
4. Provide all OSHA/NEC required electrical warning labels and markers on all electrical equipment.
5. Commissioning Close Out: The installing contractor shall include a single line riser diagram of the as-built electrical distribution system under a clear acrylic cover. Mount the diagram inside the main service cabinet.
6. Identify all underground systems using underground warning tape placed 18" below final grade.

#### GROUNDING

1. Shop Drawing Submittal: Provide manufacturer data sheets for all grounding components.
2. The conduit systems, neutral conductor for the wiring system, and the telephone systems shall be securely grounded.

3. All connections shall be irreversible compression or exothermic type.
4. Grounding rods shall be 3/4" diameter solid copper 10 feet long. Grounding rods shall be installed below concrete slab. Photograph installation and call for inspection prior to installing slab.
5. Commissioning Close Out: The installing contractor shall test the grounding connections to indicate that satisfactory ground has been established 5 ohm maximum. Provide written results of this test before connection to the service.

#### SCADA SYSTEM

1. The contractor shall provide a fully functional SCADA system as outlined in the PUMP STATION ELECTRICAL WORK special provision.
2. Shop Drawing Submittal: Provide manufacturer data sheets for the security system. Include all accessories, fabrication details, device data sheets, programming parameters, sequence of operation and adjustments.
3. Provide a complete raceway for all the SCADA wiring.

#### ELECTRICAL ACCEPTANCE TESTING – COMMISSIONING GENERAL

1. As soon as electric power is available and connected to serve the equipment in the building, and everything is ready for final testing and placing in service, a complete operational test shall be made. The Contractor shall furnish all necessary instruments and equipment and make all tests, adjustments, and trial operations required to place the system in balanced and satisfactory operating condition; furnish all necessary assistance and instructions to properly instruct the City's authorized personnel in the operation and care of the system.
2. Prior to testing, the feeders and branch circuits shall be continuous from the main feeders to main panels, to motors, to outlets, with all breakers and fuses in place. The system shall be tested free from shorts and grounds. Such tests shall be made in the presence of the City and Engineer.
3. The City and Engineer may inspect and test any portion of the equipment and/or materials during the progress of its erection.
4. The Contractor shall test all wiring and connections for continuity and grounds before connecting any fixtures or equipment.
5. The Contractor shall test the entire system in the presence of the City and Engineer when the system is finally completed to insure that all portions are free from short circuits or ground faults.

#### INSULATION RESISTANCE TEST

1. Provide megaohm-meter test of all feeder cables, switchboard and panelboard bus, and transformer windings.
2. Test all cables before installation, and again after installation. Test the distribution equipment and transformers after it is set in place.
3. Provide a 20 second test, 500V DC, per NETA specifications.
4. Record the readings and submit a report to the Engineer.

#### MOTOR PHASE ROTATION TEST

1. Test all motors for proper phase rotation.

2. Record all motors tested and submit a report to the Engineer.

#### GROUNDING CONTINUITY TEST

1. Test all raceways for grounding continuity.
2. Test all grounding wires for continuity.
3. Test the grounding electrode conductors for resistance. Notify the Engineer if the grounding resistance is 5 ohms or larger.
4. Record all readings and submit a report to the Engineer.

#### RECEPTACLE BLADE POLARITY TEST

1. Test all receptacles for blade polarity.
2. Submit a report to the Engineer.

#### PHASE LOAD BALANCING

1. At the completion of the construction, the contractor shall load balance all panel boards so that there is no more than a 10 percent difference between any of the phases.
2. The load shall be monitored during the peak demand period, however the reconfiguration of the panel shall occur after business hours.
3. Submit a report to the Engineer.

#### SCADA TEST

1. Test all remote monitoring and SCADA control functions.
2. Record performance and submit a report to the Engineer.

#### CLOSE-OUT

1. Prior to final acceptance, the contractor shall provide a written certificate that all systems are installed per the Code, cleaned, adjusted and working properly. Include from each manufacturer, correspondence that their equipment is installed per their requirements.
2. Clean, adjust and test all equipment and light fixtures.
3. The contractor shall provide record drawings of the as built condition.
4. Provide type written directories in all panelboards.
5. Provide three sets operating and maintenance manuals, in hard bound covers, for all electrical equipment. Include all submittal drawings, detail drawings, wiring diagrams, manufacturer's data sheets, repair manuals, operating instructions, parts lists, exploded pictorial views, maintenance schedules and procedures, and recommended spare parts list.

#### CLOSEOUT REQUIREMENTS

1. Prepare close out documents required for the final on-site inspection. The close out documents shall accurately reflect the existing installed condition. These documents are to be turned over to the Engineer prior to substantial completion of the work, and before the final on-site inspection.
2. Provide one copy of the following: 1) all submitted shop drawings and O+M manuals, 2) as built electrical and circuiting plans, 3) as built SCADA point to point plans, 4) all startup and electrical test reports.

## **SUPPLEMENTAL SPECIFICATIONS HORIZONTAL DIRECTIONAL DRILLING**

This specification provides additional detail regarding the requirements for Horizontal Directional Drilling (HDD) of High Density Polyethylene (HDPE) Pressure Sewer pipe to be utilized in water main and force main crossing beneath the West Branch of the DuPage River.

### REFERENCES:

All work governed by this Supplemental Specification shall adhere to requirements set forth by the following::

1. ANSI/AWWA [www.awwa.org](http://www.awwa.org)
2. PPI Handbook of Polyethylene Pipe – 2009 (2nd Edition)
3. NSF [www.nsf.org](http://www.nsf.org)
  - a. NSF / ANSI 61 Drinking Water System Components–Health Effects
4. ASTM [www.astm.org](http://www.astm.org)

### QUALITY ASSURANCE:

1. Experience: Actively engaged in horizontal directional drilling for a minimum of 3 years.
2. Field supervisory personnel: Experienced in the performance of the work and tasks as stated herein for a minimum of 3 years.
3. Perform the work in general conformance with ASTM Standard F1962, current revision, "Standard Guide for Use of Maxi-Horizontal Directional Drilling for Placement of Polyethylene Pipe of Conduit under Obstacles, Including River Crossings."

### SUBMITTALS

1. Submit for information only.
  - a. Presentation of similar experience in the last 3 years.
  - b. Include, but not limited to, owner name, address, telephone number, contact person, date and duration of work, location, pipe information, and contents handled by pipeline.
  - c. Supervisory field personnel and historical information of HDD experience.
    - 1) At least one of the field supervisors listed must be at the site when HDD operations are in progress.
2. Prior to beginning work, submit to the Engineer for review four (4) copies of a report of schedules, calculations, procedures and any supplemental subsurface soil condition investigations performed along the path of the proposed crossing. The report will summarize the subsurface conditions that are known to the subcontractor and that his proposed crossing procedure is based upon factual, best available information. If the subsurface conditions are known to the Contractor by previous work or geotechnical studies done in the immediate area, the information shall be recorded in the report along with any additional geotechnical studies performed by the Contractor. The report shall include the following:

- a. Subsurface Information
  - 1) Record in the report subsurface conditions known to the Contractor by previous work or prior geotechnical studies performed in the immediate project area.
  - 2) Boring information obtained by the Engineer which is provided in the Williams Road Bridge plans.
  - 3) Additional borings performed by the Contractor and analysis of soils along the path of the proposed crossing. The Contractor shall be responsible for obtaining and including in his bid price the cost of any additional borings along the pipe alignment which may be necessary to design the proposed directionally drilled crossing.
- b. Working drawings and written procedure describing in detail proposed method and entire operation including, but not limited to:
  - 1) Size, capacity and arrangement of equipment.
  - 2) Location and size of drilling and receiving pits.
  - 3) Location and size of settlement pit.
  - 4) Dewatering and methods of removing spoils material.
  - 5) Method of installing detection wire and pipe.
  - 6) Layout of carrier pipe.
  - 7) Details and spacing of pipe rollers.
  - 8) Layout of any proposed construction staging areas.
  - 9) Type, location and method of installing locator station.
  - 10) Method of fusion pipe segment and type of equipment.
  - 11) Manufacturers recommended fusion procedures for the products.
  - 12) Type of cutting head.
  - 13) Method of monitoring and controlling line and grade.
  - 14) Detection of surface movement.
  - 15) Bentonite drilling mud for information only:
    - i. Products information, material specifications, and handling procedures.
    - ii. Material safety data sheet and special precautions required.
    - iii. Method of mixing and application.
  - 16) Nameplate data for the drilling equipment and mobile spoils removal unit
- c. Piping:
  - 1) Pipe lengths, design details, joint details, etc. Submittals shall include, but are not limited to, the following:
    - i. All welding or fusion procedures to be used in fabrication of the different pipe materials and installation methods.
    - ii. Certified records for hydrostatic testing of all pipe materials to be used.
- d. Alignment:
  - 1) Proposed: A proposed graph in plan and profile plotting the pilot drilling hole alignment, including entry/exit angles and radius of curvature.
  - 2) As-built: After completion of the crossing, a final pipe alignment shall be submitted.

- e. Schedule:
  - 1) Time schedule for completing the Horizontal Directional Drill, including any delays due to anticipated soil conditions.
- f. Calculations:
  - 1) Detailed design calculations for several representative loading conditions for the proposed crossing. If requested by the Engineer, submit calculations to support the design of any particular location of pipe anywhere along the length of the crossing at no additional cost to the City.
  - 2) Design calculations shall be presented in a neat, readable format, with all figures, values and units included to facilitate ease of verification.
  - 3) Calculations shall be submitted to demonstrate that the pipe thickness design is sufficient to meet all design criteria specified.
  - 4) Calculations shall address the following loading conditions:
    - i. Pre-installation: Hoop and longitudinal stress during hydrostatic test; spanning stress with pipe full of water and supported on installation rollers, and maximum roller/support spacing.
    - ii. Installation/Post-Installation: Longitudinal stress from pulling force; longitudinal curvature stress at point of entry and in final position; external pressure from drilling fluid, overburden, and loads from the obstacle being crossed.
    - iii. Post-Installation/In-Service: Hoop and longitudinal stress during hydrostatic test; internal working and surge pressure; buckling with internal vacuum.
  - 5) Perform and submit to the Engineer fluids pressure versus overburden strength calculations. These calculations shall be performed to determine minimum acceptable cover requirements and prevent drilling fluids from breakout to the ground surface.
  - 6) All calculations shall bear the seal of a Registered Professional Engineer licensed in the State of Illinois.
- 3. Approval: No work shall commence without obtaining an approval from the Engineer and the City. Details and design calculations shall be submitted and approved well in advance of the drilling operation to prevent delays in work. All final layout work, including grades, shall be the Contractor's responsibility.

#### DELIVERY / STORAGE / HANDLING

- 1. Handle the pipe in accordance with the PPI Handbook of Polyethylene Pipe (2nd Edition), Chapter 2 using approved strapping and equipment rated for the loads encountered. Do not use chains, wire rope, forklifts or other methods or equipment that may gouge or damage the pipe or endanger persons or property. Field storage is to be in compliance with AWWA Manual of Practice M55 Chapter 7.
- 2. If any gouges, scrapes, or other damage to the pipe results in loss of 10% of the pipe wall thickness, cut out that section or do not use.



PROJECT CONDITIONS

1. Complete HDD so as not to interfere with, interrupt, or endanger surface and activity thereon.
2. Do not use HDD in rock stratum or subsoil consisting of boulders and underground obstructions that impede the process.
3. Comply with applicable ordinances, codes, statutes, rules, and regulations of State of Illinois, IEPA, applicable local building codes, and applicable regulations of Federal Government, OSHA 29CFR 1926, and applicable criteria of ANSI A10.16-1995 (R2001). "Safety Requirements for Tunnels, Shafts, and Caissons".

MATERIALS:

1. Pipe:
  - a. HDPE:
    - 1) High Density Polyethylene (HDPE) Pipe, AWWA C-906 compliant, NSF 61 Standard Listed, and furnished in fifty (50) foot lengths.
    - 2) Polyethylene pipe shall be furnished with a diameter conforming to ductile iron pipe sizes (DIPS). Minimum thickness of HDPE pipe shall be determined by the Contractor's calculations, but shall not be less than DR 11 when measured in accordance with ASTM D-2122.
    - 3) HDPE pipe shall be rated for use at a pressure class as indicated on the drawings. The diameter of the pipe shall be based upon the DIPS sizing system.
    - 4) Pipe Identification: The pipe shall be marked in accordance with the standards to which it is manufactured.
2. Joints:
  - a. All polyethylene pipe and fittings shall be made of a high-density polyethylene pipe compound with extra high molecular weight that meets the requirements for Type III, Grade P34 Polyethylene material as defined in ASTM D-1248, latest revision.
  - b. Pipes shall be jointed to one another and to polyethylene fittings by thermal butt-fusion in accordance with ASTM D-3261.
  - c. When jointing HDPE pipe at ends of directional drilling runs fusion bond to the adjacent pipe section, use butt fusion or electrofusion coupling joining technique.
  - d. Mechanical couplings are not permitted for joining of directional drilled pipe sections.
  - e. Joining of pipe sections shall be performed by way of butt-fusion unless otherwise indicated in the procedures recommended by the pipe manufacturer. Joints between pipe sections shall be smooth on the inside and internal projection beads shall not be greater than 3/16-inch.
    - 1) The pipe shall be joined by the butt fusion procedure outlined in ASTM F 2620 or PPI TR-33. All fusion joints shall be made in compliance with the pipe or fitting manufacturer's recommendations. Fusion joints shall be made by qualified fusion technicians per PPI TN-42.
    - 2) Butt Fusion Fittings - Fittings shall be made of HDPE material with a minimum material designation code of PE3608 and with a minimum Cell Classification of PE

445474 C or higher. Butt Fusion Fittings shall meet the requirements of ASTM D3261. Molded and fabricated fittings shall have a pressure rating equal to the pipe unless otherwise specified on the plans. All fittings shall meet the requirements of AWWA C906.

- 3) The tensile strength at yield of the butt-fusion joints shall not be less than the pipe. A specimen of pipe cut across the butt-fusion joint shall be tested in accordance with ASTM D-638.
- f. Joint Recording: The critical parameters of each fusion joint, as required by the manufacturer and these specifications, shall be recorded either manually or by an electronic data logging device. All fusion joint data shall be included in the Fusion Technician's joint report.
- g. Connect to other pipe materials:
  - 1) Ductile Iron: Polyethylene pipe shall be joined to ductile iron pipe by the use of flange adapters and back-up rings. Flange adapters shall be butt fused to the polyethylene carrier pipe. The face of the flange adapter shall have a serrated sealing face to assist in holding the flange gasket in place. Flange gaskets shall be full-faced neoprene. Back-up rings shall be Class "D" steel ring flanges in accordance with AWWA C207. Flange bolts must span the entire width of the flange joint, and provide sufficient thread length to fully engage the nut. All nuts, bolts, bands, and springs shall be stainless steel.
  - 2) PVC C900: Provide a transition fitting (a mechanical assembly of HDPE and PVC or DI pipe resulting in a butt fusion joint on the HDPE end and standard PVC or DI mechanical connection on the other end), HDPE mechanical-joint adapters, Gasket-joint adapters, HDPE flanges, and standard metal couplings with internal stiffeners. All nuts, bolts, bands, and springs shall be stainless steel.
3. Drilling Fluid:
  - a. Bentonite drilling mud compatible with the environment.
  - b. Waste oil or environmentally non-compatible polymers cannot be part of composition.
4. Tracer Wire:
  - a. Tracer wire (10 gage copper) shall be installed simultaneously with pullback of the HDPE pipe. Wire shall either be wrapped around the pipe or taped to the pipe at 10 foot minimum intervals before installation.

#### PREPARATION:

1. Excavate pits shall be per working drawings.
2. Provide equipment to guard against electrocution and an alarm system on drilling equipment capable of detecting electrical current as it approaches electric lines.

#### OPERATION

1. General
  - a. Determine drilling lengths and equipment pull strength for type of soil encountered.
  - b. Provide method to control line and grade.
    - 1) Provide and maintain instrumentation that accurately locates pilot hole.

- 2) Drill pilot hole along path per drawings to these tolerances:
    - i. Vertical alignment plus or minus 0.5 foot. Vertical path of the pilot hole must not establish new high points not shown on drawings.
    - ii. Horizontal alignment plus or minus 1.0 foot.
  - 3) Include electronic monitoring of the horizontal and vertical drilling head location. Obtain an accuracy range within 1 inch of actual position of the pipeline. Record position readings at a maximum of 10 foot intervals.
  - 4) At completion of pilot hole drilling, furnish engineer tabulations of horizontal and vertical alignment.
- c. When water is encountered.
- 1) Provide and maintain a dewatering system of sufficient capacity to remove water.
  - 2) Keep excavation free of water until backfill operation is in progress.
  - 3) Perform dewatering in such a manner that removal of soils particles are held to a minimum.
  - 4) Dewater into a sediment trap.
- d. Maintain close observation to detect settlement or displacement of surface and adjacent facilities.
- 1) Notify Engineer immediately if settlement or displacement is detected.
  - 2) Act to maintain safe conditions and prevent damage.
2. Drilling Operation.
- a. Drilling Fluids.
- 1) Maintain drilling fluid in bore hole to increase stability of the surrounding soil and reduce drag on pulled pipe.
  - 2) Dispose of drilling fluid and other spoils at location following laws, ordinances, rules, and regulations of the City.
  - 3) Transport excess fluids and other spoils to the disposal site, at no additional cost to the City.
  - 4) Minimize drilling fluid at locations other than entry and exit points. Immediately clean up any drilling fluids that inadvertently surface.
  - 5) Provide clean water for drilling, at no cost to the City, at the Engineer's requirement.
- b. Pilot Hole Drilling.
- 1) Angle entry hole so that curvature of pilot hole does not exceed allowable bending radius of HDPE pipe.
  - 2) Be able to make a turn of up to 90 degrees and maintain a curvature not to exceed allowable bending radius of HDPE pipe.
  - 3) Alignment adjustment and restarts.
    - i. Follow pipeline alignment on drawings within tolerances specified herein. Before adjustments, notify Engineer for approval.
    - ii. Notify the Engineer when forward motion of operation is stopped by an obstruction.
      - a) Abandon in place with drilling fluid, unless Engineer directs otherwise.

- b) Upon the Engineer's approval, attempt a second installation at approved location.
- iii. Withdrawals, abandonments, and restarts are at no additional cost to the City.
- iv. Exercise caution including, but not limited to, locating utilities, drilling downholes (test pits) to observe drill stems or reamer assembly to clear other existing utilities at locations per the drawings.
- v. Keep the number of boring pits to a minimum, no closer than following distances, unless otherwise approved by engineer.
  - a) Equipment must be capable of directional drilling flowing lengths in a single bore of 250' for 4" and 12" diameter (DIPS) HDPE.

INSTALLATION:

1. Installing HDPE Pipe.
  - a. Provide a swivel to reaming assembly and pull section of pipe to minimize torsional stress on pull section after drilling pilot hole.
  - b. Hold reaming diameter to 1.5 times the outside diameter of HDPE pipe being installed.
  - c. Protect pull section as it proceeds during pull back so that it moves freely and is not damaged.
  - d. Pull detection wire along with HDPE pipe. Extend wire into locator station at each end of HDPE pipe.
  - e. When connecting to adjacent pulled or non-pulled section of HDPE pipe, allow pull section of pipe to extend past termination point. Make tie-ins the next day after pullback of HDPE pipe.
  - f. Test pit pipe installation to verify horizontal and vertical alignment at the Engineer's direction.
    - 1) Engineer may order test pits that reveal pipeline installation is not in compliance with the contract documents at no additional cost to the City.
  - g. Replace portions of the pipeline not in compliance with the contract documents at engineer's direction and at no additional cost to the City.
  - h. HDPE pipe thermal butt fusion welding is to be completed by a welder certified by the manufacturer of the pipe or pipe welding equipment, in accordance with the Plastic Pipe Institute "Handbook of Polyethylene Pipe," Polyethylene Joining Procedures, and 49 CFR 192, Subpart F, latest edition.
  - i. The Engineer and City shall be notified a minimum of 48 hours in advance of starting this work. The HDD shall not begin until the Engineer is present at the job site and agrees that proper preparations for the operation have been made. The Engineer's approval for beginning the installation shall in no way relieve the Contractor of the ultimate responsibility for the satisfactory completion of the work as authorized under the Contract.

FIELD QUALITY ASSURANCE:

1. Perform field testing of HDPE pipe per the Special Provisions.

RECORD DRAWINGS:

1. Record drawings shall be provided in accordance with the Special Provisions.

**HMA MIXTURE DESIGN REQUIREMENTS (D-1)**

Effective: January 1, 2013  
 Revised: November 1, 2014

**1) Design Composition and Volumetric Requirements**

Revise the last sentence of the first paragraph of Article 312.05 of the Standard Specifications to read:

“The minimum compacted thickness of each lift shall be according to Article 406.06(d).”

Delete the minimum compacted lift thickness table in Article 312.05 of the Standard Specifications.

Revise the second paragraph of Article 355.02 of the Standard Specifications to read:

“The mixture composition used shall be IL-19.0.”

Revise Article 355.05(a) of the Standard Specifications to read:

“(a) The top lift thickness shall be 2 1/4 in. (60 mm) for mixture composition IL-19.0.”

Revise the Leveling Binder table and second paragraph of Article 406.05(c) of the Standard Specifications to read:

“Leveling Binder	
Nominal, Compacted, Leveling Binder Thickness, in. (mm)	Mixture Composition
≤ 1 1/4 (32)	IL-4.75, IL-9.5, or IL-9.5L
> 1 1/4 to 2 (32 to 50)	IL-9.5 or IL-9.5L

The density requirements of Article 406.07(c) shall apply for leveling binder, machine method, when the nominal compacted thickness is: 3/4 in. (19 mm) or greater for IL-4.75 mixtures; and 1 1/4 in. (32 mm) or greater for IL-9.5 and IL-9.5L mixtures.”

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

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

Revise the ninth paragraph of Article 406.14 of the Standard Specifications to read:

“Test strip mixture will be evaluated at the contract unit price according to the following.”

Revise Article 406.14(a) of the Standard Specifications to read:

“(a) If the HMA placed during the initial test strip is determined to be acceptable the mixture will be paid for at the contract unit price.”

Revise Article 406.14(b) of the Standard Specifications to read:

“(b) If the HMA placed during the initial test strip (1) is determined to be unacceptable to remain in place by the Engineer, and (2) was not produced within 2.0 to 6.0 percent air voids or within the individual control limits of the JMF according to the Department's test results, the mixture will not be paid for and shall be removed at the Contractor's expense. An additional test strip shall be constructed and the mixture will be paid for in full, if produced within 2.0 to 6.0 percent air voids and within the individual control limits of the JMF.”

Revise Article 406.14(c) of the Standard Specifications to read:

“(c) If the HMA placed during the initial test strip (1) is determined to be unacceptable to remain in place by the Engineer, and (2) was produced within 2.0 to 6.0 percent air voids and within the individual control limits of the JMF according to the Department's test results, the mixture shall be removed. Removal will be paid according to Article 109.04. This initial mixture will be paid for at the contract unit price. An additional test strip shall be constructed and the mixture will be paid for in full, if produced within 2.0 to 6.0 percent air voids and within the individual control limits of the JMF.”

Delete Article 406.14(d) of the Standard Specifications.

Delete Article 406.14(e) of the Standard Specifications.

Delete the last sentence of Article 407.06(c) of the Standard Specifications.

Revise Note 2. of Article 442.02 of the Standard Specifications to read:

“Note 2. The mixture composition of the HMA used shall be IL-19.0 binder, designed with the same Ndesign as that specified for the mainline pavement.”

Delete the second paragraph of Article 482.02 of the Standard Specifications.

Revise the first sentence of the sixth paragraph of Article 482.05 of the Standard Specifications to read:

“When the mainline HMA binder and surface course mixture option is used on resurfacing projects, shoulder resurfacing widths of 6 ft (1.8 m) or less may be placed simultaneously with the adjacent traffic lane for both the binder and surface courses.”

Revise the second sentence of the fourth paragraph of Article 601.04 of the Standard Specifications to read:

"The top 5 in. (125 mm) of the trench shall be backfilled with an IL-19.0L Low ESAL mixture meeting the requirements of Section 1030 and compacted to a density of not less than 90 percent of the theoretical density."

Revise the second sentence of the fifth paragraph of Article 601.04 of the Standard Specifications to read:

"The top 8 in. (200 mm) of the trench shall be backfilled with an IL-19.0L Low ESAL mixture meeting the requirements of Section 1030 and compacted to a density of not less than 90 percent of the theoretical density."

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

"(c) Gradation. The fine aggregate gradation for all HMA shall be FA 1, FA 2, FA 20, FA 21, or FA 22. The fine aggregate gradation for SMA shall be FAFM 20.

For mixture IL-4.75 and surface mixtures with an  $N_{design} = 90$ , at least 50 percent of the required fine aggregate fraction shall consist of either stone sand, slag sand, or steel slag meeting the FA 20 gradation.

For mixture IL-19.0,  $N_{design} = 90$  the fine aggregate fraction shall consist of at least 67 percent manufactured sand meeting FA 20 or FA 22 gradation. For mixture IL-19.0,  $N_{design} = 50$  or 70 the fine aggregate fraction shall consist of at least 50 percent manufactured sand meeting FA 20 or FA 22 gradation. The manufactured sand shall be stone sand, slag sand, steel slag sand, or combinations thereof.

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

Delete the last sentence of the first paragraph of Article 1004.03(b) of the Standard Specifications.

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

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

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

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

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

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

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

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

"High ESAL	IL-19.0 binder; IL-9.5 surface; IL-4.75; SMA-12.5, SMA-9.5
Low ESAL	IL-19.0L binder; IL-9.5L surface; Stabilized Subbase (HMA) <sup>1/</sup> ; HMA Shoulders <sup>2/</sup>

1/ Uses 19.0L binder mix.

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

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

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



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

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

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

Note 3. A stabilizing additive such as cellulose or mineral fiber shall be added to the SMA mixture according to Illinois Modified AASHTO M 325. The stabilizing additive shall meet the Fiber Quality Requirements listed in Illinois Modified AASHTO M 325. Prior to approval and use of fibers, the Contractor shall submit a notarized certification by the producer of these materials stating they meet these requirements. Reclaimed Asphalt Shingles (RAS) may be used in Stone Matrix Asphalt (SMA) mixtures designed with an SBA polymer modifier as a fiber additive if the mix design with RAS included meets AASHTO T305 requirements. The RAS shall be from a certified source that produces either Type I or Type 2. Material shall meet requirements noted herein and the actual dosage rate will be determined by the Engineer.

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

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

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

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

- 1/ Based on percent of total aggregate weight.
- 2/ The mixture composition shall not exceed 44 percent passing the #8 (2.36 mm) sieve for surface courses with N<sub>design</sub> = 90.
- 3/ Additional minus No. 200 (0.075 mm) material required by the mix design shall be mineral filler, unless otherwise approved by the Engineer.
- 4/ The maximum percent passing the #635 (20 μm) sieve shall be ≤ 3 percent.
- 5/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted above the percentage stated on the table.
- 6/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted below 34 percent.

Delete Article 1030.04(a)(3) of the Standard Specifications.

Delete Article 1030.04(a)(4) of the Standard Specifications.

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

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

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

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

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

Revise the table in Article 1030.04(b)(2) of the Standard Specifications to read:

“VOLUMETRIC REQUIREMENTS Low ESAL				
Mixture Composition	Design Compactive Effort	Design Air Voids Target %	VMA (Voids in the Mineral Aggregate), % min.	VFA (Voids Filled with Asphalt Binder), %
IL-9.5L	N <sub>DES</sub> =30	4.0	15.0	65-78
IL-19.0L	N <sub>DES</sub> =30	4.0	13.5	N/A”

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

“(3) SMA Mixtures.

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

- 1/ Maximum draindown shall be 0.3 percent. The draindown shall be determined at the JMF asphalt binder content at the mixing temperature plus 30 °F.
- 2/ Applies when specific gravity of coarse aggregate is ≥ 2.760.
- 3/ Applies when specific gravity of coarse aggregate is < 2.760.
- 4/ Blending of different types of aggregate will not be permitted. For surface course, the coarse aggregate can be crushed steel slag, crystalline crushed stone or crushed sandstone. For binder course, coarse aggregate shall be crushed stone (dolomite), crushed gravel, crystalline crushed stone, or crushed sandstone.

Delete Article 1030.04(b)(4) of the Standard Specifications.

Delete Article 1030.04(b)(5) from the Supplemental Specifications.

Delete last sentence of the second paragraph of Article 1102.01(a) (13) a.

Add to second paragraph in Article 1102.01 (a) (13) a.:

“As an option, collected bag-house dust may be used in lieu of manufactured mineral filler, provided; 1) there is enough available for the production of the SMA mix for the entire project and 2) a mix design was prepared with collected bag-house dust.”

Williams Road Bridge over the West Branch of the DuPage River  
 Section 09-00030-00-BR  
 City of Warrenville, DuPage County  
 Contract No.: 63761

Revise the table in Article 1030.05(d)(2)a. of the Standard Specifications to read:

"Parameter	Frequency of Tests		Test Method See Manual of Test Procedures for Materials
	High ESAL Mixture	Low ESAL Mixture	
Aggregate Gradation  % passing sieves: 1/2 in. (12.5 mm), No. 4 (4.75 mm), No. 8 (2.36 mm), No. 30 (600 μm) No. 200 (75 μm)	1 washed ignition oven test on the mix per half day of production	Note 3.	Illinois Procedure
Asphalt Binder Content by Ignition Oven  Note 1.	1 per half day of production		Illinois-Modified AASHTO T 308
VMA  Note 2.	Day's production ≥ 1200 tons:  1 per half day of production		Illinois-Modified AASHTO R 35
	Day's production < 1200 tons:  1 per half day of production for first 2 days and 1 per day thereafter (first sample of the day)		
Air Voids  Bulk Specific Gravity of Gyratory Sample  Note 4.	Day's production ≥ 1200 tons:  1 per half day of production		Illinois-Modified AASHTO T 312
	Day's production < 1200 tons:  1 per half day of production for first 2 days and 1 per day thereafter (first sample of the day)		
Maximum Specific Gravity of Mixture	Day's production ≥ 1200 tons:  1 per half day of production		Illinois-Modified AASHTO T 209

"Parameter	Frequency of Tests		Test Method See Manual of Test Procedures for Materials
	High ESAL Mixture	Low ESAL Mixture	
	Day's production < 1200 tons:  1 per half day of production for first 2 days and 1 per day thereafter (first sample of the day)		

- Note 1. The Engineer may waive the ignition oven requirement for asphalt binder content if the aggregates to be used are known to have ignition asphalt binder content calibration factors which exceed 1.5 percent. If the ignition oven requirement is waived, other Department approved methods shall be used to determine the asphalt binder content.
- Note 2. The  $G_{sb}$  used in the voids in the mineral aggregate (VMA) calculation shall be the same average  $G_{sb}$  value listed in the mix design.
- Note 3. The Engineer reserves the right to require additional hot bin gradations for batch plants if control problems are evident.
- Note 4. The WMA compaction temperature for mixture volumetric testing shall be  $270 \pm 5$  °F ( $132 \pm 3$  °C) for quality control testing. The WMA compaction temperature for quality assurance testing will be  $270 \pm 5$  °F ( $132 \pm 3$  °C) if the mixture is not allowed to cool to room temperature. If the mixture is allowed to cool to room temperature, it shall be reheated to standard HMA compaction temperatures."

Revise the table in Article 1030.05(d)(2)b. of the Standard Specifications to read:

"Parameter	High ESAL Mixture Low ESAL Mixture
Ratio Dust/Asphalt Binder	0.6 to 1.2
Moisture	0.3 %"

Revise the Article 1030.05(d)(4) of the Supplemental Specifications to read:

- "(4) Control Limits. Target values shall be determined by applying adjustment factors to the AJMF where applicable. The target values shall be plotted on the control charts within the following control limits.

"CONTROL LIMITS						
Parameter	High ESAL		SMA		IL-4.75	
	Individual Test	Moving Avg. of 4	Test	Moving Avg. of 4	Individual Test	Moving Avg. of 4
% Passing: <sup>1/</sup>						
1/2 in. (12.5 mm)	± 6 %	± 4 %	± 6 %	± 4 %		
3/8 in. (9.5mm)			± 4 %	± 3 %		
No. 4 (4.75 mm)	± 5 %	± 4 %	± 5 %	± 4 %		
No. 8 (2.36 mm)	± 5 %	± 3 %	± 4 %	± 2 %		
No. 16 (1.18 mm)			± 4 %	± 2 %	± 4 %	± 3 %
No. 30 (600 µm)	± 4 %	± 2.5 %	± 4 %	± 2.5 %		
Total Dust Content No. 200 (75 µm)	± 1.5 %	± 1.0 %			± 1.5 %	± 1.0 %
Asphalt Binder Content	± 0.3 %	± 0.2 %	± 0.2 %	± 0.1 %	± 0.3 %	± 0.2 %
Voids	± 1.2 %	± 1.0 %	± 1.2 %	± 1.0 %	± 1.2 %	± 1.0 %
VMA	-0.7 % <sup>2/</sup>	-0.5 % <sup>2/</sup>	-0.7 % <sup>2/</sup>	-0.5 % <sup>2/</sup>	-0.7 % <sup>2/</sup>	-0.5 % <sup>2/</sup>

1/ Based on washed ignition oven

2/ Allowable limit below minimum design VMA requirement

DENSITY CONTROL LIMITS		
Mixture Composition	Parameter	Individual Test
IL-4.75	N <sub>design</sub> = 50	93.0 - 97.4 % <sup>1/</sup>
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 <sup>2/</sup> - 97.4 %
SMA	N <sub>design</sub> = 80	93.5 - 97.4 %

1/ Density shall be determined by cores or by correlated, approved thin lift nuclear gauge.

2/ 92.0 % when placed as first lift on an unimproved subgrade."

Revise the table in Article 1030.05(d)(5) of the Supplemental Specifications to read:

"CONTROL CHART REQUIREMENTS	High ESAL, Low ESAL, SMA & IL-4.75
Gradation <sup>1/3/</sup>	% Passing Sieves: 1/2 in. (12.5 mm) <sup>2/</sup> No. 4 (4.75 mm) No. 8 (2.36 mm) No. 30 (600 µm)
Total Dust Content <sup>1/</sup>	No. 200 (75 µm)
	Asphalt Binder Content
	Bulk Specific Gravity
	Maximum Specific Gravity of Mixture
	Voids
	Density
	VMA

- 1/ Based on washed ignition oven.
- 2/ Does not apply to IL-4.75.
- 3/ SMA also requires the 3/8 in. (9.5 mm) sieve."

Delete Article 1030.05(d)(6)a.1.(b.) of the Standard Specifications.

Delete Article 1030.06(b) of the Standard Specifications.

Delete Article 1102.01(e) of the Standard Specifications.

**2) Design Verification and Production**

Description. The following states the requirements for Hamburg Wheel and Tensile Strength testing for High ESAL, IL-4.75, and Stone Matrix Asphalt (SMA) hot-mix asphalt (HMA) mixes during mix design verification and production.

Mix Design Testing. Add the following below the referenced AASHTO standards in Article 1030.04 of the Standard Specifications:

- AASHTO T 324      Hamburg Wheel Test
- AASHTO T 283      Tensile Strength Test

Add the following to Article 1030.04 of the Standard Specifications:



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

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

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

Illinois Modified AASHTO T 324 Requirements <sup>1/</sup>

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

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

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

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

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

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

Before start-up, target values shall be determined by applying gradation correction factors to the JMF when applicable. These correction factors shall be determined from previous experience. The target values, when approved by the Engineer, shall be used to control HMA production. Plant settings and control charts shall be set according to target values.

Before constructing the test strip, target values shall be determined by applying gradation correction factors to the JMF when applicable. After any JMF adjustment, the JMF shall become the Adjusted Job Mix Formula (AJMF). Upon completion of the first acceptable test strip, the JMF shall become the AJMF regardless of whether or not the JMF has been adjusted. If an adjustment/plant change is made, the Engineer may require a new test strip to be constructed. If the HMA placed during the initial test strip is determined to be unacceptable to remain in place by the Engineer, it shall be removed and replaced.

The limitations between the JMF and AJMF are as follows.

Parameter	Adjustment
1/2 in. (12.5 mm)	± 5.0 %
No. 4 (4.75 mm)	± 4.0 %
No. 8 (2.36 mm)	± 3.0 %
No. 30 (600 µm)	*
No. 200 (75 µm)	*
Asphalt Binder Content	± 0.3 %

\* In no case shall the target for the amount passing be greater than the JMF.

Any adjustments outside the above limitations will require a new mix design.

Mixture sampled to represent the test strip shall include additional material sufficient for the Department to conduct Hamburg Wheel testing according to Illinois Modified AASHTO T324 (approximately 60 lb (27 kg) total).

The Contractor shall immediately cease production upon notification by the Engineer of failing Hamburg Wheel test. All prior produced material may be paved out provided all other mixture criteria is being met. No additional mixture shall be produced until the Engineer receives passing Hamburg Wheel tests.

The Department may conduct additional Hamburg Wheel tests on production material as determined by the Engineer.”

Revise the title of Article 1030.06(b) of the Standard Specifications to read:

“(b) Low ESAL Mixtures.”

Add the following to Article 1030.06 of the Standard Specifications:

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

The Contractor shall immediately cease production upon notification by the Engineer of failing Hamburg Wheel test. All prior produced material may be paved out provided all other mixture criteria are being met. No additional mixture shall be produced until the Engineer receives passing Hamburg Wheel tests.

Method of Measurement:

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

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

Basis of Payment.

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

“For all mixes designed and verified under the Hamburg Wheel criteria, the cost of furnishing and introducing anti-stripping additives in the HMA will not be paid for separately, but shall be considered as included in the contract unit price of the HMA item involved.

No additional compensation will be awarded to the Contractor because of reduced production rates associated with the addition of the anti-stripping additive.”

**AGGREGATE SUBGRADE IMPROVEMENT (D-1)**

Effective: February 22, 2012

Revised: November 1, 2014

Add the following Section to the Standard Specifications:

**“SECTION 303. AGGREGATE SUBGRADE IMPROVEMENT**

**303.01 Description.** This work shall consist of constructing an aggregate subgrade improvement.

**303.02 Materials.** Materials shall be according to the following.

Item	Article/Section
(a) Coarse Aggregate .....	1004
(b) Reclaimed Asphalt Pavement (RAP) (Notes 1, 2 and 3) .....	1031

Note 1. Crushed RAP, from either full depth or single lift removal, may be mechanically blended with aggregate gradations CS 01 or CS 02 but shall not exceed 40 percent of the total product. The top size of the Coarse RAP shall be less than 4 in. (100 mm) and well graded.

Note 2. RAP having 100 percent passing the 1 1/2 in. (37.5 mm) sieve and being well graded, may be used as capping aggregate in the top 3 in. (75 mm) when aggregate gradations CS 01 or CS 02 are used in lower lifts. When RAP is blended with any of the coarse aggregates, the blending shall be done with mechanically calibrated feeders.

Note 3. The RAP used for aggregate subgrade improvement shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, “Reclaimed Asphalt Pavement (RAP) for Aggregate Applications”.

**303.03 Equipment.** The vibratory machine shall be according to Article 1101.01, or as approved by the Engineer.

**303.04 Soil Preparation.** The stability of the soil shall be according to the Department’s Subgrade Stability Manual for the aggregate thickness specified.

**303.05 Placing Aggregate.** The maximum nominal lift thickness of aggregate gradations CS 01 or CS 02 shall be 24 in. (600 mm).

**303.06 Capping Aggregate.** The top surface of the aggregate subgrade shall consist of a minimum 3 in. (75 mm) of aggregate gradations CA 06 or CA 10. When Reclaimed Asphalt Pavement (RAP) is used, it shall be crushed and screened where 100 percent is passing the 1 1/2 in. (37.5 mm) sieve and being well graded. RAP that has been fractionated to size will not be permitted for use in capping. Capping aggregate will not be required when the aggregate subgrade improvement is used as a cubic yard pay item for undercut applications. When RAP is blended with any of the coarse aggregates, the blending shall be done with mechanically calibrated feeders.

**303.07 Compaction.** All aggregate lifts shall be compacted to the satisfaction of the Engineer. If the moisture content of the material is such that compaction cannot be obtained, sufficient water shall be added so that satisfactory compaction can be obtained.

**303.08 Finishing and Maintenance of Aggregate Subgrade Improvement.** The aggregate subgrade improvement shall be finished to the lines, grades, and cross sections shown on the plans, or as directed by the Engineer. The aggregate subgrade improvement shall be maintained in a smooth and compacted condition.

**303.09 Method of Measurement.** This work will be measured for payment according to Article 311.08.

**303.10 Basis of Payment.** This work will be paid for at the contract unit price per cubic yard (cubic meter) for AGGREGATE SUBGRADE IMPROVEMENT or at the contract unit price per square yard (square meter) for AGGREGATE SUBGRADE IMPROVEMENT, of the thickness specified.

Add the following to Section 1004 of the Standard Specifications:

**"1004.06 Coarse Aggregate for Aggregate Subgrade Improvement.** The aggregate shall be according to Article 1004.01 and the following.

- (a) Description. The coarse aggregate shall be crushed gravel, crushed stone, or crushed concrete.
- (b) Quality. The coarse aggregate shall consist of sound durable particles reasonably free of deleterious materials.
- (c) Gradation.
  - (1) The coarse aggregate gradation for total subgrade thicknesses of 12 in. (300 mm) or greater shall be CS 01 or CS 02.

COARSE AGGREGATE SUBGRADE GRADATIONS					
Grad No.	Sieve Size and Percent Passing				
	8"	6"	4"	2"	#4
CS 01	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20
CS 02		100	80 ± 10	25 ± 15	

COARSE AGGREGATE SUBGRADE GRADATIONS (Metric)					
Grad No.	Sieve Size and Percent Passing				
	200 mm	150 mm	100 mm	50 mm	4.75 mm
CS 01	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20
CS 02		100	80 ± 10	25 ± 15	

(2) The 3 in. (75 mm) capping aggregate shall be gradation CA 6 or CA 10.

## **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 2. 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.



## HOT MIX ASPHALT - QUANTITY CORRECTION (BMPR)

Effective: October 1, 2014  
Revised: October 2, 2014

Revise the fifth paragraph of Article 406.13(b) of the Standard Specifications to read as follows:

“HMA and Stone Matrix Asphalt (SMA) mixture in excess of 103 percent of the quantity shown on the plans or the plan quantity as specified by the Engineer will not be measured for payment. The “adjusted quantity to be placed” and the “adjusted pay quantity” for HMA and SMA mixtures will be calculated as follows.

Adjusted Quantity To Be Placed = C x quantity shown on the plans or the plan quantity as specified by the Engineer

where: C = English:  $C = \frac{G_{mb} \times 46.8}{U}$       Metric:  $C = \frac{G_{mb} \times 24.99}{U}$

and where:  $G_{mb}$  = average bulk specific gravity from approved mix design  
U = unit weight of HMA shown on the plans in lb/sq yd/in.  
(kg/sq m/25 mm), used to estimate plan quantity  
46.8 = English constant  
24.99 = metric constant

Adjusted Pay Quantity (not to exceed 103 percent of the quantity shown on the plans or the plan quantity as specified by the Engineer) = B x HMA tons actually placed

where:  $B = \frac{1}{C}$

If project circumstances warrant a new mix design, the above equations shall be used to calculate the adjusted plan quantity and adjusted pay quantity for each mix design using its respective average bulk specific gravity.”



Route Williams Road
Section 09-00030-00-BR
County DuPage

Marked Rte. Williams Road
Project No. BRM-9003(638)
Contract No. 63761

This plan has been prepared to comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit No. ILR10 (Permit ILR10), issued 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.

Philip Kuchler
Print Name
Senior Civil Engineer
Title
City of Warrenville
Agency

[Handwritten Signature]
Signature
7/29/2014
Date

I. Site Description:

A. Provide a description of the project location (include latitude and longitude):

The project is located at the Williams Road Bridge (existing SN 022-3024) over the West Branch of the DuPage River in the City of Warrenville, DuPage County, IL. The project is located in the SE 1/4 of Section 27, Township 39 North, Range 9 East of the Third Principal Meridian. The approximate latitude is 41.8297 and the approximate longitude is -88.1903.

B. Provide a description of the construction activity which is the subject of this plan:

This work consists of removing and replacing the existing bridge structure (proposed SN 022-3126). The proposed improvements consist of earth excavation, placement of aggregate subgrade, combination concrete curb and gutter, hot-mix asphalt binder, hot-mix asphalt surface course, hot-mix asphalt shoulder and aggregate shoulder, sidewalk, storm sewer, sanitary sewer, forcemain and water main installation, guard rail, PPC deck beams, PCC wearing surface, pavement marking, landscaping and all other appurtenant work required to complete the project in accordance with the plans, specifications and all other applicable standards. Williams Road will be closed to traffic during construction.

C. Provide the estimated duration of this project:

Approximately 11 months.

D. The total area of the construction site is estimated to be 3.1 acres.

The total area of the site estimated to be disturbed by excavation, grading or other activities is 2.8 acres.

E. The following is a weighted average of the runoff coefficient for this project after construction activities are completed:

0.58

F. List all soils found within project boundaries. Include map unit name, slope information, and erosivity:

The soil types found within the project boundaries are as follows:

323C2 - Casco loam, 4 to 6 percent slopes, eroded

327B - Fox silt loam, 2 to 4 percent slopes

697A - Wauconda silt loam, 0 to 2 percent slopes (well drained)

802B - Orthents, loamy, undulating

854B - Markham-Ashkum-Beecher complex, 1 to 6 percent slopes

1107A - Sawmill silty clay loam, undrained, 0 to 2 percent slopes, frequently flooded

W - Water

According to the National Cooperative Soil Survey, the soils have a "Moderate" erosion rating risk. A rating of "Moderate" rating indicates that some erosion is likely and that occasional maintenance and simple erosion control measures may be needed.

G. Provide an aerial extent of wetland acreage at the site:

See the plans. The amount of wetlands to be disturbed will be 0.069 acre and will be mitigated in DuPage County's West Branch DuPage River flood mitigation project(s) along the River Road corridor between Warrenville Road and Ferry Road.

H. Provide a description of potentially erosive areas associated with this project:

Outfalls from storm sewer flared end sections and slopes around the bridge will have riprap placement. Ditch grades greater than 2.5% will have turf reinforcement mat installed.

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 slopes, etc):

The entire project limits will be subject to soil disturbing activities. See the contract plans for locations of slopes and grades. The soils have a "Moderate" erosion rating risk.

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 offsite sediment tracking (to be added after contractor identifies locations), areas of soil disturbance, the location of major structural and non-structural controls identified in the plan, the location of areas where stabilization practices are expected to occur, surface waters (including wetlands) and locations where storm water is discharged to surface water including wetlands.

K. Identify who owns the drainage system (municipality or agency) this project will drain into:

The proposed drainage system will be owned by the City of Warrenville, which will drain directly into the West Branch of the DuPage River.

L. The following is a list of General NPDES ILR40 permittees within whose reporting jurisdiction this project is located.

City of Warrenville

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:

The receiving water for storm sewer, ditches and sheet flow will be the West Branch of the DuPage River, which is tributary to the DuPage River.

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.

Areas outside the limits of construction will remain undisturbed. No areas within the R.O.W. will be delineated on the plans to be protected. Work in the West Branch of the DuPage River is required to remove and replace the bridge. Erosion Control measures will be implemented per the plan.

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):

The receiving water for storm sewer, ditches and sheet flow will be the West Branch of the DuPage River (Water ID IL\_GBK-05), which is tributary to the DuPage River.

a. The name(s) of the listed water body, and identification of all pollutants causing impairment:

West Branch of the DuPage River, Fecal Coliform, Phosphorus (Total), Sedimentation/Siltation, Total Suspended Solids (TSS)

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:

Floodplain boundaries will be staked and no stockpiles will be allowed in the floodplain. Perimeter Erosion Barrier and Pipe and Inlet Protection will be used. Rip Rap will be used on creek slopes.

c. Provide a description of the location(s) of direct discharge from the project site to the 303(d) water body:

Storm Sewer Flared End Sections and ditches will outlet to the West Branch of the DuPage River.

d. Provide a description of the location(s) of any dewatering discharges to the MS4 and/or water body:

Dewatering discharges and locations/basins will be as approved by the Engineer.

2. TMDL (fill out this section if checked above)

a. The name(s) of the listed water body:

West Branch of the DuPage River

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:

Temporary erosion control seeding will be used throughout construction as required per the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction (Standard Specifications). Silt filter fabric inlet and pipe protection will be used at all drainage structures as shown on plan. Rolled excelsior temporary ditch checks will be used to mitigate erosion and siltation of the ditches at locations shown on plan. Aggregate ditch checks will be installed at ditch outlets in close proximity to the river as shown on plan. Turf reinforcement mat will be placed in ditches with steep grades. Silt filter fabric perimeter erosion barrier will be installed at locations shown on plan to prevent sediment from entering adjacent properties. Perimeter erosion barrier (double row) will be used at the river banks to prevent sediment from entering the river. Cofferdams, Type 1 per the Standard Specifications may be used during construction of the proposed bridge piers. The coffered area will be dewatered, using a sump pit, dewatering bag, portable sedimentation tank or other appropriate technology to filter water before it is discharged into the river. A sediment control silt curtain will be placed downstream of all construction activities to mitigate turbid flow in the river. Provisions for installation of a stabilized construction entrance have been provided if required. Permanent seeded areas will be covered with erosion control blanket. Permanent riprap will be installed to stabilize the river banks

- 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 that allocation:

Project discharges must not lower the water quality of the West Branch of the DuPage River. There is no numeric waste load allocation established for sediment from construction activities.

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 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 type="checkbox"/> Solid Waste Debris                   | <input type="checkbox"/> Other (specify)   |
| <input type="checkbox"/> Paints                               | <input type="checkbox"/> Other (specify)   |
| <input 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 type="checkbox"/> Preservation of Mature Vegetation            | <input checked="" type="checkbox"/> Erosion Control Blanket / Mulching |
| <input type="checkbox"/> Vegetated Buffer Strips                      | <input type="checkbox"/> Sodding                                       |
| <input checked="" type="checkbox"/> Protection of Trees               | <input type="checkbox"/> Geotextiles                                   |
| <input checked="" type="checkbox"/> Temporary Erosion Control Seeding | <input type="checkbox"/> Other (specify)                               |
| <input type="checkbox"/> Temporary Turf (Seeding, Class 7)            | <input type="checkbox"/> Other (specify)                               |
| <input type="checkbox"/> Temporary Mulching                           | <input type="checkbox"/> Other (specify)                               |
| <input checked="" type="checkbox"/> Permanent Seeding                 | <input type="checkbox"/> Other (specify)                               |

Describe how the stabilization practices listed above will be utilized during construction:

1. Temporary seeding will be placed as per Article 280.04(f). Seed Mixtures will depend on the time of year it is applied as per Article 1081.15(g).
2. Erosion control blanket will be installed at all locations that have been brought to final grade and seeded to protect slopes from erosion and allow seeds to germinate.
3. Tree protection will be installed per the detail in the plans and as approved by the Engineer.

Describe how the stabilization practices listed above will be utilized after construction activities have been completed:

1. All areas disturbed by construction that aren't otherwise paved will be stabilized with seeding immediately following the finished grading.

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 structural practices will be used for this project:

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Perimeter Erosion Barrier     | <input type="checkbox"/> Rock Outlet Protection                  |
| <input checked="" type="checkbox"/> Temporary Ditch Check         | <input checked="" 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 checked="" type="checkbox"/> Temporary Sediment Basin      | <input type="checkbox"/> Slope Walls                             |
| <input type="checkbox"/> Temporary Stream Crossing                | <input type="checkbox"/> Concrete Revetment Mats                 |
| <input checked="" type="checkbox"/> Stabilized Construction Exits | <input type="checkbox"/> Level Spreaders                         |
| <input checked="" type="checkbox"/> Turf Reinforcement Mats       | <input checked="" type="checkbox"/> Other (specify) Silt Curtain |
| <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:

1. Temporary perimeter erosion barrier will be a silt filter fence that is placed adjacent to areas of construction to intercept waterborne silt and prevent it from leaving the site.
2. Temporary ditch checks will be placed in swales and ditches at locations shown in the plans and as directed by the Engineer to prevent downstream erosion.
3. Inlet protection will be installed at locations shown in the plans at culvert and storm sewer inlets where runoff from disturbed areas is collected.
4. An Above Ground Dewatering/Pumping Basin will be used if dewatering is required.
5. A Stabilized Construction Entrance/Exit can be used at the Contractor's option to maintain roadways in a clean condition.
6. A silt curtain will be placed downstream of all construction activities while construction occurs.

Describe how the structural practices listed above will be utilized after construction activities have been completed:

1. Turf reinforcement mat will be used where the ditch grade exceeds 2.5%.
2. Riprap will be placed at outlet flared end sections as shown in the plans to prevent downstream erosion.
3. Riprap will continue into ditches to dissipate ditch flow.

**D. Treatment Chemicals**

Will polymer flocculants or treatment chemicals be utilized on this project:  Yes  No

If yes above, identify where and how polymer flocculants 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 and 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:

None except for rip rap swale which will have lower velocities. The Williams Road Bride Project has been incorporated into the Addendum to the West DuPage River Watershed Plan, adopted by DuPage County in January 2011. Therefore, stormwater detention is not required for the improvements associated with the Williams Road Bridge.

**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:

All management practices, control, and provisions in this plan are in accordance with the IDOT "Standard Specifications for Road and Bridge Construction", IDOT Highway Standards and the Illinois Urban Manual.

**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 timeframe
  - 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
  - Timeframe 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 Fueling – Identify equipment fueling locations for this project and what BMPs will be used to ensure containment and spill prevention.
  - 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 the Contractor's responsibility to attain maintenance guidelines for any manufactured BMPs which are to be installed and maintained per manufacture's specifications.

During construction the Contractor shall clean and grade the work area to eliminate concentration of runoff, cover the open ends of pipes in trenches at the close of each working day, and maintain or replace erosion and sediment control devices in a timely manner.

Temporary ditch checks, pipe and inlet protection and perimeter erosion barriers shall have the sediment removed and replace the control measure if necessary as directed by the Engineer. Temporary seeding for erosion control shall be continuously implemented as directed by the Engineer.



All maintenance of erosion control systems will be the responsibility of the Contractor.

#### **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 email 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:

#### **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.



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 Contractor/subcontractor completing this form.

Route Williams Road Marked Rte. Williams Road
Section 09-00030-00-BR Project No. BRM-9003(638)
County DuPage Contract No. 63761

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. ILR 10 that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

In addition, I have read and understand all of the information and requirements stated in 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 this Contractor/subcontractor will be responsible for as required in Section II.G. of SWPPP:
[Blank lines for text entry]

125

STATE OF



ILLINOIS

Permit No.: DIL-11-005

Department of Transportation

Division of Highways
2300 South Dirksen Parkway
Springfield, IL 62764

REGULATED FLOODWAY CONSTRUCTION PERMIT
RIVERS, LAKES AND STREAMS ACT "615 ILCS 5"

PERMISSION IS HEREBY GRANTED TO: City of Warrenville
28W701 Stafford Place
Warrenville, IL 60555

FOR CONSTRUCTION OF : A new bridge along Williams Road over the West Branch of the DuPage River. The proposed bridge will be a 3-span Precast Prestressed Concrete deck beam structure with spill through abutments, replacing the existing bridge at the same location. The proposed bridge will have a length of 129 feet face to face. The width will be 37 feet. The low chord elevation will be 699.71. This project is located in Section 27, Township 39 North, Range 9 East of 3rd Principal Meridian, DuPage County, as part of Section Number 09-00030-00-BR, Structure 022-3126.

IN ACCORDANCE WITH THE Application and Plan
DATED April 8, 2011 AND MADE A PART HEREOF, AND SUBJECT TO THE
TERMS SHOWN ON THE BACK HEREOF AND THE SPECIAL CONDITIONS ATTACHED
HERETO AS EXHIBIT.

EXAMINED AND APPROVED

[Handwritten signature]

REGIONAL ENGINEER/CENTRAL BUREAU CHIEF

4-13-11

DATE

1260

THIS PERMIT is subject to the following conditions:

- (a) This permit is granted in accordance with Rivers, Lakes And Streams Act "615 ILCS 5".
- (b) This permit does not convey title to the permittee or recognize title of the permittee to any submerged or other lands, and furthermore, does not convey, lease or provide any right or rights of occupancy or use of the public or private property on which the project or any part thereof will be located, or otherwise grant to the permittee any right or interest in or to the property, whether the property is owned or possessed by the State of Illinois or by any private or public party or parties.
- (c) This permittee does not release the permittee from liability for damage to persons or property resulting from the work covered by this permit, and does not authorize any injury to private property or invasion of private rights.
- (d) This permit does not relieve the permittee of the responsibility to obtain other federal, state or local authorizations required for the construction of the permitted activity; and if the permittee is required by law to obtain approval from any federal agency to do the work, this permit is not effective until the federal approval is obtained.
- (e) The permittee shall, at his own expense, remove all temporary piling, cofferdams, false work, and material incidental to the construction of the project, from floodway, river, stream or lake in which the work is done. If the permittee fails to remove such structures or materials, the state may have removal made at the expense of the permittee. If future need for public navigation or public interest of any character, by the state or federal government, necessitates changes in any part of the structure or structures, such changes shall be made by and at the expense of the permittee or his successors as required by the Department of Transportation or other properly constituted agency, within sixty (60) days from receipt of written notice of the necessity from the Department or other agency, unless a longer period of time is specifically authorized.
- (f) The execution and details of the work authorized shall be subject to the supervision and approval of the Department. Department personnel shall have right of access to accomplish this purpose.
- (g) Starting work on the construction authorized will be considered full acceptance by the permittee of the terms and conditions of the permit.
- (h) The Department in issuing this permit has relied upon the statements and representations made by the permittee; if any statement or representation made by the permittee is found to be false, the permit may be revoked at the option of the Department; and when a permit is revoked all rights of the permittee under the permit are voided.
- (i) If the project authorized by this permit is located in or along Lake Michigan or a meandered lake, the permittee and his successors shall make no claim whatsoever to any interest in any accretions caused by the project.
- (j) In issuing this permit, the Department does not approve the adequacy of the design or structural strength or the structure or improvement.
- (k) Noncompliance with the conditions stated herein will make this permit void.
- (l) If the work permitted is not initiated on or before six years from the date of issuance as shown on the front of this form, this permit shall be void.



**DEPARTMENT OF THE ARMY**  
CHICAGO DISTRICT, CORPS OF ENGINEERS  
111 NORTH CANAL STREET  
CHICAGO, ILLINOIS 60606-7206

REPLY TO  
ATTENTION OF:

February 11, 2013

Technical Services Division  
Regulatory Branch  
LRC-2013-00018

SUBJECT: Authorization to Replace Williams Road Bridge over West Branch DuPage River in the Village of Warrenville, DuPage County, Illinois

Paul Kuchler  
City of Warrenville  
3S258 Manning Street  
Warrenville, Illinois 60555

Dear Mr. Kuchler:

The U.S. Army Corps of Engineers, Chicago District, has completed its review of your notification for authorization under the Regional Permit Program (RPP), submitted on your behalf by Engineering Resource Associates, Inc. This office has verified that your proposed activity complies with the terms and conditions of Regional Permit RP3 (Transportation Projects), RP7 (Temporary Construction Activities) and the overall RPP under Category I of the Regional Permit Program dated April 1, 2012. The activity may be performed without further authorization from this office provided the activity is conducted in compliance with the terms and conditions of the RPP.

This verification expires three (3) years from the date of this letter and covers only your activity as described in your notification and as shown on the plans entitled Williams Road Bridge Improvements City of Warrenville dated October 12, 2012, prepared by Engineering Resource Associates, Inc. Caution must be taken to prevent construction materials and activities from impacting waters of the United States beyond the scope of this authorization. If you anticipate changing the design or location of the activity, you should contact this office to determine the need for further authorization.

This authorization is contingent upon implementing and maintaining soil erosion and sediment controls in a serviceable condition throughout the duration of the project. You shall comply with the Kane-DuPage Soil and Water Conservation District's (SWCD) written and verbal recommendations regarding the soil erosion and sediment control (SESC) plan and the installation and maintenance requirements of the SESC practices on-site. You shall notify this office and the SWCD of any changes or modifications to the approved plan set. Please be aware that field conditions during project construction may require the implementation of additional SESC measures for further protection of aquatic resources. If you fail to implement corrective measures, this office may require more frequent site inspections to ensure the installed SESC measures are acceptable.

You shall complete the following requirements:

1. You shall schedule a preconstruction meeting with SWCD to discuss the SESC plan and the installation and maintenance requirements of the SESC practices on the site.
2. You shall notify the SWCD of any changes or modifications to the approved plan set. Field conditions during project construction may require the implementation of additional SESC measures. If you fail to implement corrective measures, this office may require more frequent site inspections to ensure the installed SESC measures are acceptable.

This verification does not obviate the need to obtain all other required Federal, state, or local approvals before starting work. Please note that Section 401 Water Quality Certification has been issued by IEPA for this RP. Enclosed are the IEPA Section 401 Water Quality Certification conditions. If you have any questions regarding Section 401 certification, please contact Mr. Dan Heacock at IEPA Division of Water Pollution Control, Permit Section #15, by telephone at (217) 782-3362.

For a complete copy of the RPP program or any additional information on the RPP program, please access our website: [www.lrc.usace.army.mil/co-r](http://www.lrc.usace.army.mil/co-r). Once you have completed the authorized activity, please sign and return the enclosed compliance certification. If you have any questions, please contact Stasi Brown of my staff by telephone at 312-846-5544, or email at [stasi.f.brown@usace.army.mil](mailto:stasi.f.brown@usace.army.mil).

Sincerely,

Kathleen G. Chernich  
Chief, East Section  
Regulatory Branch

Enclosures

Copy Furnished w/out Enclosures:

DuPage County DEC (Jen Boyer)  
Engineering Resource Associates, Inc. (Erin Pande)



**PERMIT COMPLIANCE  
CERTIFICATION**

Permit Number: LRC-2013-00018  
Permittee: Paul Kuchler  
City of Warrenville  
Date: February 11, 2013

I hereby certify that the work authorized by the above-referenced permit has been completed in accordance with the terms and conditions of said permit and if applicable, compensatory wetland mitigation was completed in accordance with the approved mitigation plan.<sup>1</sup>

\_\_\_\_\_  
PERMITTEE

\_\_\_\_\_  
DATE

Upon completion of the activity authorized by this permit and any mitigation required by the permit, this certification must be signed and returned to the following address:

U.S. Army Corps of Engineers  
Chicago District, Regulatory Branch  
111 North Canal Street, 6th Floor  
Chicago, Illinois 60606-7206

Please note that your permitted activity is subject to compliance inspections by Corps of Engineers representatives. If you fail to comply with this permit, you may be subject to permit suspension, modification, or revocation.

<sup>1</sup> If compensatory mitigation was required as part of your authorization, you are certifying that the mitigation area has been graded and planted in accordance with the approved plan. You are acknowledging that the maintenance and monitoring period will begin after a site inspection by a Corps of Engineers representative or after thirty days of the Corps' receipt of this certification. You agree to comply with all permit terms and conditions, including additional reporting requirements, for the duration of the maintenance and monitoring period.



US Army Corps of Engineers®  
Chicago District

## GENERAL CONDITIONS APPLICABLE TO THE 2012 REGIONAL PERMIT PROGRAM

The permittee shall comply with the terms and conditions of the Regional Permits and the following general conditions for all activities authorized under the RPP:

1. State 401 Water Quality Certification - Water quality certification under Section 401 of the Clean Water Act may be required from the Illinois Environmental Protection Agency (IEPA). The District may consider water quality, among other factors, in determining whether to exercise discretionary authority and require an Individual Permit. Please note that Section 401 Water Quality Certification is a requirement for projects carried out in accordance with Section 404 of the Clean Water Act. Projects carried out in accordance with Section 10 of the Rivers and Harbors Act of 1899 do not require Section 401 Water Quality Certification

On March 2, 2012, the IEPA granted Section 401 certification, with conditions, for all Regional Permits, except for activities in certain waterways noted under RPs 4 and 8. The following conditions of the certification are hereby made conditions of the RPP:

1. The applicant shall not cause:
  - a) a violation of applicable water quality standards of the Illinois Pollution Control Board Title 35, Subtitle C: Water Pollution Rules and Regulations;
  - b) water pollution defined and prohibited by the Illinois Environmental Protection Act;
  - c) interference with water use practices near public recreation areas or water supply intakes;
  - d) a violation of applicable provisions of the Illinois Environmental Protection Act.
2. The applicant shall provide adequate planning and supervision during the project construction period for implementing construction methods, processes and cleanup procedures necessary to prevent water pollution and control erosion.
3. Except as allowed under condition 9, any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all State statutes, regulations and permit requirements with no discharge to waters of the State unless a permit has been issued by the Illinois EPA. Any backfilling must be done with clean material placed in a manner to prevent violation of applicable water quality standards.
4. All areas affected by construction shall be mulched and seeded as soon after construction as possible. The applicant shall undertake necessary measures and procedures to reduce erosion during construction. Interim measures to prevent soil erosion during construction shall be taken and may include the installation of sedimentation basins and temporary mulching. All construction within the waterway shall be conducted during zero or low flow conditions. The applicant shall be responsible for obtaining a NPDES Stormwater Permit prior to initiating construction if the construction activity associated with the project will result in the disturbance of (1) one or more acres, total land area. A NPDES Stormwater Permit may be obtained by submitting a properly completed Notice of Intent (NOI) form by certified mail to the Illinois EPA's Division of Water Pollution Control, Permit Section.
5. The applicant shall implement erosion control measures consistent with the Illinois Urban Manual (IEPA/USDA, NRCS; 2011, <http://aiswcd.org/IUM/index.html>).
6. The applicant is advised that the following permits(s) must be obtained from the Illinois EPA: The applicant must obtain permits to construct sanitary sewers, water mains, and related facilities prior to construction.
7. Backfill used in the stream-crossing trench shall be predominantly sand or larger size material, with less than 20% passing a #230 U.S. sieve.
8. Any channel relocation shall be constructed under dry conditions and stabilized to prevent erosion prior to the diversion of flow.
9. Backfill used within trenches passing through surface waters of the State, except wetland areas, shall be clean course aggregate, gravel or other material which will not cause siltation, pipe damage during placement, or chemical corrosion in place. Excavated material may be used only if:
  - a) particle size analysis is conducted and demonstrates the material to be at least 80% sand or larger size material, using #230 U.S. sieve; or
  - b) excavation and backfilling are done under dry conditions.
10. Backfill used within trenches passing through wetland areas shall consist of clean material which will not cause siltation, pipe damage during placement, or chemical corrosion in place. Excavated material shall be used to the extent practicable, with the upper six (6) to twelve (12) inches backfilled with the topsoil obtained during trench excavation.
11. Any applicant proposing activities in a mined area or previously mined area shall provide to the IEPA a written determination regarding the sediment and materials used which are considered "acid-producing material" as defined in 35 Ill. Adm. Code,



Subtitle D. If considered "acid-producing material," the applicant shall obtain a permit to construct pursuant to 35 Ill. Adm. Code 404.101.

12. Asphalt, bituminous material and concrete with protruding material such as reinforcing bar or mesh shall not be 1) used for backfill, 2) placed on shorelines/stream banks, or 3) placed in waters of the State.
13. Applicants that use site dewatering techniques in order to perform work in waterways for construction activities approved under Regional Permits 1 (Residential, Commercial and Institutional Developments), 2 (Recreation Projects), 3 (Transportation Projects), 7 (Temporary Construction Activities), 9 (Maintenance) or 12 (Bridge Scour Protection) shall maintain flow in the stream during such construction activity by utilizing dam and pumping, fluming, culverts or other such techniques.
14. In addition to any action required of the Regional Permit 13 (Cleanup of Toxic and Hazardous Materials Projects) applicant with respect to the "Notification" General Condition 22, the applicant shall notify the Illinois EPA Bureau of Water, of the specific activity. This notification shall include information concerning the orders and approvals that have been or will be obtained from the Illinois EPA Bureau of Land (BOL) for all cleanup activities under BOL jurisdiction, or for which authorization or approval is sought from BOL for no further remediation. This Regional Permit is not valid for activities that do not require or will not receive authorization or approval from the BOL.

2. Threatened and Endangered Species - If the District determines that the activity may affect Federally listed species or critical habitat, the District will initiate section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) in accordance with the Endangered Species Act of 1973, as amended (Act). Applicants shall provide additional information that would enable the District to conclude that the proposed action will have no effect on federally listed species.

The application packet shall indicate whether resources (species, their suitable habitats, or critical habitat) listed or designated under the Act, may be present within areas affected (directly or indirectly) by the proposed project. Applicants shall provide a section 7 species list for the action area using the on-line process at the USFWS website. You can access "U.S. Fish and Wildlife Service Endangered Species Program of the Upper Midwest" website at [www.fws.gov/midwest/Endangered](http://www.fws.gov/midwest/Endangered). Click on the section 7 Technical Assistance green shaded box in the lower right portion of the screen and follow the instructions to completion. Review all documentation pertaining to the species list, provide the rationale for your effects determination for each species, and send the information to this office for review.

If no species, their suitable habitats, or critical habitat are listed, then a "no effect" determination can be made, and section 7 consultation is not warranted. If species or critical habitat appear on the list or suitable habitat is present within the action area, then a biological assessment or biological evaluation will need to be completed to determine if the proposed action will have "no effect" or "may effect" the species or suitable habitat. The District will request initiation of section 7 consultation with the USFWS upon agreement with the applicant on the effect determinations in the biological assessment or biological evaluation. If the issues are not resolved, the analysis of the situation is complicated, or impacts to listed species or critical habitat are found to be greater than minimal, the District will consider reviewing the project under the Individual Permit process.

Projects in Will, DuPage, or Cook Counties that are located in the recharge zones for Hine's emerald dragonfly critical habitat units may be reviewed under the RPP, with careful consideration due to the potential impacts to the species. All projects reviewed that are located within 3.25 miles of a critical habitat unit will be reviewed under Category II of the RPP. Please visit the following website for the locations of the Hine's emerald dragonfly critical habitat units in Illinois.  
<http://www.fws.gov/midwest/endangered/insects/hed/FRHinesFinalRevisedCH.html>

3. Historic Properties - In cases where the District determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity may require an Individual Permit. A determination of whether the activity may be authorized under the RPP instead of an Individual Permit will not be made until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the District with the appropriate documentation to demonstrate compliance with those requirements.

Non-Federal permittees must include notification to the District if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the permit application must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing permit submittals, the District will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. Based on the information submitted and these efforts, the District shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the District, the non-Federal applicant shall not begin the activity until notified by the District either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

The District will take into account the effects on such properties in accordance with 33 CFR Part 325, Appendix C, and 36 CFR 800. If all issues pertaining to historic properties have been resolved through the consultation process to the satisfaction of the District, Illinois Historic Preservation Agency (IHPA) and Advisory Council on Historic Preservation, the District may, at its discretion, authorize the activity under the RPP instead of an Individual Permit.

Applicants are encouraged to obtain information on historic properties from the IHPA and the National Register of Historic Places at the earliest stages of project planning. For information, contact:

Illinois Historic Preservation Agency  
1 Old State Capitol Plaza  
Springfield, IL 62701-1507  
(217) 782-4836  
www.illinoishistory.gov

If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity, you must immediately notify this office of what you have found, and to the maximum extent practicable, stop activities that would adversely affect those remains and artifacts until the required coordination has been completed. We will initiate the Federal, Tribal and State coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. Soil Erosion and Sediment Control - Measures shall be taken to control soil erosion and sedimentation at the project site to ensure that sediment is not transported to waters of the U.S. during construction. Soil erosion and sediment control measures shall be implemented before initiating any clearing, grading, excavating or filling activities. All temporary and permanent soil erosion and sediment control measures shall be maintained throughout the construction period and until the site is stabilized. All exposed soil and other fills, and any work below the ordinary high water mark shall be permanently stabilized at the earliest practicable date.

Applicants are required to prepare a soil erosion and sediment control (SESC) plan including temporary BMPs. The plan shall be designed in accordance with the Illinois Urban Manual, 2011 (<http://aiswcd.org/IUM/index.html>). Practice standards and specifications for measures outlined in the soil erosion and sediment control plans will follow the latest edition of the "Illinois Urban Manual: A Technical Manual Designed for Urban Ecosystem Protection and Enhancement." Additional Soil Erosion and Sediment Control (SESC) measures not identified in the Illinois Urban Manual may also be utilized upon District approval.

At the District's discretion, an applicant may be required to submit the SESC plan to the local Soil and Water Conservation District (SWCD), or the Lake County Stormwater Management Commission (SMC) for review. When the District requires submission of an SESC plan, the following applies: An activity may not commence until the SESC plan for the project site has been approved; The SWCD/SMC will review the plan and provide a written evaluation of its adequacy; A SESC plan is considered acceptable when the SWCD/SMC has found that it meets technical standards. Once a determination has been made, the authorized work may commence unless the SWCD/SMC has requested that they be notified prior to commencement of the approved plans. The SWCD/SMC may attend pre-construction meetings with the permittee and conduct inspections during construction to determine compliance with the plans. Applicants are encouraged to begin coordinating with the appropriate SWCD/SMC office at the earliest stages of project planning. For information, contact:

Kane-DuPage SWCD  
2315 Dean Street, Suite 100  
St. Charles, IL 60174  
(630) 584-7961 ext.3  
www.kanedupageswcd.org

McHenry-Lake County SWCD  
1648 South Eastwood Dr.  
Woodstock, IL 60098  
(815) 338-0099 ext.3  
www.mchenryswcd.org

North Cook SWCD  
899 Jay Street  
Elgin, IL 60120  
(847) 468-0071  
www.northcookswcd.org

Lake County SMC  
500 W. Winchester Rd, Suite 201  
Libertyville, IL 60048  
(847) 377-7700  
www.lakecountyil.gov/stormwater

5. Total Maximum Daily Load - For projects that include a discharge of pollutant(s) to waters for which there is an approved Total Maximum Daily Load (TMDL) allocation for any parameter, the applicant shall develop plans and BMPs that are consistent with the assumptions and requirements in the approved TMDL. The applicant must incorporate into their plans and BMPs any conditions applicable to their discharges necessary for consistency with the assumptions and requirements of the TMDL within any timeframes established in the TMDL. The applicant must carefully document the justifications for all BMPs and plans, and install, implement and maintain practices and BMPs that are consistent with all relevant TMDL allocations and with all relevant conditions in an implementation plan. Information regarding the TMDL program, including approved TMDL allocations, can be found at the following website: [www.epa.state.il.us/water/tmdl/](http://www.epa.state.il.us/water/tmdl/)

6. Floodplain - Discharges of dredged or fill material into waters of the United States within the 100-year floodplain (as defined by the Federal Emergency Management Agency) resulting in permanent above-grade fills shall be avoided and minimized to the maximum extent practicable. When such an above-grade fill would occur, the applicant may need to obtain approval from the Illinois

Department of Natural Resources, Office of Water Resources, (IDNR-OWR) which regulates activities affecting the floodway and the local governing agency (e.g., Village or County) with jurisdiction over activities in the floodplain. Compensatory storage may be required for fill within the floodplain. Applicants are encouraged to obtain information from the IDNR-OWR and the local governing agency with jurisdiction at the earliest stages of project planning. For information on floodway construction, contact:

IDNR/OWR  
2050 Stearns Road  
Bartlett, IL 60103  
(847) 608-3100  
<http://dnr.state.il.us/owr/>

For information on floodplain construction, please contact the local government and/or the Federal Emergency Management Agency. Pursuant to 33 CFR 320.4(j), the District will consider the likelihood of the applicant obtaining approval for above-ground permanent fills in floodplains in determining whether to issue authorization under the RPP.

7. Navigation - No activity may cause more than a minimal adverse effect on navigation. Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
8. Proper Maintenance - Any authorized structure or fill shall be properly maintained, including that necessary to ensure public safety.
9. Aquatic Life Movements - No activity may substantially disrupt the movement of those species of aquatic life indigenous to the waterbody, including species that normally migrate through the area, unless the activity's primary purpose is to impound water.
10. Equipment - Soil disturbance and compaction shall be minimized through the use of matting for heavy equipment, low ground pressure equipment, or other measures as approved by the District.
11. Wild and Scenic Rivers - No activity may occur in a component of the National Wild and Scenic River System or in a river officially designated by Congress as a "study river" for possible inclusion in the system, while the river is in an official study status. Information on Wild and Scenic Rivers may be obtained from the appropriate land management agency in the area, such as the National Park Service and the U.S. Forest Service.
12. Tribal Rights - No activity or its operation may impair reserved tribal rights, such as reserved water rights, treaty fishing and hunting rights.
13. Water Supply Intakes - No discharge of dredged or fill material may occur in the proximity of a public water supply intake except where the discharge is for repair of the public water supply intake structures or adjacent bank stabilization.
14. Shellfish Production - No discharge of dredged or fill material may occur in areas of concentrated shellfish production.
15. Suitable Material - No discharge of dredged or fill material may consist of unsuitable material and material discharged shall be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act). Unsuitable material includes trash, debris, car bodies, asphalt, and creosote treated wood.
16. Spawning Areas - Discharges in spawning areas during spawning seasons shall be avoided to the maximum extent practicable.
17. Obstruction of High Flows - Discharges shall not permanently restrict or impede the passage of normal or expected high flows. All crossings shall be culverted, bridged or otherwise designed to prevent the restriction of expected high water flows, and shall be designed so as not to impede low water flows or the movement of aquatic organisms.
18. Impacts From Impoundments - If the discharge creates an impoundment of water, adverse impacts on aquatic resources caused by the accelerated passage of water and/or the restriction of its flow shall be avoided to the maximum extent practicable.
19. Waterfowl Breeding Areas - Discharges into breeding areas for migratory waterfowl shall be avoided to the maximum extent practicable.
20. Removal of Temporary Fills - Any temporary fill material shall be removed in its entirety and the affected area returned to its pre-existing condition.
21. Mitigation - All appropriate and practicable steps must first be taken to avoid and minimize impacts to aquatic resources. For unavoidable impacts, compensatory mitigation is required to replace the loss of wetland, stream, and/or other aquatic resource functions (33 CFR 332). The proposed compensatory mitigation shall utilize a watershed approach and fully consider the ecological needs of the watershed. Where an appropriate watershed plan is available, mitigation site selection should consider recommendations in the plan. The applicant shall describe in detail how the mitigation site was chosen and will be developed, based on the specific

resource need of the impacted watershed. Permit applicants are responsible for proposing an appropriate compensatory mitigation option to offset unavoidable impacts. However, the District is responsible for determining the appropriate form and amount of compensatory mitigation required when evaluating compensatory mitigation options, and determining the type of mitigation that would be environmentally preferable. In making this determination, the District will assess the likelihood for ecological success and sustainability, the location of the compensation site relative to the impact site and their significance within the watershed. Methods of providing compensatory mitigation include aquatic resource restoration, establishment, enhancement, and in certain circumstances, preservation. Compensatory mitigation will be accomplished by establishing a minimum ratio of 1.5 acres of mitigation for every 1.0 acre of impact to waters of the U.S. Furthermore, the District has the discretion to require additional mitigation to ensure that the impacts are no more than minimal. Further information is available at [www.lrc.usace.army.mil/Missions/Regulatory/Illinois/Mitigation.aspx](http://www.lrc.usace.army.mil/Missions/Regulatory/Illinois/Mitigation.aspx)

22. Notification - The applicant shall provide written notification (i.e., a complete application) for a proposed activity to be authorized under the RPP prior to commencing a proposed activity. The District's receipt of the complete application is the date when the District receives all required notification information from the applicant (see below). If the District informs the applicant within 60 calendar days that the notification is incomplete (i.e., not a complete application), the applicant shall submit to the District, in writing, the requested information to be considered for review under the Regional Permit Program. A new 60 day review period will commence when the District receives the requested information. Applications that involve unauthorized activities that are completed or partially completed by the applicant are not subject to the 60-day review period.

For all activities, notification shall include:

- a. A cover letter providing a detailed narrative of the proposed activity describing all work to be performed, a clear project purpose and need statement, the Regional Permit(s) to be used for the activity, the area (in acres) of waters of the U.S. to be impacted (be sure to specify if the impact is permanent or temporary, and identify which area it affects), and a statement that the terms and conditions of the RPP will be followed.
- b. A completed joint application form for Illinois signed by the applicant or agent. The application form is available at [www.lrc.usace.army.mil/Portals/36/docs/regulatory/forms/appform.pdf](http://www.lrc.usace.army.mil/Portals/36/docs/regulatory/forms/appform.pdf). If the applicant does not sign the joint application form, notification shall include a signed, written statement from the applicant designating the agent as their representative.
- c. A delineation of waters of the U.S., including wetlands, for the project area, and for areas adjacent to the project site (off-site wetlands shall be identified through the use of reference materials including review of local wetland inventories, soil surveys and the most recent available aerial photography), shall be prepared in accordance with the current U.S. Army Corps of Engineers methodology ([www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/reg\\_supp.aspx](http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/reg_supp.aspx)) and generally conducted during the growing season.\* Our wetland delineation standards are available at [www.lrc.usace.army.mil/Portals/36/docs/regulatory/pdf/Delineations.pdf](http://www.lrc.usace.army.mil/Portals/36/docs/regulatory/pdf/Delineations.pdf). For sites supporting wetlands, the delineation shall include a Floristic Quality Assessment (Swink and Wilhelm. 1994, latest edition, Plants of the Chicago Region). The delineation shall also include information on the occurrence of any high-quality aquatic resources (see Appendix A), and a listing of waterfowl, reptile and amphibian species observed while at the project area. The District reserves the right to exercise judgment when reviewing submitted wetland delineations. Flexibility of the requirements may be determined by the District on a case-by-case basis only.
- d. A street map showing the location of the project area.
- e. Latitude and longitude for the project in decimal degrees format (i.e. 41.88377N, -87.63960W).
- f. Preliminary engineering drawings sized 11" by 17" (full-sized may be requested by the project manager and you may also submit plans in PDF format on a disc) showing all aspects of the proposed activity and the location of waters of the U.S. to be impacted and not impacted. The plans shall include grading contours, proposed and existing structures such as buildings footprints, roadways, road crossings, stormwater management facilities, utilities, construction access areas and details of water conveyance structures. The plans shall also depict buffer areas, outlots or open space designations, best management practices, deed restricted areas and restoration areas, if required under the specific RP.
- g. Submittal of soil erosion and sediment control (SESC) plans that identify all SESC measures to be utilized during construction of the project.
- h. The application packet shall indicate whether resources (species, their suitable habitats, or critical habitat) listed or designated under the Endangered Species Act of 1973, as amended, may be present within areas affected (directly or indirectly) by the proposed project. Applicants shall provide a section 7 species list for the action area using the on-line process at the USFWS website. You can access "U.S. Fish and Wildlife Service Endangered Species Program of the Upper Midwest" website at [www.fws.gov/midwest/Endangered](http://www.fws.gov/midwest/Endangered). Click on the section 7 Technical Assistance green shaded box in the lower right portion of the screen and follow the instructions to completion. Print all documentation pertaining to the species list, include the rationale for your effects determination for each species, and forward the information to this office for review.

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\* If a wetland delineation is conducted outside of the growing season, the District will determine on a case-by-case basis whether sufficient evidence is available to make an accurate determination. If the District finds that the delineation lacks sufficient evidence, the application will not be considered complete until the information is provided. This may involve re-delineating the project site during the growing season.

In the event there are no species, their suitable habitats, or critical habitat, then a “no effect” determination can be made and section 7 consultation is not warranted. If species or critical habitat appear on the list, or suitable habitat is present within the action area, then a biological assessment or biological evaluation will need to be completed to determine if the proposed action will have “no effect” or “may effect” on the species or suitable habitat. The District will request initiation of section 7 consultation with the USFWS upon agreement with the applicant on the effect determinations in the biological assessment or biological evaluation. If the issues are not resolved, the analysis of the situation is complicated, or impacts to listed species or critical habitat are found to be greater than minimal, the District will consider reviewing the project under the Individual Permit process.

- i. A determination of the presence or absence of any State threatened or endangered species. Please contact the Illinois Department of Natural Resources (IDNR) to determine if any State threatened and endangered species could be in the project area. You can access the IDNR’s Ecological Compliance Assessment Tool (EcoCAT) at the following website: <http://dnrecocat.state.il.us/ecopublic/>. Once you complete the EcoCAT and consultation process, forward all resulting information to this office for consideration. The report shall also include recommended methods as required by the IDNR for minimizing potential adverse effects of the project.
- j. A statement about the knowledge of the presence or absence of Historic Properties, which includes properties listed, or properties eligible to be listed in the National Register of Historic Places. A letter from the Illinois Historic Preservation Agency (IHPA) can be obtained indicating whether your project is in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended. The permittee shall provide all pertinent correspondence with the IHPA documenting compliance. The IHPA has a checklist of documentation required for their review located here: [www.illinoishistory.gov/PS/rcdocument.htm](http://www.illinoishistory.gov/PS/rcdocument.htm).
- k. Where an appropriate watershed plan is available, the applicant shall address in writing how the proposed activity is aligned with the relevant water quality, hydrologic, and aquatic resource protection recommendations in the watershed plan.
- l. A discussion of measures taken to avoid and/or minimize impacts to aquatic resources on the project site.
- m. A compensatory mitigation plan for all impacts to waters of the U.S. (if compensatory mitigation is required under the specific RP).
- n. A written narrative addressing all items listed under the specific RP.

For Category II activities, the District will provide an Agency Request for Comments (ARC) which describes the proposed activity. The ARC will be sent to the following agencies: United States Fish & Wildlife Service (USFWS), United States Environmental Protection Agency (USEPA), Illinois Department of Natural Resources (IDNR), Illinois Department of Natural Resources/Office of Water Resources (IDNR/OWR), Illinois Environmental Protection Agency (IEPA), Illinois Historic Preservation Agency (IHPA), Illinois Nature Preserves Commission (INPC) and U.S. Coast Guard (Section 10 activities only). Additional entities may also be notified as needed. These agencies have ten (10) calendar days from the date of the ARC to contact the District and either provide comments or request an extension not to exceed fifteen (15) calendar days. The District will fully consider agency comments received within the specified time frame. If the District determines the activity complies with the terms and conditions of the RPP and impacts on aquatic resources are minimal, the District will notify the applicant in writing and include special conditions if deemed necessary. If the District determines that the impacts of the proposed activity are more than minimal, the District will notify the applicant that the project does not qualify for authorization under the RPP and instruct the applicant on the procedures to seek authorization under an Individual Permit.

23. Compliance Certification - Any permittee who has received authorization under the RPP from the District shall submit a signed certification regarding the completed work and any required mitigation. The certification will be forwarded by the District with the authorization letter and will include: a) a statement that the authorized work was done in accordance with the District’s authorization, including any general or specific conditions; b) a statement that any required mitigation was completed in accordance with the permit conditions and; c) the signature of the permittee certifying the completion of the work and mitigation.

24. Multiple use of Regional Permits - In any case where a Regional Permit is combined with any other Regional Permit to cover a single and complete project (except where prohibited under specific Regional Permits), the applicant shall notify the District in accordance with General Condition 22. If multiple Regional Permits are used, the total impact may not exceed the maximum allowed by the Regional Permit with the greatest impact threshold.

25. Other Restrictions - Authorization under the RPP does not obviate the need to obtain other Federal, State or local permits, approvals, or authorizations required by law nor does it grant any property rights or exclusive privileges, authorize any injury to the property or rights of others or authorize interference with any existing or proposed Federal project.

Approved by:

//ORIGINAL SIGNED//

Frederic A. Drummond, Jr.  
Colonel, U.S. Army  
District Commander

February 24, 2012

Date



WV 0801/A

**DU PAGE COUNTY  
STORMWATER MANAGEMENT**

Daniel J. Cronin, County Board Chairman

STORMWATER MANAGEMENT ♦ STORMWATER PERMITTING ♦ WETLANDS PROTECTION ♦ ENVIRONMENTAL CONCERNS ♦ LAND USE

421 N. County Farm Road  
Wheaton, IL 60187

(630) 407-6700 Phone  
(630) 407-6702 Fax  
www.dupageco.org

RECEIVED

OCT - 9 2013

ENGINEERING ASSOCIATES, INC

August 15, 2013

Mr. Phillip Kuchler, P.E.  
City of Warrenville  
3S 258 Manning Street  
Warrenville, IL 60555

RE: Authorization for Stormwater Management Permit Application No. 12-32-0016 (DEC Tracking No. T38184)  
USACE No. LRC-2013-00018  
Williams Road Bridge Replacement, Incorporated Warrenville, DuPage County, Illinois  
PIN: 04-27-405-033, 04-27-406-010, 04-27-406-011, 04-27-406-012, 04-27-406-006, 04-27-411-001,  
04-27-412-004  
**(NOTE: THIS IS NOT A PERMIT – A Building Permit must be picked up prior to any on site work)**

Dear Mr. Kuchler:

The Division of Environmental Concerns (DEC) of DuPage County Stormwater Management received a stormwater permit application/submittal from the City of Warrenville, for the removal and replacement of an existing bridge, complete with demolition, utilities, storm sewer, pavement, sediment and erosion control, and all associated grading and restoration, to be located on Williams Road, between Morris Court and Batavia Road, within the corporate limits of the City of Warrenville, DuPage County, Illinois.

Staff has completed its review of this application and hereby Authorizes the following documents for compliance with the DuPage County Countywide Stormwater and Flood Plain Ordinance (CSFPO) for a development within a flood plain, wetland, or buffer:

1. DuPage County Stormwater Management Permit Application, as assigned Permit No. 12-32-0016 (DEC Tracking No. T38184).
2. Stormwater submittal packet entitled "DuPage County Stormwater Management Permit Tab Submittal, West Branch Interim Watershed Plan, Addendum Improvements in Warrenville, DuPage County, Illinois, Williams Road Bridge Reconstruction, Volume 1 of 2," as prepared by Engineering Resource Associates, Inc., (ERA), dated November 2012, with latest revision dated February 2013, including the following removable documents:
  - a. Computer disk entitled "Williams Rd Bridge Improvements," consisting of one (1) CD, labeled "T38184, HEC-RAS," as contained loosely within the front cover of the above referenced submittal packet; and,
  - b. Computer disk entitled "Williams Road Bridge Removal and Replacement, Phase 1 of the West Branch Addendum Projects," as prepared by ERA, Project No. 111111, dated February 2013, consisting of one (1) CD, unlabeled, as contained within the front cover of the above referenced submittal packet.



2. Stormwater submittal packet entitled "DuPage County Stormwater Management Permit Tab Submittal, West Branch Interim Watershed Plan, Addendum Improvements in Warrenville, DuPage County, Illinois, Williams Road Bridge Reconstruction, Volume 2 of 2," as prepared by Engineering Resource Associates, Inc., dated November 2012, with latest revision dated February 2013.
3. Plan set entitled "Williams Road Bridge Removal and Replacement," as prepared by Engineering Enterprises, Inc., Contract No. 63761, consisting of ten (10) sheets, as identified below:
  - a. Two (2) identical Sheet 71s, Sheets 73 - 76, dated August 23, 2012, with latest revision dated January 28, 2013; and,
  - b. Sheet 19, dated August 23, 2012, with latest revision dated January 15, 2013; and,
  - c. Sheet No. 1 of 1, dated January 2010; and,
  - d. Exhibit 12, undated.
4. Plan set entitled "State of Illinois, Department of Transportation, Division of Highways, Plans for Federal-Aid Highway, Williams Road, Batavia Road to Morris Court, Bridge Removal and Replacement, Section 0900030-00-BRE, Project Number:BRM-9003(638), City of Warrenville, DuPage County, Job Number: C-91-515-10," as prepared by Engineering Enterprises, Inc., Contract No. 63761, consisting of forty (40) sheets, as identified below:
  - a. Cover sheet dated October 12, 2012,
  - b. Sheets 2, 5, 6, 9, 12, 13, 15, 20, 22, 23, 25, 26, 27, 69, & 70 dated August 23, 2012; and,
  - c. Sheets 3, 4, & 18 dated August 23, 2012, with latest revision dated January 28, 2013; and,
  - d. Sheets 7, 8, 10, 11, 14, 17, 19, 21, 24, & 29, dated August 23, 2012, with latest revision dated January 15, 2013; and,
  - e. Sheets 35, 37, 38, 39, 40, 41, 54, 55, 56, 57, & 58, undated.

Be advised the City of Warrenville holds a complete waiver of enforcement status from the DuPage County Countywide Stormwater and Flood Plain Ordinance. As such, the City of Warrenville is responsible to review and approve all applications for compliance with the CSFPO (except for floodway impact reviews designated to DEC by the Illinois Department of Natural Resources - Office of Water Resources), unless requested otherwise. However, the City of Warrenville has requested that DuPage County review the above referenced project for compliance of all aspects of the CSFPO. Therefore, for the above referenced development project, our office has reviewed and provided Authorization relating to stormwater management, best management practices, the floodway, flood plain, wetland, and buffer.

Based upon our Authorization of the above referenced documents, the City of Warrenville may commence issuance of Certifications for the above referenced development. As a reminder, it is the City of Warrenville's responsibility to enforce the provisions of the CSFPO, including, but not limited to, the following conditions:

**SPECIAL CONDITIONS:**

1. The contractor shall provide the following required items to the County for review and approval prior to any construction commencing:
  - a. A dewatering plan for removal of the existing bridge and construction of the new bridge in the river, if dewatering is needed.
  - b. Detail drawings of the cofferdams for review. The cofferdams shall be modeled in the HEC-RAS and FEQ models if the top elevations of the cofferdams are higher than the normal water elevations in the River.

- c. The locations of the construction entrances shown on the plan.
- d. The locations of concrete wash areas shown on the plan. Concrete wash areas cannot be located within the floodplain.

**GENERAL CONDITIONS:**

1. Per Section 15-117.2 of the DCSFPO, sediment and erosion control devices shall be functional before land is otherwise disturbed on the site. Therefore, the developer shall notify the City of Warrenville, and request/receive a site inspection of all required sediment and erosion control devices, prior to the commencement of construction activities.
2. Per Section 15-133.11 of the DCSFPO, compensatory storage shall be operational prior to placement of fill, structures, or other material in the regulatory floodplain. Therefore, per Section 15-149.2(f) of the DCSFPO, upon construction of compensatory storage areas and completion of the development, as-built drawings of the site must be submitted to the City of Warrenville for review and approval. The as-built drawings must be prepared, signed and sealed by an Illinois registered land surveyor or professional engineer, and must include calculations showing the as-built volume of the compensatory storage areas.
3. Per Article 9, Section 15-113.7 of the DCSFPO, "major and minor stormwater systems shall be located within easements or rights-of-way explicitly providing for public access for maintenance of such facilities". Therefore, a Plat of Easement document, which represents **as-built conditions**, should be forwarded to the City of Warrenville for review and approval. The following should be incorporated into said document:
  - a. Public Utility and Drainage Easements need to be provided over/about the on-site storm sewer system, and over land drainage swales, which are necessary to convey the 100 year storm runoff to stormwater management facilities.
  - b. A Stormwater Management Easement needs to be granted over the limits of the stormwater management facilities.
  - c. A Wetland Conservation Easement needs to be granted over the limits of each wetland, wetland buffer, and all native plantings that are intended as buffer mitigation or as a BMP (Best Management Practice for water quality), if applicable.
  - d. Public Utility and Drainage Easement provisions need to be incorporated into the Plat.
  - e. Stormwater Management Easement provisions need to be incorporated into the Plat.
  - f. Wetland Conservation Easement provisions need to be incorporated into the Plat, if applicable.
  - g. Maintenance responsibility provisions, for the stormwater management facility, should be provided on the Plat of Subdivision or other recorded document.
4. Per Section 15-47.B of the CSFPO, "An informational note acknowledging the presence of on-site wetlands, buffers flood plains and PCBMPs with drainage areas 1 acre or greater shall be recorded against the title to alert all future owners and shall reference the Stormwater Management Certification number."



August 15, 2013

RE: Authorization - SWP #12-32-0016 (DEC Tracking No. T38184); Williams Road Bridge Replacement, DuPage County, Illinois  
Page 4 of 4

Enclosed, please find two (2) submittals as certified by our office. Please forward one (1) copies of the submittal onto the developer at time of permit issuance.

Respectfully,



Clayton Heffter  
Stormwater Permitting Manager

CCH:scn

cc: Stasi Brown, USACE  
David Bronars, P.E., Reynolds Smith & Hills, 525 Dunham Road, Ste 20, St. Charles, IL 60174  
Marty Michalisko, P.E., Engineering Resource Associates, 3S701 West Ave, Ste 150, Warrenville, IL 60555  
James Lenzini, P.E., Engineering Enterprises, 52 Wheeler Road, Sugar Grove, IL 60554  
Jennifer Boyer, Wetland Supervisor, DEC  
Christopher Vonnahme, P.E., Senior Project Engineer, SM  
Ying L. Miao, P.E., Senior Project Engineer, DEC  
Mary Beth Falsey, Wetland Specialist, DEC  
Kathy Huth-Nicholl, Division Assistant II, DEC  
File SWP #12-32-0016 (DEC Tracking No. T38184)

Q:\(00) Countywide\2012\12-00-0006 (T38356) Natural Gas Pipeline -3 Locations Along the Volo #1 Pipeline\Authorization.doc

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
WATER POLLUTION CONTROL PERMIT

LOG NUMBERS: 2014-59054

PERMIT NO.: 2014-IB-59054

FINAL PLANS, SPECIFICATIONS, APPLICATION  
AND SUPPORTING DOCUMENTS

DATE ISSUED: August 20, 2014

PREPARED BY: Engineering Enterprises, Inc.

SUBJECT: WARRENVILLE - Williams Road Bridge Removal and Replacement  
(Springbrook WRC Sewage Treatment Plant) - Sanitary Sewer Permit

RECEIVED

PERMITTEE TO CONSTRUCT, OWN, AND OPERATE

AUG 25 2014

City of Warrenville  
3S258 Manning Avenue  
Warrenville, Illinois 60555

ENGINEERING ENTERPRISES, INC.

Permit is hereby granted to the above designated permittee(s) to construct and/or operate water pollution control facilities described as follows (quantities are approximate):

A lift station having 2 pumps with a rated capacity of 119 gpm at 33 feet of TDH, 804 feet of 4 inch force main, 235 feet of 8 inch sanitary sewer, 525 feet of 10 inch sanitary sewer and 5 manholes to serve as a replacement with no additional flow (0 P.E., 0 GPD, DAF) located along Williams Road with discharge to an existing 10 inch sanitary sewer tributary to the above indicated sewage treatment plant.

This Permit renews and replaces Permit Number 2012-IA-0738 which was previously issued for the herein permitted facilities.

This Permit is issued subject to the following Special Condition(s). If such Special Condition(s) require(s) additional or revised facilities, satisfactory engineering plan documents must be submitted to this Agency for review and approval for issuance of a Supplemental Permit.

SPECIAL CONDITION 1: Any connections to this sanitary sewer extension must be in accordance with the latest Revisions of Title 35, Subtitle C, Chapter 1. Permits must be obtained if required by said regulations.

SPECIAL CONDITION 2: The Permittee to Construct shall be responsible for obtaining an NPDES Storm Water Permit prior to initiating construction if the construction activities associated with this project will result in the disturbance of one (1) or more acres total land area.

An NPDES Storm Water Permit may be obtained by submitting a properly completed Notice of Intent (NOI) form by certified mail to the Agency's Division of Water Pollution Control - Permit Section.

SPECIAL CONDITION 3: Please contact the Illinois Department of Natural Resources (IDNR), Office of Water Resources. IDNR may require a permit pursuant to the Rivers, Lakes, and Streams Act for construction of that portion of the project located in the floodplain. The U.S. Army Corps of Engineers may also require a permit pursuant to Section 404 of the Clean Water Act. Application forms received from IDNR will specify which Corps District you should contact.

THE STANDARD CONDITIONS OF ISSUANCE INDICATED ON THE REVERSE SIDE MUST BE COMPLIED WITH IN FULL. READ ALL CONDITIONS CAREFULLY.

SAK:BDF:n:\bow\permits\wpdocs\docs\permits\stateco  
n\fleming\2014-59054.docx

DIVISION OF WATER POLLUTION CONTROL

cc: EPA-Des Plaines FOS  
Engineering Enterprises, Inc.  
City of Naperville  
Records - Municipal

Alan Keller by REP

Alan Keller, P.E.

157

# Kane – DuPage Soil & Water Conservation District



January 8, 2013

Jim Lenzi  
Engineering Enterprises, Inc.  
52 Wheeler Road  
Sugar Grove, IL 60554

Corps Number: LRC 2013 00 018  
KDSWCD File: 12e82  
Approved Plan Set Dated: 10/16/2012

Dear Mr. Lenzi:

I received your revised soil erosion and sedimentation control plan submittal for the Williams Road over West Branch of DuPage River project located in Warrenville, Illinois. Thank you for incorporating our comments into the plan, it will improve the quality of protection for the natural resources, both on and off site. This letter and a set of stamped plans located at the construction office on site, will serve to certify that the erosion and sediment control plans meet Technical Standards.

I will visit the site several times during the course of construction to assess compliance with the specifications and will be glad to address specific issues that may arise during the course of construction.

Sincerely,

A handwritten signature in black ink, appearing to read "Candice Jacobs", written in a cursive style.

Candice Jacobs, CPESC  
Resource Conservationist  
Kane-DuPage Soil and Water Conservation District

ECC: Stasi Brown, USACE

**READ ALL CONDITIONS CAREFULLY:  
STANDARD CONDITIONS**

The Illinois Environmental Protection Act (Illinois Revised Statutes Chapter 111-12, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

1. Unless the construction for which this permit is issued has been completed, this permit will expire (1) two years after the date of issuance for permits to construct sewers or wastewater sources or (2) three years after the date of issuance for permits to construct treatment works or pretreatment works.
2. The construction or development of facilities covered by this permit shall be done in compliance with applicable provisions of Federal laws and regulations, the Illinois Environmental Protection Act, and Rules and Regulations adopted by the Illinois Pollution Control Board.
3. There shall be no deviations from the approved plans and specifications unless a written request for modification of the project, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.
4. The permittee shall allow any agent duly authorized by the Agency upon the presentations of credentials:
  - a. to enter at reasonable times, the permittee's premises where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit;
  - b. to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit;
  - c. to inspect at reasonable times, including during any hours of operation of equipment constructed or operated under this permit, such equipment or monitoring methodology or equipment required to be kept, used, operated, calibrated and maintained under this permit;
  - d. to obtain and remove at reasonable times samples of any discharge or emission of pollutants;
  - e. to enter at reasonable times and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.
5. The issuance of this permit:
  - a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located;
  - b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;
  - c. does not release the permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations;
  - d. does not take into consideration or attest to the structural stability of any units or parts of the project;
  - e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
6. Unless a joint construction/operation permit has been issued, a permit for operating shall be obtained from the agency before the facility or equipment covered by this permit is placed into operation.
7. These standard conditions shall prevail unless modified by special conditions.
8. The Agency may file a complaint with the Board for suspension or revocation of a permit:
  - a. upon discovery that the permit application contained misrepresentations, misinformation or false statement or that all relevant facts were not disclosed; or
  - b. upon finding that any standard or special conditions have been violated; or
  - c. upon any violation of the Environmental Protection Act or any Rules or Regulation effective thereunder as a result of the construction or development authorized by this permit.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
1021 North Grand Avenue, East; Post Office Box 19276; Springfield, IL 62794-9276

Division of Public Water Supplies

Telephone 217/782-1724

**PUBLIC WATER SUPPLY CONSTRUCTION PERMIT**

SUBJECT: WARRENVILLE (DuPage County-0430833)

"ORIGINAL"  
Project No.: \_\_\_\_\_

Permit Issued to:  
Mayor and City Council  
3 S 258 Manning Avenue  
Warrenville, IL 60555

PERMIT NUMBER: 0122-FY2013

DATE ISSUED: October 16, 2012  
PERMIT TYPE: Water Main

The issuance of this permit is based on plans and specifications prepared by the engineers/architects indicated, and are identified as follows. This permit is issued for the construction and/or installation of the public water supply improvements described in this document, in accordance with the provisions of the "Environmental Protection Act", Title IV, Sections 14 through 17, and Title X, Sections 39 and 40, and is subject to the conditions printed on the last page of this permit and the ADDITIONAL CONDITIONS listed below.

FIRM: Engineering Enterprises, Inc.  
NUMBER OF PLAN SHEETS: 18  
TITLE OF PLANS: "Williams Road Bridge Removal and Replacement"

PROPOSED IMPROVEMENTS:

\*\*\*Install approximately 94 lineal feet of 8" and 1,320 lineal feet of 12" diameter watermain\*\*\*

ADDITIONAL CONDITIONS:

1. There are no further conditions to this permit.

RECEIVED

DCC:CLK: dsa

cc: Engineering Enterprises, Inc.  
Elgin Region  
DuPage County Health Department

OCT 19 2012

OCT 19 2012



David C. Cook, P.E.  
Acting Manager Permit Section  
Division of Public Water Supplies

# **Geotechnical Soils Investigation**

**Proposed Bridge  
Replacement**

**Williams Road over West  
Branch of DuPage River**

**Warrenville, Illinois**

**Engineering  
Enterprises, Inc.**

January 25, 2010

L - 74,430

GEOTECHNICAL SOILS INVESTIGATION  
PROPOSED BRIDGE REPLACEMENT  
WILLIAMS ROAD OVER WEST BRANCH DuPAGE RIVER  
WARRENVILLE, ILLINOIS

PREPARED FOR:  
ENGINEERING ENTERPRISES INC.  
52 WHEELER ROAD  
SUGAR GROVE, ILLINOIS 60554

PREPARED BY:  
TESTING SERVICE CORPORATION  
457 EAST GUNDERSEN DRIVE  
CAROL STREAM, ILLINOIS 60188  
(630) 653-3920

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January 25, 2010  
L - 74,430

GEOTECHNICAL SOILS INVESTIGATION  
PROPOSED BRIDGE REPLACEMENT  
WILLIAMS ROAD OVER WEST BRANCH DuPAGE RIVER  
WARRENVILLE, ILLINOIS

1.0 INTRODUCTION

This report presents results of the soils exploration performed for improvements to the bridge structure carrying Williams Road over the West Branch of the DuPage River. These geotechnical services were provided in accordance with TSC Proposal No. 43,152A (revised) dated October 27, 2009 and the attached General Conditions, which are incorporated herein by reference.

The Williams Road bridge is located approximately 500 feet north of Batavia Road and about 0.6 miles east of Illinois Route 59. The existing bridge consists of a 3-span structure carrying 2-lanes of traffic over the West Branch of the DuPage River. No further information was provided on the original construction of the bridge. Williams Road presently consists of a two-lane asphalt pavement with narrow shoulders. Overhead lines were noted along the east side of the roadway, with trees present on both sides.

It is understood that improvements are to include replacement of the existing bridge with a structure having a similar span length and foundation support. However, specifications were unknown at the time this report was written. Current plans also include improvements to Williams Road, which will extend approximately 500 feet north and south of the bridge structure, with minor widening for the roadway and new sidewalks. It is understood that the road will be raised about 3 feet at the new bridge abutments.

## 2.0 GEOLOGY AND PEDOLOGY

The project site is located in eastern DuPage County within the City of Warrenville. The Williams Road bridge replacement crosses over the West Branch of the DuPage River in the Southeast 1/4 of Section 27 in the city of Winfield Township (T 39 N, R 9 E). Geologically the project lies within the Mackinaw Member of the Henry Formation. These deposits consist primarily of Sand and Gravel, generally well sorted and evenly bedded, which include mostly glacial outwash in terraces and deposits in the river valley.

Uppermost soils across many portions of this area consist of wind-blown loess which has been weathered, decomposed and otherwise modified such that it presently consists of a silty clay of relatively high plasticity. Peat, organic clay and/or soft slopewash deposits may also be found in relatively low-lying areas associated with the moraine topography. Dolomitic limestone bedrock of Silurian age is expected to be overlain by about 50 to 100 feet of feet of overburden in the site vicinity.

Included in the Appendix is the Pedological Soil Map for the site as prepared by the Natural Resources Conservation Service. A review of this map indicates the areas along the immediate vicinity of the bridge and culvert are classified as the following soils.

- 323C2 Casco Loam, 4 to 6 percent slopes, eroded
- 327B Fox Silt Loam, 2 to 4 percent slopes
- 697A Wauconda Silt Loam, 0 to 2 percent slopes
- 802B Orthents, loamy, undulating
- 854B Markham-Ashkum-Beecher complex, 1 to 6 percent slopes
- 1107A Sawmill Silty Clay Loam, 0 to 2 percent slopes, frequently flooded

The Natural Resources Conservation Service rates these soils to be Poor road fill material with a "very limited" rating for local roads and streets due to wetness, low strength, frost action, shrink/swell tendencies. There were no areas of organic "muck" type deposits within close proximity to the project.



### 3.0 PRECIPITATION SUMMARY

The soil borings for this project were drilled in December 2009 and January 2010. Observations made of precipitation during the six months preceding our field work are summarized in the following table. These observations were obtained at the Wheaton weather station located approximately 6 miles east of the project site.

Precipitation Data (in inches)		
Month	Total (inches)	Departure From Normal
June, 2009	3.51	-0.4
July, 2009	2.50	-1.5
August, 2009	5.70	+1.1
September, 2009	1.71	-1.7
October, 2009	7.13	+4.5
November, 2009	1.63	-1.6
December, 2009	3.46	+1.0

Based on the above data, it is anticipated that groundwater levels and soil moisture were probably above normal seasonal conditions due to higher than normal precipitation during the proceeding month prior to drilling.

### 4.0 SUMMARY OF WORK PERFORMED

A total of five (5) soil borings, two (2) pavement cores and one (1) bridge deck core were performed as part of this exploration. Borings 1 and 2 were extended to auger refusal at approximately 50 feet below existing grade for the bridge replacement, with Borings 3-5 extending 10 feet deep for roadway improvements. They were selected and staked by TSC and ground surface elevations at them were interpolated from topographic surveys provided, being rounded to the nearest 0.5 foot. Boring Location Plans are included in the appendix.

Four-inch diameter pavement cores were obtained at two (2) locations using an electric drill and core barrel containing diamond cutting bits. Bituminous base course thicknesses at the boring locations were otherwise estimated from the sides of the augered bore holes and should be considered approximate. The pavement core samples were examined by a materials technician in the laboratory. These results are summarized in the Appendix under "Pavement Core Results".

A two-inch diameter bridge deck core was obtained at C-101 using an electric drill and core barrel containing diamond cutting bits. The bituminous concrete pavement core sample was examined by a materials technician in the laboratory. It was then sent to TEM Incorporated in Glen Ellyn, Illinois (NVLAP Lab ID 101130-0) for asbestos testing. Appended to this report is a copy of their test results.

Borings 1-5 were drilled and samples tested in accordance with IDOT structure boring criteria. Soil sampling at Borings 1 and 2 (i.e. for the bridge) were performed at 2½-foot intervals to 25 feet and at no greater than 5-foot intervals thereafter. They were both extended to the rock surface with a 10 foot rock core being taken at Boring 1. Soil sampling at Borings 3-5 (i.e. along Williams Road) were performed continuously to 5 feet and at no greater than 2½-foot intervals thereafter. All samples were taken in conjunction with the Standard Penetration Test, for which driving resistance to a 2" split-spoon sampler (in blows per 6" interval) provides an indication of the relative density of granular materials and consistency of cohesive soils. Unconfined compressive strength values were determined while drilling using a hand cranked modified Rimac machine at Borings 1 and 2. These tests were performed by either a soils technician or geologist from TSC. Water level readings were taken during and following drilling operations.

Soil samples were examined in the laboratory to verify field descriptions and to classify them in accordance with the AASHTO Classification System and also the Illinois Department of Transportation Classification Chart. Laboratory testing included moisture content determinations for all cohesive and intermediate (silt or loamy) soil types. An estimate of unconfined compressive strength was obtained for all inorganic native clay soils using a calibrated pocket penetrometer, with actual measurements of unconfined compressive strength being performed by Rimac methods. For classification purposes and to verify field identifications, two (2) Atterberg limit tests and three (3) grain-size analyzes were performed on representative subgrade samples. Results of these tests are summarized in a separate table in the Appendix.

Reference is made to the boring logs in the Appendix of this report which indicate subsurface stratigraphy and soil descriptions, results of field and laboratory tests, as well as water level observations. Definitions of descriptive terminology are also included. While strata changes are shown as a definite line on the logs, the actual transition between soil layers will probably be more gradual.

## 5.0 DISCUSSION OF RESULTS

### 5.1 Pavement Cores

Two (2) pavement cores were taken in order to determine an accurate thickness and composition of the pavement and subbase materials north and south of the bridge structure along Williams Road, with the borings showing an approximate thickness and composition of the road. The pavement core results are detailed on attached sheet titled "Pavement Core Results" and are briefly described in the following paragraph.

Core 1, located south of the bridge structure, revealed 3.7 inches bituminous concrete overlying 8 inches granular base courses materials. Subgrade soils encountered below the pavement section consisted of brown silty clay soils having an unconfined compressive strength on the order of 2.5 tons per square foot (tsf) at a moisture content of 23 percent. Core 2, located north of the bridge structure, revealed 7.8 inches bituminous concrete overlying Sand and Gravel Fill materials, extending on the order of 2.5 below existing grade.

### 5.2 Bridge Borings (B-1 & B-2):

Borings 1 and 2 were drilled on existing asphalt pavements, revealing approximately 7 to 10 inches bituminous concrete. Sand and Gravel Fill materials were encountered below the pavement and extended 2 to 3 feet below existing grade. The pavement thicknesses and granular base were estimated from the side of the augered boreholes and should be considered approximate.

Cohesive and granular Fill materials were encountered below the pavement section, extending on the order of 8 feet below existing grade. The cohesive Fill was comprised of relatively soft Clay soils

having unconfined compressive strengths ranging from 0.7 to 1.25 tons per square foot (tsf) at moisture contents varying from 12 to 18 percent. Sand and Gravel Fill was encountered in Boring 2 having a Standard Penetration Test (N) value 6 blows per foot (bpf).

Soft black Clay (Topsoil) was found below the Fill materials in Boring 2, extending about 10 feet below existing grade. The sample exhibited an unconfined compressive strength of 0.4 tsf at moisture content of 78 percent. Organic content tests were run on this Clay sample, revealing a loss-on-ignition (LOI) of 8.7 percent and a wet combustion of 8.4 percent.

Underlying native soils were otherwise variable, extending to boring completion depths at the top of rock. Clay and Sandy Loam material types were frequently encountered in the borings, with a Sand and Gravel deposit found in Boring 2. These cohesive, granular and/or intermediate materials normally occurred as stratified deposits, with multiple layers encountered in the borings.

The cohesive materials were typically in a stiff to hard condition. They exhibited unconfined compressive strengths usually ranging from 1.0 to 4.0 tons per square foot (tsf) at moisture contents generally varying from 10 to 25 percent. The granular and/or intermediate materials were in a loose to firm condition, having N-values ranging from 4 to 26 blows per foot (bpf) but usually exceeding 10 bpf. An Atterberg limit determination was performed on one (1) soil sample of intermediate material revealing a Liquid Limit of 14, Plastic Limit of 9 and Plasticity Index of 5.

The bedrock surface was encountered between Elevations 655.0 and 656.5 in Borings 1 and 2. A 10-foot rock core was taken at B-1 using NX size core barrel, resulting in 100 percent recovery. The rock core extended from approximately 43 to 53 feet below existing grade. It was described as a medium gray Dolomite having a Rock Quality Designation (RQD) value of 68 percent, i.e. the sum of the lengths of sound core pieces greater than 4 inches divided by the core run length.

Free groundwater was initially encountered at between 10 to 18 feet below existing grade in the Borings 1 and 2. Upon completion of drilling operations, the water level rose 3 feet in Boring 2 while drilling mud was introduced into the borehole approximately 25 below existing grade in Boring 1.

### 5.3 Roadway Borings

Borings 3-5 were drilled on existing asphalt pavements, revealing approximately 4 to 9 inches bituminous concrete. The granular base materials consisted of approximately 7 inches crushed stone in Boring 3 and about 24 inches Sand and Gravel Fill in Boring 4 (possible old undercut), while being apparently absent in Boring 5. The pavement thicknesses and granular base were estimated from the side of the augered boreholes and should be considered approximate.

Stiff to hard Clay soils were found directly underlying the existing pavement section in the borings. They extended 2 to 3 feet below existing grade in Borings 4 and 5, and 10 feet deep in Boring 3 (i.e. completion depth). Samples of the cohesive soils had pocket penetrometer readings ranging from 1.5 to 4.5 tsf at moisture contents typically varying from 15 to 25 percent, being as high as 33 percent in Boring 4. Loose to firm Sand, Gravel and Sandy Loam materials were found extending to boring completion depths (i.e. 10 feet deep) in Borings 4 and 5, while being interbedded within the cohesive soil mass at Boring 3. These granular and intermediate materials had N-values varying from 10 to 37 blows per foot (bpf).

Free groundwater was initially encountered at between 5 to 8 feet below existing grade in the Borings 4 and 5. Upon completion of drilling operations, the water levels had generally remained constant. Boring 3 was "dry" both during and upon completion of drilling operations.

### 5.4 Bridge Deck Core for Asbestos Determination

One (1) pavement core was taken over the existing Williams Road Bridge crossing the West Branch of the DuPage River. The core encountered 4 inches of bituminous concrete overlying on the order of 6 crushed gravel (1" to fine) before the P.C. concrete bridge structure encountered.

The core sample of bituminous concrete was analyzed following the procedures contained in EPA Method 600/R-93/116, July 1993. The material was analyzed by using Polarized Light Microscopy (PLM) to determine if asbestos fibers were present. TEM Incorporated in Glen Ellyn, Illinois (NVLAP Lab ID 101130-0) performed the asbestos testing. Appended to this report is a copy of their test results. The test results did not detect any asbestos containing material in the asphalt core samples.



## 6.0 CONCLUSIONS AND RECOMMENDATIONS

### 6.1 Seismic Considerations

The project site is located in east DuPage County, lying within the City of Warrenville. The Spectral Acceleration values are expressed as percentage of gravity based on 7 percent probability of exceedance in 75 years. In accordance with Appendix 3.15.A of the IDOT Bridge Manual and the LRFD Code, following is a summary of seismic information:

Soil Site Class:	D
Seismic Performance Zone (SPZ):	1
Design Spectral Acceleration at 1.0 sec ( $S_{D1}$ ):	8.9
Design Spectral Acceleration at 0.2 sec ( $S_{DS}$ ):	16.1

### 6.2 Pile Foundations

Borings 1 and 2 were drilled for the proposed bridge structure. It is understood that the abutments and piers to be supported on point bearing steel H-piles driven to refusal on rock. It should be noted that the existing Williams Road Bridge may currently be supported on steel or timber piles. Measures must be taken to determine if and where the existing piles are positioned and spaced, so that there is no conflict when driving the new piles.

Summarized in the following table are six (6) pile sections that have been evaluated in connection with the bridge structure, i.e. HP 10x42, 12x53, 12x63, 12x74 and 14x73 and 14x89. Maximum Nominal Required Bearing (RN), Factor Resistance Available (RF) and Estimated Pile Lengths are also summarized in the following table. They have been prepared in connection with Design Guide 3.10.1, LRFD Geotechnical Pile Design Procedure.

Pile Designation	Maximum Nominal Required Bearing (kips) *	Factored Resistance Available (kips) **	Estimated Pile Lengths (Feet)
Steel HP 10x42	335	167	#
Steel HP 12x53	419	209	#
Steel HP 12x63	497	248	#





Pile Designation	Maximum Nominal Required Bearing (kips) *	Factored Resistance Available (kips) **	Estimated Pile Lengths (Feet)
Steel HP 12x74	589	294	#
Steel HP 14x73	578	289	#
Steel HP 14x89	705	352	#

- \* Maximum Nominal Required Bearing to be achieved in all cases by driving the steel H-piles to refusal on rock.
- \*\* Factored Resistance Available computed using a geotechnical resistance factor of 0.5; no reduction needed to be taken into account for downdrag, scour or liquefaction.
- # Estimated pile lengths for the bridge supports are summarized in the following table.

Summarized in the following table is the general location of each structure boring as well as the ground surface elevation. The estimated pile length and tip elevation for steel H-piles driven to refusal on rock are also indicated.

**Point Bearing Steel H-Piles**

Boring	Location	Existing Grade	Bottom of Pile Cap	Estimated Pile Refusal on Rock	
				Pile Length *	Tip Elevation**
B-1	South Abutment	608.0	699.4	47 feet	655.0
B-2	North Abutment	697.5	698.8	45 feet	656.5

- \* Estimated pile length includes 2.0 foot embedment into pile cap.
- \*\* The estimated refusal depth for the H-pile is rounded to the nearest 0.5 foot.

The piles are expected to penetrate to the top of bedrock in order to achieve the Maximum Nominal Required Bearing. No reduction had to be taken into account for downdrag, scour or liquefaction in computing the Factored Resistance Available.

It should be expected that the refusal elevations will vary across each abutment and/or pier due to variations in cobbles and/or boulders typically found above bed rock surfaces in this area. Test piles should be driven at each substructure unit prior to ordering piles for production driving. It is

recommended that the steel H-piles be provided with metal pile shoes (pile points) due to the presence of cobbles and/or boulders within the soil stratigraphy.

### 6.3 Roadway Improvements

It is understood that the improvements to Williams Road extend approximately 500 feet north and south of the bridge structure, with minor widening for the roadway and new sidewalks. Improvements included roadway resurfacing with partial reconstruction at the bridge abutments, i.e. road being raised approximately 3 feet. It should be noted that roadway widening was not planned as part of the proposed improvements.

Borings 3-5 were drilled for the roadway improvements to Williams Road. At the boring locations, cohesive and granular materials were encountered in the upper 3 feet. Based on the unconfined compressive strength, moisture content and Standard Penetration Test data, these very stiff native Clay soils and Sand and Gravel Fill materials found below the existing asphalt pavement are considered adequate stability for pavement and/or fill support.

Work performed for this study did not include performing any IBR tests on representative subgrade samples. However, the IBR value used for pavement design is typically based on the worst soil type (lowest IBR) within the limits of the project. Based on the data obtained from the soil borings, an IBR value no greater than 2.5 is recommended for pavement design. This represents a typical design IBR value for A-6 and A-7-6 soil types encountered in the Chicago land area and generally correlates to a Subgrade Support Rating (SSR) of "Poor".

The following are general recommendations/guidelines in connection with roadway reconstruction. In areas where the existing pavement and subbase materials have been removed, the exposed subgrade materials should be tested with a Cone Penetrometer in accordance with the IDOT Subgrade Stability manual to determine if remedial treatment is required. Observations of heavy construction vehicles on subgrade areas or a proof rolling procedure will help to delineate areas which have deficient strength.

All earthwork, new embankment construction and subgrade preparation should be in accordance with Division 200 and 300 of the IDOT Standard Specifications. Compaction for subgrade materials should



be to at least 95 percent Standard Proctor density (AASHTO T-99). Remedial work for unstable subgrade should consist of discing, aerating, and recompacting exposed subgrade soils. Solutions to a persistent pumping problem may include use of a geotextile fabric, removal of unsuitable soils and replacement with granular fill, or a combination thereof.

The subgrade stability will be influenced by such factors as surface drainage provided by the contractor as well as the prevailing temperature and precipitation experienced during construction. The amount of trafficking and subgrade disturbance created by heavy construction vehicles will also have an influence on subgrade stability. The Contractor should try to make full use of inlets or ditches in order to maintain positive drainage for subgrade areas. Temporary drainage ditches or pumping from depressional areas should be provided as needed during construction in order to prevent ponded water from affecting the stability of the roadway.

Aggregate Fill may be required for bridging over weak subgrade soils which demonstrate persistent stability problems. Aggregate materials needed beneath the granular subbase layer may consist of the IDOT Porous Granular Embankment-Subgrade (PGES).

The need for undercutting unstable subgrade and PGES replacement Fill should be based on direct observations made during construction once the subgrade soils are exposed and proof-rolling or cone penetrometer testing procedures can be conducted. All quantities of PGES materials not required during construction should be deleted from the construction costs. Normal IDOT procedure requires cone penetrometer testing immediately prior to undercutting subgrade in order to document the need for the undercut and replacement Fill.

## 7.0 CLOSURE

It is recommended that full-time technician services be provided by Testing Service Corporation personnel during foundation construction, so that the bearing capacity of the soils at undercut and foundation levels can be verified. In addition, adequacy of building materials, stripping and undercutting, fill placement and compaction as well as slab-on-grade and pavement construction should be monitored for compliance with the recommended procedures and specifications.



This report has been prepared without the benefit of bridge design plans. It is therefore suggested that Testing Service Corporation review these plans when they are available, to check the accuracy of this report as it may be affected, to verify the correct interpretation of recommendations contained herein and to modify the findings accordingly. Additional borings are likely to be suggested at that time to delineate potential problem areas as well as to fill in any gaps in information.

The analysis and recommendations submitted in this report are based upon the data obtained from the five (5) preliminary soil borings, two (2) pavement cores and one (1) bridge deck core performed at the locations indicated on the Boring Location Plan. This report does not reflect any variations which may occur between these borings, the nature and extent of which may not become evident until during the course of construction.

We are available to review this report with you at your convenience.

Timothy R. Peceniak, P.E.  
Project Engineer  
Registered Professional Engineer  
Illinois No. 062-061269

Michael V. Machalinski, P.E.  
Vice President



## TESTING SERVICE CORPORATION

# GENERAL CONDITIONS

## Geotechnical and Construction Services

**1. PARTIES AND SCOPE OF WORK:** If Client is ordering the services on behalf of another, Client represents and warrants that Client is the duly authorized agent of said party for the purpose of ordering and directing said services, and in such case the term "Client" shall also include the principal for whom the services are being performed. Prices quoted and charged by TSC for its services are predicated on the conditions and the allocations of risks and obligations expressed in these General Conditions. Unless otherwise stated in writing, Client assumes sole responsibility for determining whether the quantity and the nature of the services ordered by Client are adequate and sufficient for Client's intended purpose. Client shall communicate these General Conditions to each and every third party to whom the Client transmits any report prepared by TSC. Unless otherwise expressly assumed in writing, TSC shall have no duty to any third party, and in no event shall TSC have any duty or obligation other than those duties and obligations expressly set forth in this Agreement. Ordering services from TSC shall constitute acceptance of these General Conditions.

**2. SCHEDULING OF SERVICES:** The services set forth in this Agreement will be accomplished in a timely and workmanlike manner. If TSC is required to delay any part of its services to accommodate the requests or requirements of Client, regulatory agencies, or third parties, or due to any cause beyond its reasonable control, Client agrees to pay such additional charges, if any, as may be applicable.

**3. ACCESS TO SITE:** TSC shall take reasonable measures and precautions to minimize damage to the site and any improvements located thereon as a result of its services or the use of its equipment; however, TSC has not included in its fee the cost of restoration of damage which may occur. If Client desires or requires TSC to restore the site to its former condition, TSC will, upon written request, perform such additional work as is necessary to do so and Client agrees to pay to TSC the cost thereof plus TSC's normal markup for overhead and profit.

**4. CLIENT'S DUTY TO NOTIFY ENGINEER:** Client represents and warrants that Client has advised TSC of any known or suspected hazardous materials, utility lines and underground structures at any site at which TSC is to perform services under this agreement.

**5. DISCOVERY OF POLLUTANTS:** TSC's services shall not include investigation for hazardous materials as defined by the Resource Conservation Recovery Act, 42 U.S.C. § 6901, et. seq., as amended ("RCRA") or by any state or Federal statute or regulation. In the event that hazardous materials are discovered and identified by TSC, TSC's sole duty shall be to notify Client.

**6. MONITORING:** If this Agreement includes testing construction materials or observing any aspect of construction of improvements, Client's construction personnel will verify that the pad is properly located and sized to meet Client's projected building loads. Client shall cause all tests and inspections of the site, materials and work to be timely and properly performed in accordance with the plans, specifications, contract documents, and TSC's recommendations. No claims for loss, damage or injury shall be brought against TSC unless all tests and inspections have been so performed and unless TSC's recommendations have been followed.

TSC's services shall not include determining or implementing the means, methods, techniques or procedures of work done by the contractor(s) being monitored or whose work is being tested. TSC's services shall not include the authority to accept or reject work or to in any manner supervise the work of any contractor. TSC's services or failure to perform same shall

not in any way operate or excuse any contractor from the performance of its work in accordance with its contract. "Contractor" as used herein shall include subcontractors, suppliers, architects, engineers and construction managers.

Information obtained from borings, observations and analyses of sample materials shall be reported in formats considered appropriate by TSC unless directed otherwise by Client. Such information is considered evidence, but any inference or conclusion based thereon is, necessarily, an opinion also based on engineering judgment and shall not be construed as a representation of fact. Subsurface conditions may not be uniform throughout an entire site and ground water levels may fluctuate due to climatic and other variations. Construction materials may vary from the samples taken. Unless otherwise agreed in writing, the procedures employed by TSC are not designed to detect intentional concealment or misrepresentation of facts by others.

**7. SAMPLE DISPOSAL:** Unless otherwise agreed in writing, test specimens or samples will be disposed immediately upon completion of the test. All drilling samples or specimens will be disposed sixty (60) days after submission of TSC's report.

**8. TERMINATION:** This Agreement may be terminated by either party upon seven days prior written notice. In the event of termination, TSC shall be compensated by Client for all services performed up to and including the termination date, including reimbursable expenses.

**9. PAYMENT:** Client shall be invoiced periodically for services performed. Client agrees to pay each invoice within thirty (30) days of its receipt. Client further agrees to pay interest on all amounts invoiced and not paid or objected to in writing for valid cause within sixty (60) days at the rate of twelve (12%) per annum (or the maximum interest rate permitted by applicable law, whichever is the lesser) until paid and TSC's costs of collection of such accounts, including court costs and reasonable attorney's fees.

**10. WARRANTY:** TSC's professional services will be performed, its findings obtained and its reports prepared in accordance with these General Conditions and with generally accepted principles and practices. In performing its professional services, TSC will use that degree of care and skill ordinarily exercised under similar circumstances by members of its profession. In performing physical work in pursuit of its professional services, TSC will use that degree of care and skill ordinarily used under similar circumstances. This warranty is in lieu of all other warranties or representations, either express or implied. Statements made in TSC reports are opinions based upon engineering judgment and are not to be construed as representations of fact.

Should TSC or any of its employees be found to have been negligent in performing professional services or to have made and breached any express or implied warranty, representation or contract, Client, all parties claiming through Client and all parties claiming to have in any way relied upon TSC's services or work agree that the maximum aggregate amount of damages for which TSC, its officers, employees and agents shall be liable is limited to \$50,000 or the total amount of the fee paid to TSC for its services performed with respect to the project, whichever amount is greater.

In the event Client is unwilling or unable to limit the damages for which TSC may be liable in accordance with the provisions set forth in the preceding paragraph, upon written request of Client received within five days of Client's acceptance of TSC's proposal together with payment of an additional fee in the amount of 5% of TSC's estimated cost for its services (to be adjusted to 5% of the amount actually billed by TSC for its services on the project at time of completion), the limit on

damages shall be increased to \$500,000 or the amount of TSC's fee, whichever is the greater. This charge is not to be construed as being a charge for insurance of any type, but is increased consideration for the exposure to an award of greater damages.

**11. INDEMNITY:** Subject to the provisions set forth herein, TSC and Client hereby agree to indemnify and hold harmless each other and their respective shareholders, directors, officers, partners, employees, agents, subsidiaries and division (and each of their heirs, successors, and assigns) from any and all claims, demands, liabilities, suits, causes of action, judgments, costs and expenses, including reasonable attorneys' fees, arising, or allegedly arising, from personal injury, including death, property damage, including loss of use thereof, due in any manner to the negligence of either of them or their agents or employees or independent contractors. In the event both TSC and Client are found to be negligent or at fault, then any liability shall be apportioned between them pursuant to their pro rata share of negligence or fault. TSC and Client further agree that their liability to any third party shall, to the extent permitted by law, be several and not joint. The liability of TSC under this provision shall not exceed the policy limits of insurance carried by TSC. Neither TSC nor Client shall be bound under this indemnity agreement to liability determined in a proceeding in which it did not participate represented by its own independent counsel. The indemnities provided hereunder shall not terminate upon the termination or expiration of this Agreement, but may be modified to the extent of any waiver of subrogation agreed to by TSC and paid for by Client.

**12. SUBPOENAS:** TSC's employees shall not be retained as expert witnesses except by separate, written agreement. Client agrees to pay TSC pursuant to TSC's then current fee schedule for any TSC employee(s) subpoenaed by any party as an occurrence witness as a result of TSC's services.

**13. OTHER AGREEMENTS:** TSC shall not be bound by any provision or agreement (i) requiring or providing for arbitration of disputes or controversies arising out of this Agreement or its performance, (ii) wherein TSC waives any rights to a mechanics lien or surety bond claim; (iii) that conditions TSC's right to receive payment for its services upon payment to Client by any third party or (iv) that requires TSC to indemnify any party beyond its own negligence. These General Conditions are notice, where required, that TSC shall file a lien whenever necessary to collect past due amounts. This Agreement contains the entire understanding between the parties. Unless expressly accepted by TSC in writing prior to delivery of TSC's services, Client shall not add any conditions or impose conditions which are in conflict with those contained herein, and no such additional or conflicting terms shall be binding upon TSC. The unenforceability or invalidity of any provision or provisions shall not render any other provision or provisions unenforceable or invalid. This Agreement shall be construed and enforced in accordance with the laws of the State of Illinois. In the event of a dispute arising out of or relating to the performance of this Agreement, the breach thereof or TSC's services, the parties agree to try in good faith to settle the dispute by mediation under the Construction Industry Mediation Rules of the American Arbitration Association as a condition precedent to filing any demand for arbitration, or any petition or complaint with any court. Should litigation be necessary, the parties consent to jurisdiction and venue in an appropriate Illinois State Court in and for the County of DuPage, Wheaton, Illinois or the Federal District Court for the Northern District of Illinois. Paragraph headings are for convenience only and shall not be construed as limiting the meaning of the provisions contained in these General Conditions.

# **APPENDIX**

PAVEMENT CORE RESULTS

BULK ASBESTOS SAMPLE EVALUATION

SOIL TEST DATA

PEDOLOGICAL SOIL MAP (3)

IDH SOIL TEXTURAL CLASSIFICATION SYSTEM

AASHTO SOIL CLASSIFICATION SYSTEM

LEGEND FOR BORING LOGS

BORING LOGS (5)

BORING LOCATION PLAN

## PAVEMENT CORE RESULTS

(Each component of pavement section listed from top down)

### Williams Road

#### C-1

0.3" Sand Seal  
1.6" Surface Course (Not bonded to underlying lift)  
1.8" Emulsified Bituminous Concrete  
**3.7" Total Asphalt Thickness**

8" Crushed Stone (1" to fine)

#### C-2

0.2" Sand Seal  
1.6" Surface Course  
2.4" Binder Course  
3.6" Binder Course  
**7.8" Total Asphalt Thickness**

Crushed Gravel (1" to fine) extended approximately 2.5 feet below top of pavement

**BULK ASBESTOS SAMPLE EVALUATION - ASPHALT SAMPLES  
POLARIZED LIGHT MICROSCOPY (PLM) TECHNIQUE**

**GRAVIMETRIC REDUCTION**

NVLAP LAB ID 101130-0

Company Name: Testing Service Corporation  
 Contact: Timothy R. Peceniak  
 Address: 457 E. Gunderson Drive  
 Carol Stream Illinois 60188-2492

Client Project Ref: L-74, 430  
 Project Location: Williams Rd.  
 TEM Project: 43019  
 Analyzed by: Lori Boersma  
 Date Analyzed: 1/25/2010

Sample Information		Fibrous Materials		Non-Fibrous Materials	
Client Sample ID	TEM ID.	Asbestos Fibers Type	Percent	Non-Asbestos Fibers Type	Percent

01	204543	Grav	N/D	Chrysotile	7.54
Bridge Core				Amosite	9.16
				Organic Mtl.	0.86
				Acid Soluble	

Samples were analyzed following the procedures contained in the EPA Method 600/AL-93/116, July 1993, including the use of gravimetric reduction to enhance the ability to observe asbestos fibers in the sample. This report applies only to samples tested.

SLM: The optical resolution of polarized light microscopy limits the size of fibers that are visible. In samples where very small fibers may be present, the asbestos fibers may be smaller than the resolution limit of a polarized light microscope. In those cases, the result of the PLM analysis is not conclusive where the sample is reported as non-asbestos. Samples that are expected to contain small fibers (such as floor tile samples) and that are reported as non-asbestos by PLM should be further analyzed by transmission electron microscopy.

Key: ACM = Asbestos Containing Material as defined in USEPA NESHAP Regulation; TR = Trace; N/D = None Detected

Signature of Analyst

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**TESTING SERVICE CORPORATION**

457 East Gundersen Drive  
Carol Stream, Illinois

TSC Job No. L - 74,430  
January 21, 2010

**Client:** Engineering Enterprises, Inc.  
52 Wheeler Road  
Sugar Grove, IL 60554

**Project:** Proposed Bridge Replacement  
Williams Road over West Branch of DuPage River  
Warrenville, Illinois

**SOIL TEST DATA**

BORING NUMBER	1	1	2	2
SAMPLE NUMBER	1	12	10	4
DEPTH IN FEET	1 - 2½	28½ - 30	23½ - 25	8½ - 10
AASHTO CLASSIFICATION	A-1-b	A-2-4	A-4	A-7-6
UNIFIED CLASSIFICATION	SM-GM	SM-GM	SM-SC	OL
GRADATION - PASSING 1 ½" SIEVE %	-	100	100	-
GRADATION - PASSING 1" SIEVE %	100	88	100	-
GRADATION - PASSING ¾" SIEVE %	97	88	100	-
GRADATION - PASSING ⅜" SIEVE %	88	69	94	-
GRADATION - PASSING # 4 SIEVE %	60	64	89	-
GRADATION - PASSING # 10 SIEVE %	55	58	83	-
GRADATION - PASSING # 40 SIEVE %	36	49	70	-
GRADATION - PASSING # 100 SIEVE %	24	35	50	-
GRADATION - PASSING # 200 SIEVE %	20	29	41	-
GRAVEL %	40	36	11	-
SAND %	40	35	48	-
SILT %	20	25	35	-
CLAY %		4	6	-
LIQUID LIMIT %	N/P (Non Plastic)	N/P (Non Plastic)	14	-
PLASTIC LIMIT %			9	-
PLASTICITY INDEX %			5	-
ORGANIC CONTENT	L-O-I %	-	-	8.7
	WET COMBUSTION %	-	-	8.4

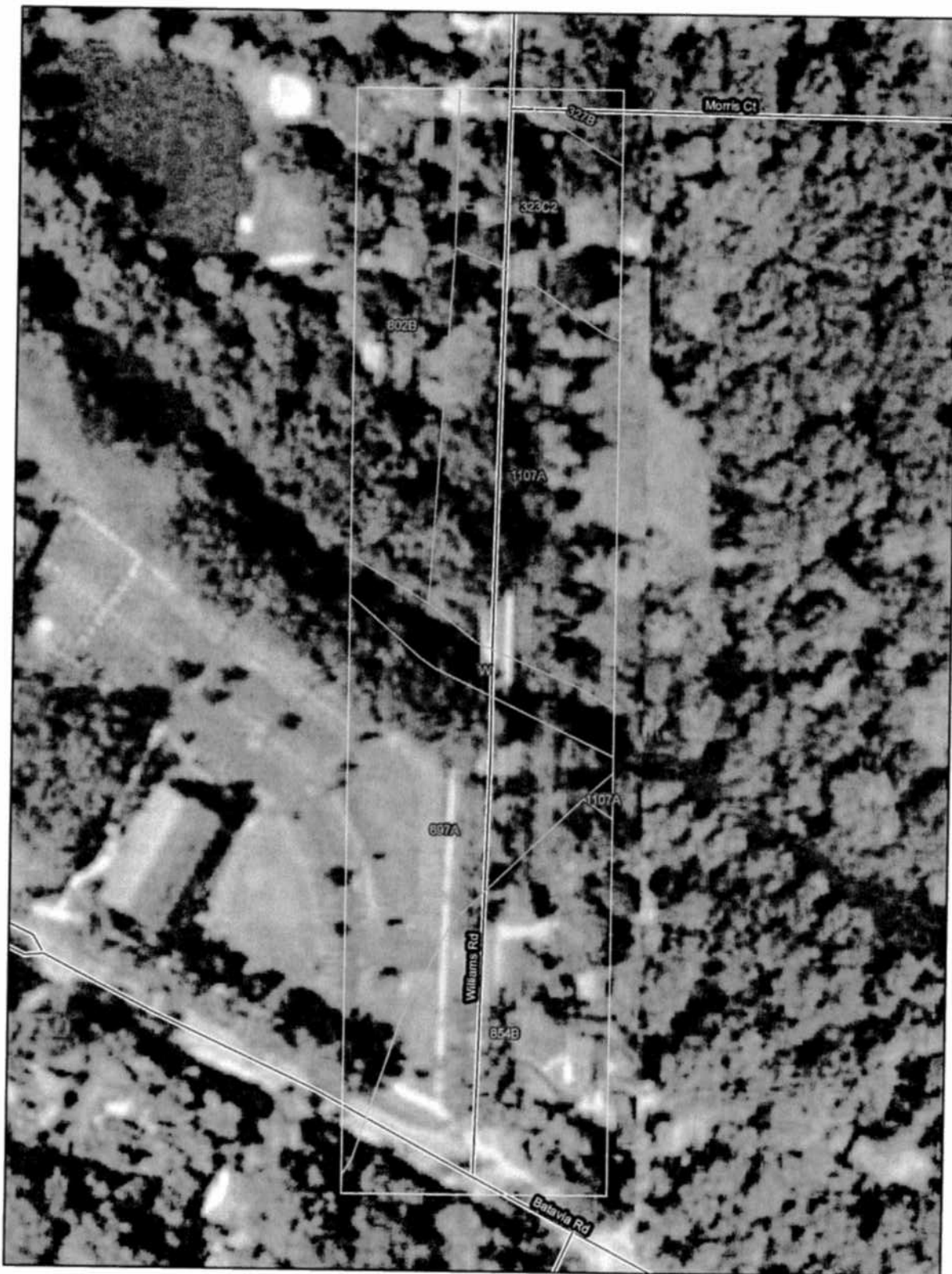
Custom Soil Resource Report  
Soil Map

88° 11' 31"

88° 11' 19"

41° 49' 53"

41° 49' 53"



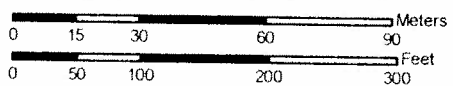
41° 49' 41"

41° 49' 41"

88° 11' 31"









































Map Scale: 1:1,790 if printed on A size (8.5" x 11") sheet.



88° 11' 19"

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## MAP LEGEND

 Area of Interest (AOI)	 Very Stony Spot
 Soils	 Wet Spot
 Soil Map Units	 Other
<b>Special Point Features</b>	<b>Special Line Features</b>
 Blowout	 Gully
 Borrow Pit	 Short Steep Slope
 Clay Spot	 Other
 Closed Depression	<b>Political Features</b>
 Gravel Pit	 Cities
 Gravelly Spot	<b>Water Features</b>
 Landfill	 Oceans
 Lava Flow	 Streams and Canals
 Marsh or swamp	<b>Transportation</b>
 Mine or Quarry	 Rails
 Miscellaneous Water	 Interstate Highways
 Perennial Water	 US Routes
 Rock Outcrop	 Major Roads
 Saline Spot	 Local Roads
 Sandy Spot	
 Severely Eroded Spot	
 Sinkhole	
 Slide or Slip	
 Sodic Spot	
 Spoil Area	
 Stony Spot	

## MAP INFORMATION

Map Scale: 1:1,790 if printed on A size (8.5" x 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
 Coordinate System: UTM Zone 16N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: DuPage County, Illinois  
 Survey Area Data: Version 5, Sep 8, 2006

Date(s) aerial images were photographed: 7/21/2007; 7/31/2007

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

DuPage County, Illinois (IL043)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
323C2	Casco loam, 4 to 6 percent slopes, eroded	0.6	9.8%
327B	Fox silt loam, 2 to 4 percent slopes	0.1	1.6%
697A	Wauconda silt loam, 0 to 2 percent slopes	1.4	21.5%
802B	Orthents, loamy, undulating	1.0	15.7%
854B	Markham-Ashkum-Beecher complex, 1 to 6 percent slopes	1.6	24.1%
1107A	Sawmill silty clay loam, undrained, 0 to 2 percent slopes, frequently flooded	1.5	22.9%
W	Water	0.3	4.6%
<b>Totals for Area of Interest</b>		<b>6.5</b>	<b>100.0%</b>

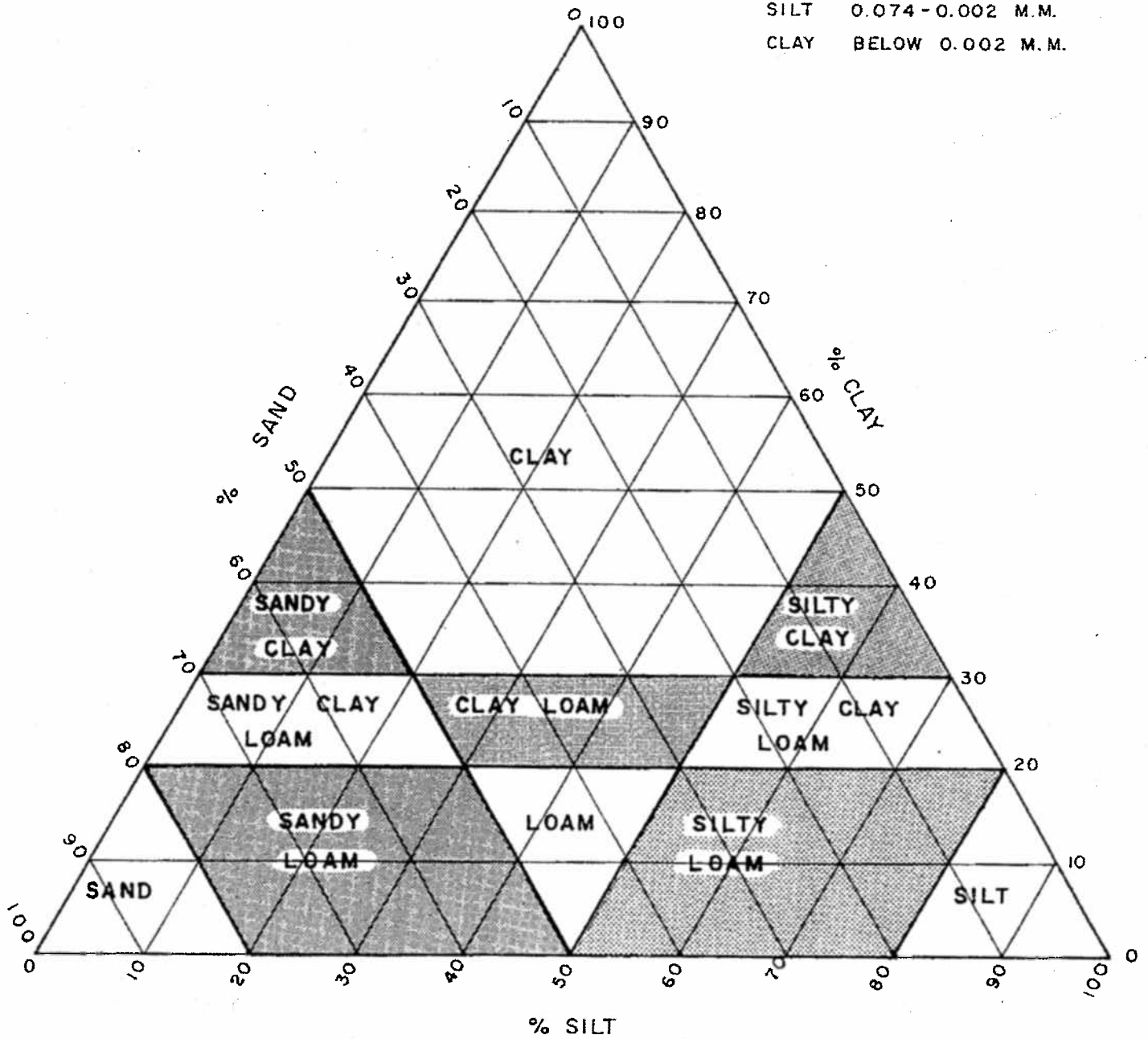
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TESTING SERVICE CORPORATION

I D H TEXTURAL CLASSIFICATION CHART

SIZE LIMITS

SAND 2.0 - 0.074 M.M.  
SILT 0.074 - 0.002 M.M.  
CLAY BELOW 0.002 M.M.

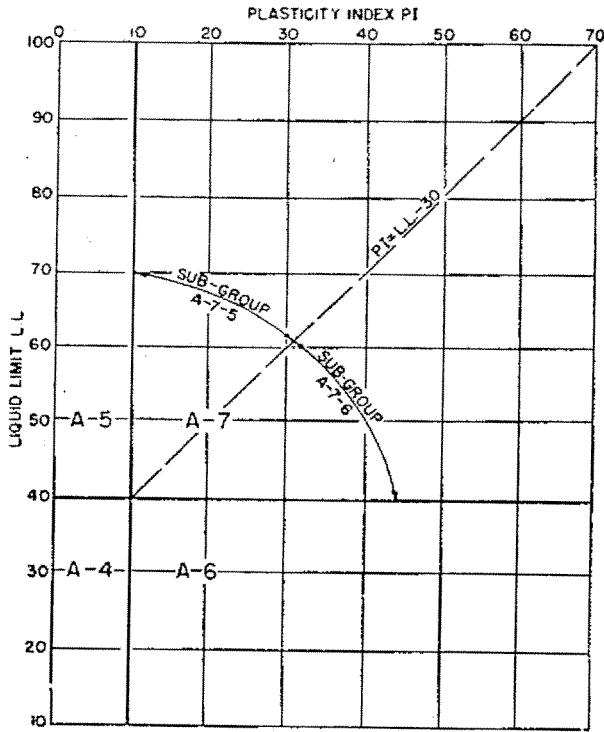


# TESTING SERVICE CORPORATION AASHTO CLASSIFICATION CHART

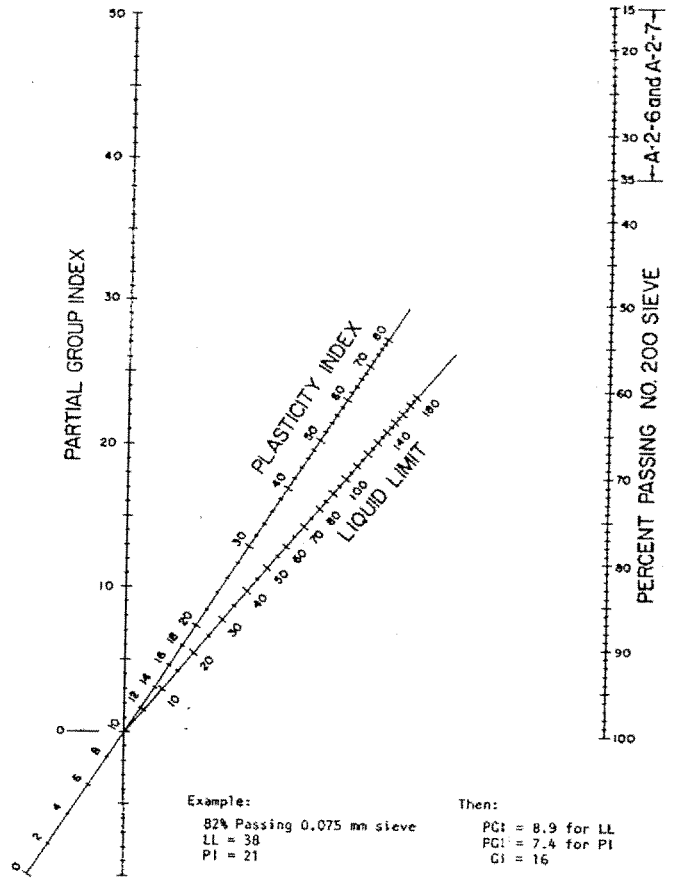
Group Index (GI) =  $(F-35)[0.2+0.005(LL-40)]+0.01(F-15)(PI-10)$   
 where F = % Passing 0.075 mm sieve, LL = Liquid Limit,  
 and PI = Plasticity Index

When working with A-2-6 and A-2-7 subgroups the Partial Group Index (PGI) is determined from the PI only.

When the combined Partial Group Indices are negative, the Group Index should be reported as zero.



Liquid Limit and Plasticity Index Ranges for the A-4, A-5, A-6 and A-7 Subgrade Groups



Example:  
 82% Passing 0.075 mm sieve  
 LL = 38  
 PI = 21

Then:  
 PGI = 8.9 for LL  
 PGI = 7.4 for PI  
 GI = 16

## AASHTO SOIL CLASSIFICATION SYSTEM

General Classification	Granular Materials (35% or less passing No. 200)							Silt-Clay Materials (more than 35% passing No. 200)			
	A-1		A-3	A-2				A-4	A-5	A-6	A-7
Group Classification	A-1-a	A-1-b		A-2-4	A-2-5	A-2-6	A-2-7				A-7-5, A-7-6
Sieve analysis, % passing:											
No. 10	50 max	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
No. 40	30 max	50 max	51 min	.....	.....	.....	.....	.....	.....	.....	.....
No. 200	15 max	25 max	10 max	35 max	35 max	35 max	35 max	36 min	36 min	36 min	36 min
Characteristics of fraction passing No. 40:											
Liquid limit	.....	.....	.....	40 max	41 min	40 max	41 min	40 max	41 min	40 max	41 min
Plasticity index	6 max		N.P.	10 max	10 max	11 min	11 min	10 max	10 max	11 min	11 min†
Usual types of significant constituent materials	Stone fragments, gravel and sand		Fine sand	Silty or clayey gravel and sand				Silty soils		Clayey soils	
General rating as subgrade	Excellent to good						Fair to poor				

† Plasticity index of A-7-5 subgroup is equal to or less than LL minus 30. Plasticity index of A-7-6 subgroup is greater than LL minus 30.

**TESTING SERVICE CORPORATION**  
**LEGEND FOR BORING LOGS**  
(FPS Units)

**SAMPLE TYPE:**

- SS** = Split Spoon
- ST** = Thin-Walled Tube
- A** = Auger

**FIELD AND LABORATORY TEST DATA:**

- BLOWS** = Standard Penetration Resistance in Blows per 6 inches
- W%** = In-Situ Water Content in percent
- Qu** = Unconfined Compressive Strength in tons per square foot (tsf)
- \*** = Hand Penetrometer Measurement; Max. Reading = 4.5+ tsf

**SOIL DESCRIPTION:**

<u>MATERIAL</u>	<u>PARTICLE SIZE RANGE</u>
BOULDER	Over 12 inch
COBBLE	12 - 3 inch
Coarse GRAVEL	3 - ¾ inch
Small GRAVEL	¾ inch to No. 10 Sieve
Coarse SAND	No. 10 Sieve to No. 40 Sieve
Fine SAND	No. 40 Sieve to No. 200 Sieve
SILT and CLAY	Passing No. 200 Sieve

**COHESIVE SOILS**

<u>CONSISTENCY</u>	<u>Qu (tsf)</u>
Very Soft	Less than 0.3
Soft	0.3 to 0.6
Medium Stiff	0.6 to 1.0
Stiff	1.0 to 2.0
Very Stiff	2.0 to 4.0
Hard	4.0 and over

**COHESIONLESS SOILS**

<u>RELATIVE DENSITY</u>	<u>N</u>
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	50 and over

**MODIFYING TERM**

- Trace
- Little
- Some

**PERCENT BY WEIGHT**

- 1 - 10
- 10 - 20
- 20 - 35

# Testing Service Corporation

## STRUCTURE BORING LOG

Date Started 1/12/10

ROUTE \_\_\_\_\_ DESCRIPTION Bridge Replacement Over West Branch DuPage River Date Completed 1/12/10

SECT. \_\_\_\_\_ STRUCT. NO. \_\_\_\_\_ DRILLED BY TSC L-74.430

COUNTY DuPage LOCATION Williams Road S. 27 SE 1/4, TWP. 39 N, RNG. 9 E

Boring No. 1  
 Station \_\_\_\_\_  
 Offset \_\_\_\_\_ ft  
 Surface Elev. 698.00 ft

Surface Water Elev. \_\_\_\_\_  
 Groundwater Elev.:  
 when drilling 680.0  
 at Completion Rotary Wash  
 after \_\_\_\_\_ Hrs. \_\_\_\_\_

DEPTH	BLOW S	Qu tsf	W %	Surface Water Elev.	Groundwater Elev.	DEPTH	BLOW S	Qu tsf	W %
10" Bituminous Concrete									
697.20				672.50					
FILL - Brown SAND and GRAVEL, little silt, moist A-1-b	60 50/3"		8.9				8 5 7		12.8
695.50									
FILL - Brown and gray CLAY, trace gravel, moist A-6/A-7-6	3 5 8	B 0.7 15%	12.1				8 7 7		11.5
-5						-30			
	2 3 6	B 1.2 15%	21.1						
690.00									
	5 6 11	B 2.1 15%	13.7				8 9 11		10.2
-10						-35			
	6 12 13	P 4.0	10.9						
	5 8 11	B 3.6 15%	11.9				5 5 6		12.3
-15						-40			
	4 8 22	B 3.3 15%	13.0						
	6 10 19	B 2.5 15%	14.4						
-20						-45			
	10 16 23	P 1.25	16.0						
677.50									
	8 14 25	B 1.7 15%	25.9						
-25						-50			

Firm gray SANDY LOAM, some gravel, occasional Cobbles, wet A-2-4

43' to 47'  
 Dolomite: Medium Gray, Mottled Red, Green. Weathered Bedding Plane at 46'. Silty Thin Bedded, Dense.

47' to 53'  
 Dolomite: Medium Gray, Thick Bedded and Dense.

Run: 43' to 53'  
 Recovery = 100%  
 RQD = 68%

ILDOT\_BORING 74430.GPJ IDOT.GDT 1/21/10

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test Stations, Depths, Offset, and Elevations are in Feet



# Testing Service Corporation

## STRUCTURE BORING LOG

Date Started 1/12/10

Date Completed 1/12/10

STRUCTURE NO. \_\_\_\_\_  
 ROUTE \_\_\_\_\_  
 SECTION \_\_\_\_\_  
 COUNTY DuPage

Boring No. 1  
 Station \_\_\_\_\_  
 Offset \_\_\_\_\_ ft  
 Elevation 648.00 ft

D E P T H	B L O W S	Qu tsf	W %
645.00			
-55			
-60			
-65			
-70			
-75			

Dolomite: Medium Gray,  
Mottled Red, Green.

End of Rock Core 53'

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test  
 Stations, Depths, Offset, and Elevations are in Feet

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# Testing Service Corporation

## STRUCTURE BORING LOG

Date Started 12/17/09

ROUTE \_\_\_\_\_ DESCRIPTION Bridge Replacement Over West Branch DuPage River Date Completed 12/17/09

SECT. \_\_\_\_\_ STRUCT. NO. \_\_\_\_\_ DRILLED BY TSC L-74.430

COUNTY DuPage LOCATION Williams Road (North Abutment) S. 27 SE 1/4 , TWP. 39 N , RNG. 9 E

Boring No. <u>2</u>	D E P T H	B L O W S	Qu tsf	W %	Surface Water Elev. _____ Groundwater Elev.: _____ when drilling <u>687.0</u> at Completion <u>690.5</u> after _____ Hrs. _____	D E P T H	B L O W S	Qu tsf	W %
Surface Elev. <u>697.50</u> ft									
7" Bituminous Concrete <u>696.90</u>									
FILL - Brown and gray SAND and GRAVEL, little silt, moist A-1-b <u>694.50</u>		20 14 18			Medium stiff gray CLAY LOAM, very moist A-4		5 3 3	B 0.8	10.4 14.4
FILL - Black CLAY, little gravel, trace organic, very moist A-7-6 <u>692.00</u>		5 3 5	P 1.25	18.1			5 5 10		10.6
FILL - Black clayey SAND and GRAVEL, trace organic, very moist A-2-4 <u>689.50</u>		4 2 4		26.7	Firm gray SANDY LOAM, little gravel, very moist A-4				
Soft black CLAY (Topsoil), very moist A-7-6 LOI = 8.7% <u>687.00</u>		1 2 2	B 0.4	78.4			6 6 6		10.1
Firm gray SAND and GRAVEL, occasional Cobbles, wet to saturated A-1-a <u>684.50</u>		8 8 16		8.4					
		13 14 34	B 3.6	11.2	Medium stiff gray CLAY LOAM, very moist A-4		8 10 16	B 0.9	11.4
Very stiff gray CLAY, trace gravel, moist A-6		7 10 15	B 2.8	14.5					
		8 10 13	P 2.6	19.9	End of Boring at 41'				
		7 2 3		12.2					
Loose gray SANDY LOAM, little gravel, very moist A-4 LL/PL/PI=14/9/5		1 2 2		12.9					

ILLDOT BORING 74430.GPJ IDOT.GDT 12/17/09

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test  
Stations, Depths, Offset, and Elevations are in Feet

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# Testing Service Corporation

## STRUCTURE BORING LOG

Date Started 12/16/09

ROUTE \_\_\_\_\_ DESCRIPTION Bridge Replacement Over West Branch DuPage River Date Completed 12/16/09

SECT. \_\_\_\_\_ STRUCT. NO. \_\_\_\_\_ DRILLED BY TSC L-74.430

COUNTY DuPage LOCATION Williams Road S. 27 SE 1/4 , TWP. 39 N , RNG. 9 E

Boring No. 3  
 Station \_\_\_\_\_  
 Offset \_\_\_\_\_ ft  
 Surface Elev. 708.50 ft

D E P T H	B L O W S	Qu tsf	W %
4	P		
4	3.0	21.4	
5			
5			
4			15.2
4			
5			
5			
-5			
4	P		
5	3.0	15.4	
7			
7	P		
10	4.5	18.8	
14			

Surface Water Elev. \_\_\_\_\_  
 Groundwater Elev.: \_\_\_\_\_  
 when drilling Dry  
 at Completion Dry  
 after \_\_\_\_\_ Hrs. \_\_\_\_\_

4" Bituminous Concrete 708.20  
7" Crushed Stone Base 707.60

Very stiff brown CLAY, trace organic, moist A-6 705.50

Loose brown SANDY LOAM, little gravel, moist A-4 703.00

Very stiff to hard brown and gray CLAY, trace gravel, moist A-6 698.50



ILDOT\_BORING 74430.GPJ IDOT.GDT 1/21/10

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test  
 Stations, Depths, Offset, and Elevations are in Feet

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# Testing Service Corporation

## STRUCTURE BORING LOG

Date Started 12/16/09

ROUTE \_\_\_\_\_ DESCRIPTION Bridge Replacement Over West Branch DuPage River Date Completed 12/16/09

SECT. \_\_\_\_\_ STRUCT. NO. \_\_\_\_\_ DRILLED BY TSC L-74,430

COUNTY DuPage LOCATION Williams Road S. 27 SE 1/4, TWP. 39 N, RNG. 9 E

Boring No. 4  
 Station \_\_\_\_\_  
 Offset \_\_\_\_\_ ft  
 Surface Elev. 695.50 ft

Surface Water Elev. \_\_\_\_\_  
 Groundwater Elev.:  
 when drilling 690.0  
 at Completion 690.5  
 after \_\_\_\_\_ Hrs.

DEPTH	BLOWS	Qu tsf	W %
7	P		6.2
5			
4			
5	1.5		33.1
2	P		
2	1.5		
3			15.7
3			
-5			
7			
12			9.3
10			
9			
17			7.2
20			
-10			
-15			
-20			
-25			

8" Bituminous Concrete 694.80  
 FILL - Gray SAND and GRAVEL, moist A-1-a 693.00  
 Stiff black CLAY, little organic moist A-7-6 692.50  
 Stiff brown and gray CLAY, little gravel, trace organic, moist A-6 690.00  
 Firm to dense SAND and GRAVEL, saturated A-1-a 685.50

End of Boring at 10'

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test  
 Stations, Depths, Offset, and Elevations are in Feet

ILDOT\_BORING 74430.GPJ IDOT.GDT 1/21/10

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# Testing Service Corporation

## STRUCTURE BORING LOG

Date Started 12/16/09

ROUTE \_\_\_\_\_ DESCRIPTION Bridge Replacement Over West Branch DuPage River Date Completed 12/16/09

SECT. \_\_\_\_\_ STRUCT. NO. \_\_\_\_\_ DRILLED BY TSC L-74.430

COUNTY DuPage LOCATION Williams Road S. 27 SE 1/4 , TWP. 39 N , RNG. 9 E

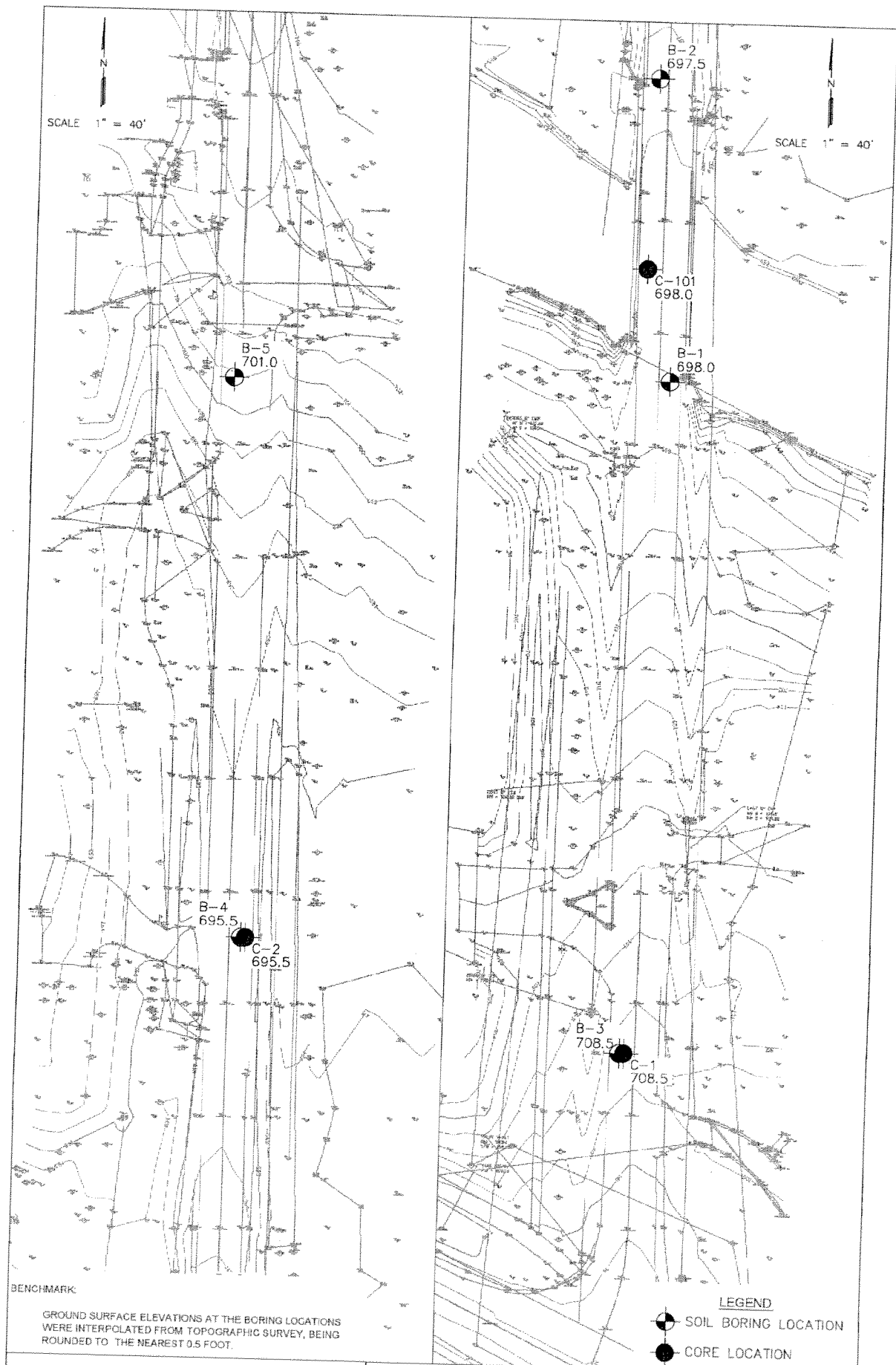
Boring No. <u>5</u>	D E P T H	B L O W S	Qu tsf	W %
Station _____				
Offset _____ ft				
Surface Elev. <u>701.00</u> ft				
9" Bituminous Concrete <span style="float: right;">700.20</span>				
Very stiff dark brown CLAY, trace gravel, trace organic, moist A-6/A-7-6 <span style="float: right;">699.00</span>		5 9 11 11	P 2.75	25.1  8.5
Firm brown SAND and GRAVEL, moist A-1-a <span style="float: right;">695.50</span>		6 9 11 14 -5		5.2
Firm brown and gray SAND, trace gravel, moist to saturated A-2-4 <span style="float: right;">691.00</span>		6 9 10  5 6 6		5.8  10.9
End of Boring at 10'				
	-10			
	-15			
	-20			
	-25			

Surface Water Elev. \_\_\_\_\_  
 Groundwater Elev.: \_\_\_\_\_  
 when drilling 693.0  
 at Completion 693.0  
 after \_\_\_\_\_ Hrs. \_\_\_\_\_

ILDOT\_BORING 74430.GPJ IDOT.GDT 1/21/10

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test  
 Stations, Depths, Offset, and Elevations are in Feet

10



BENCHMARK  
 GROUND SURFACE ELEVATIONS AT THE BORING LOCATIONS  
 WERE INTERPOLATED FROM TOPOGRAPHIC SURVEY, BEING  
 ROUNDED TO THE NEAREST 0.5 FOOT.

**LEGEND**  
 ● SOIL BORING LOCATION  
 ● CORE LOCATION

**BORING LOCATION PLAN**  
 PROPOSED BRIDGE REPLACEMENT  
 WILLIAMS ROAD AT WEST BRANCH OF DUPAGE RIVER  
 WARRENVILLE, ILLINOIS

**TSC** TESTING SERVICE CORPORATION  
 457 EAST GUNDERSEN DRIVE  
 CARL Stream, ILLINOIS 60188

DRAWN BY: TRP	PAGE NO.
CHECKED BY: MVM	1 OF 1
JOB NO. : L-74,430	
DATE: 01-20-10	

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Local Office  
February 14, 2012



**TESTING SERVICE CORPORATION**

*Local Office:*

457 E. Gundersen Drive, Carol Stream, IL 60188-2492  
630.653.3920 • Fax 630.653.2726

*Corporate Office:*

360 S. Main Place, Carol Stream, IL 60188-2404  
630.462.2600 • Fax 630.653.2988

Mr. James Lenzini  
Engineering Enterprises, Inc.  
52 Wheeler Road  
Sugar Grove, Illinois 60554

RE: L-78,019  
Proposed Lift Station  
Williams Road  
Warrenville, Illinois

Dear Mr. Lenzini:

This report presents results of a soils exploration performed for a proposed lift station in Warrenville, Illinois. These geotechnical services have been provided in accordance with TSC Proposal No. 47,092 dated May 20, 2011 and the attached General Conditions, incorporated herein by reference.

The project site is located on the east side of Williams Road just south of Morris Court. It lies about 500 feet north of the West Branch of the DuPage River. The lift station will consist of two (2) below-grade manhole/vault type structures and an at grade slab to support a generator and its enclosure. It is also understood that the lift station top of slab has been set at approximate Elevation 699.8, with the manhole/vault type structures extending up to 15 feet below the top of slab.

Field Investigation and Laboratory Testing

One boring (B-101) was performed as part of this study. The boring location was staked by TSC at the approximate location selected by Engineering Enterprises, Inc. The ground surface elevation at the boring location was interpolated from the topographic survey provided, being rounded to the nearest 0.5 foot. Reference is made to the attached Boring Location Plan.

Boring 101 was extended 25 feet below existing grade. It was drilled and samples tested according to currently recommended American Society for Testing and Materials specifications. Soil sampling was performed at 2½-foot intervals in conjunction with the Standard Penetration Test (SPT), for which driving resistance to a 2" split-spoon sampler (N-value in blows per foot) provides an indication of the relative density of granular materials and consistency of cohesive soils. Water level readings were taken during and following completion of drilling operations.

All soil samples were examined in the laboratory to verify field descriptions and to classify them in accordance with the Unified Soil Classification System. Laboratory testing included water content determinations for all cohesive soil types. An estimate of unconfined compressive strength was obtained for all inorganic native clay soils using a calibrated pocket penetrometer, with actual measurements of unconfined compressive strength performed on representative samples.

Reference is made to the enclosed boring log which indicates subsurface stratigraphy and soil descriptions, results of field and laboratory tests, as well as water level observations. Definitions of descriptive terminology are also included. While strata changes are shown as a definite line on the boring logs, the actual transition between soil layers will probably be more gradual.

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### Discussion of Test Data

Surficial topsoil was on the order of 13 inches thick at the boring location. A tough native silty clay deposit in a very moist condition was encountered underlying the topsoil layer at the boring location, extending to a depth of 2½ feet below existing grade. A sample of this cohesive soil type exhibited a moderate unconfined compressive strength of about 1.0 tons per square foot (tsf) at a relatively high water content of 30 percent.

Sand and gravel deposits in a firm to very dense condition were then encountered in the borehole, extending to a depth of about 23 feet below existing grade (approximate Elevation 677). These granular materials had SPT N values ranging from 16 to 83 blows per foot. They were in a saturated condition below a depth of approximately 5 feet below existing grade (approximate Elevation 695).

Very tough silty clay soils were found underlying the above described sand and gravel materials, extending to the bottom of the borehole at 25 feet below existing grade. A sample of these deeper native clay soils exhibited an unconfined compressive strength of about 2.0 tsf at a water content of 14 percent.

Free water was initially encountered while drilling and sampling in the boring at a depth of 5½ feet below existing grade. Upon completion of drilling operations, the water level rose approximately ½ foot above the initial reading, i.e. to approximate Elevation 695.

### Analysis and Recommendations

Boring 101 was drilled in the area of the proposed lift station. As previously discussed, the lift station will consist of two (2) below-grade manhole/vault type structures and an at grade slab to support a generator and its enclosure. The lift station top of slab has been set at approximate Elevation 699.8. The manhole/vault type structures will extend up to about 15 feet below the top of slab, i.e. to as deep as approximate Elevation 685. Very dense to dense sand and gravel materials were encountered at this elevation at the boring location. These granular materials are considered capable of supporting a net allowable bearing pressure of 5000 pounds per square foot (psf). The 5000 bearing value is considered suitable for lift station construction.

The biggest concern will be that the excavation for the lift station manhole/vault type structures will extend approximately 10 feet into saturated sand and gravel materials. Therefore, a "tight" excavation support system, preconstruction dewatering procedures or a combination thereof will be required for the construction of the proposed lift station.

Groundwater was encountered at a depth of about 5 feet below the existing grade (approximate Elevation 695) at the boring location. With the lift station extending as deep as approximate Elevation 685, it is recommended that the lift station be designed to resist hydrostatic uplift pressures. It should be noted that changes in the groundwater level may occur due to seasonal variation in rainfall, fluctuations in nearby stream levels and other localized conditions. To account for a potential rise in the groundwater level during wet periods of the year, it is recommended that the design water table be taken at Elevation 698.

Lateral earth pressures for permanent underground structures will be dependent on the type of backfill used and the groundwater levels. Equivalent fluid pressures are given for cohesive and granular



backfills, assuming "at-rest" ( $K_0$ ) earth pressures. The values shown represent the increase in lateral pressure over a 1.0 foot distance measured in pounds per square foot (psf/ft).

<u>BACKFILL TYPE</u>	<u>EQUIVALENT FLUID PRESSURE (PSF/FT)</u>	
	<u>ABOVE WATER TABLE</u>	<u>BELOW WATER TABLE</u>
Granular	50	90
Cohesive	65	100

All excavations should comply with the requirements of OSHA 29CFR, Part 1926, Subpart P, "Excavations" and its appendices as well as any other applicable codes. This document states that excavation safety is the responsibility of the Contractor. Reference to this OSHA requirement should be included in the job specifications.

In connection with slab-on-grade support, it is recommended that the topsoil layer and high moisture content native clay soils that extended to a depth of 2½ feet at the boring location be removed below the floor slab. New fill to reach proposed subgrade level may consist of approved granular materials or inorganic silty clays of low to medium plasticity. It is recommended that compaction be to a minimum of 95 percent of maximum dry density as determined by the Modified Proctor test (ASTM D 1557). The fill should be placed in maximum 9 inch lifts loose measure for cohesive soils and up to 12 inches for granular materials, each lift to be compacted to the specified density prior to the placement of additional fill.

#### Closure

The analysis and recommendations submitted in this report are based upon the data obtained from the one boring performed at the location indicated on the Boring Location Plan. This report does not reflect any variations which may occur elsewhere on the site, the nature and extent of which may not become evident until during the course of construction. If variations are then identified, recommendations contained in this report should be re-evaluated after performing on-site observations.

It has been a pleasure to assist you with this work. Please call if there are any questions or if we may be of further service.

Engineering Enterprises, Inc.  
L-78,019 - February 14, 2012

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Respectfully submitted,

TESTING SERVICE CORPORATION



Alfredo J. Bermudez  
Registered Professional Engineer  
Illinois No. 062-046608



Charles R. DuBose, P.E.  
Vice President

CRD:AJB:ab

Enc.



## TESTING SERVICE CORPORATION

# GENERAL CONDITIONS

## Geotechnical and Construction Services

**1. PARTIES AND SCOPE OF WORK:** If Client is ordering the services on behalf of another, Client represents and warrants that Client is the duly authorized agent of said party for the purpose of ordering and directing said services, and in such case the term "Client" shall also include the principal for whom the services are being performed. Prices quoted and charged by TSC for its services are predicated on the conditions and the allocations of risks and obligations expressed in these General Conditions. Unless otherwise stated in writing, Client assumes sole responsibility for determining whether the quantity and the nature of the services ordered by Client are adequate and sufficient for Client's intended purpose. Unless otherwise expressly assumed in writing, TSC's services are provided exclusively for Client. TSC shall have no duty or obligation other than those duties and obligations expressly set forth in this Agreement. TSC shall have no duty to any third party. Client shall communicate these General Conditions to each and every party to whom the Client transmits any report prepared by TSC. Ordering services from TSC shall constitute acceptance of TSC's proposal and these General Conditions.

**2. SCHEDULING OF SERVICES:** The services set forth in this Agreement will be accomplished in a timely and workmanlike manner. If TSC is required to delay any part of its services to accommodate the requests or requirements of Client, regulatory agencies, or third parties, or due to any cause beyond its reasonable control, Client agrees to pay such additional charges, if any, as may be applicable.

**3. ACCESS TO SITE:** TSC shall take reasonable measures and precautions to minimize damage to the site and any improvements located thereon as a result of its services or the use of its equipment; however, TSC has not included in its fee the cost of restoration of damage which may occur. If Client desires or requires TSC to restore the site to its former condition, TSC will, upon written request, perform such additional work as is necessary to do so and Client agrees to pay to TSC the cost thereof plus TSC's normal markup for overhead and profit.

**4. CLIENT'S DUTY TO NOTIFY ENGINEER:** Client represents and warrants that Client has advised TSC of any known or suspected hazardous materials, utility lines and underground structures at any site at which TSC is to perform services under this agreement.

**5. DISCOVERY OF POLLUTANTS:** TSC's services shall not include investigation for hazardous materials as defined by the Resource Conservation Recovery Act, 42 U.S.C. § 6901, et. seq., as amended ("RCRA") or by any state or Federal statute or regulation. In the event that hazardous materials are discovered and identified by TSC, TSC's sole duty shall be to notify Client.

**6. MONITORING:** If this Agreement includes testing construction materials or observing any aspect of construction of improvements, Client's construction personnel will verify that the pad is properly located and sized to meet Client's projected building loads. Client shall cause all tests and inspections of the site, materials and work to be timely and properly performed in accordance with the plans, specifications, contract documents, and TSC's recommendations. No claims for loss, damage or injury shall be brought against TSC unless all tests and inspections have been so performed and unless TSC's recommendations have been followed.

TSC's services shall not include determining or implementing the means, methods, techniques or procedures of work done by the contractor(s) being monitored or whose work is being tested. TSC's services shall not include the authority to accept or reject work or to in any manner supervise the work of any contractor. TSC's services or failure to perform same shall not in any way operate or excuse any contractor from the performance of its work in accordance

with its contract. "Contractor" as used herein shall include subcontractors, suppliers, architects, engineers and construction managers.

Information obtained from borings, observations and analyses of sample materials shall be reported in formats considered appropriate by TSC unless directed otherwise by Client. Such information is considered evidence, but any inference or conclusion based thereon is, necessarily, an opinion also based on engineering judgment and shall not be construed as a representation of fact. Subsurface conditions may not be uniform throughout an entire site and ground water levels may fluctuate due to climatic and other variations. Construction materials may vary from the samples taken. Unless otherwise agreed in writing, the procedures employed by TSC are not designed to detect intentional concealment or misrepresentation of facts by others.

**7. DOCUMENTS AND SAMPLES:** Client is granted an exclusive license to use findings and reports prepared and issued by TSC and any sub-consultants pursuant to this Agreement for the purpose set forth in TSC's proposal provided that TSC has received payment in full for its services. TSC and, if applicable, its sub-consultant, retain all copyright and ownership interests in the reports, boring logs, maps, field data, field notes, laboratory test data and similar documents, and the ownership and freedom to use all data generated by it for any purpose. Unless otherwise agreed in writing, test specimens or samples will be disposed immediately upon completion of the test. All drilling samples or specimens will be disposed sixty (60) days after submission of TSC's report.

**8. TERMINATION:** TSC's obligation to provide services may be terminated by either party upon (7) seven days prior written notice. In the event of termination of TSC's services, TSC shall be compensated by Client for all services performed up to and including the termination date, including reimbursable expenses. The terms and conditions of these General Conditions shall survive the termination of TSC's obligation to provide services.

**9. PAYMENT:** Client shall be invoiced periodically for services performed. Client agrees to pay each invoice within thirty (30) days of its receipt. Client further agrees to pay interest on all amounts invoiced and not paid or objected to in writing for valid cause within sixty (60) days at the rate of twelve (12%) per annum (or the maximum interest rate permitted by applicable law, whichever is the lesser) until paid and TSC's costs of collection of such accounts, including court costs and reasonable attorney's fees.

**10. WARRANTY:** TSC's professional services will be performed, its findings obtained and its reports prepared in accordance with these General Conditions and with generally accepted principles and practices. In performing its professional services, TSC will use that degree of care and skill ordinarily exercised under similar circumstances by members of its profession. In performing physical work in pursuit of its professional services, TSC will use that degree of care and skill ordinarily used under similar circumstances. This warranty is in lieu of all other warranties or representations, either express or implied. Statements made in TSC reports are opinions based upon engineering judgment and are not to be construed as representations of fact.

Should TSC or any of its employees be found to have been negligent in performing professional services or to have made and breached any express or implied warranty, representation or contract, Client, all parties claiming through Client and all parties claiming to have in any way relied upon TSC's services or work agree that the maximum aggregate amount of damages for which TSC, its officers, employees and agents shall be liable is limited to \$50,000 or the total amount of the fee paid to TSC for its services performed with respect to the project, whichever amount is greater.

In the event Client is unwilling or unable to limit the damages for which TSC may be liable in accordance with the provisions set forth in the preceding paragraph, upon written request of Client received within five days of Client's acceptance of TSC's proposal together with payment of an additional fee in the amount of 5% of TSC's estimated cost for its services (to be adjusted to 5% of the amount actually billed by TSC for its services on the project at time of completion), the limit on damages shall be increased to \$500,000 or the amount of TSC's fee, whichever is the greater. This charge is not to be construed as being a charge for insurance of any type, but is increased consideration for the exposure to an award of greater damages.

**11. INDEMNITY:** Subject to the provisions set forth herein, TSC and Client hereby agree to indemnify and hold harmless each other and their respective shareholders, directors, officers, partners, employees, agents, subsidiaries and division (and each of their heirs, successors, and assigns) from any and all claims, demands, liabilities, suits, causes of action, judgments, costs and expenses, including reasonable attorneys' fees, arising, or allegedly arising, from personal injury, including death, property damage, including loss of use thereof, due in any manner to the negligence of either of them or their agents or employees or independent contractors. In the event both TSC and Client are found to be negligent or at fault, then any liability shall be apportioned between them pursuant to their pro rata share of negligence or fault. TSC and Client further agree that their liability to any third party shall, to the extent permitted by law, be several and not joint. The liability of TSC under this provision shall not exceed the policy limits of insurance carried by TSC. Neither TSC nor Client shall be bound under this indemnity agreement to liability determined in a proceeding in which it did not participate represented by its own independent counsel. The indemnities provided hereunder shall not terminate upon the termination or expiration of this Agreement, but may be modified to the extent of any waiver of subrogation agreed to by TSC and paid for by Client.

**12. SUBPOENAS:** TSC's employees shall not be retained as expert witnesses except by separate, written agreement. Client agrees to pay TSC pursuant to TSC's then current fee schedule for any TSC employee(s) subpoenaed by any party as an occurrence witness as a result of TSC's services.

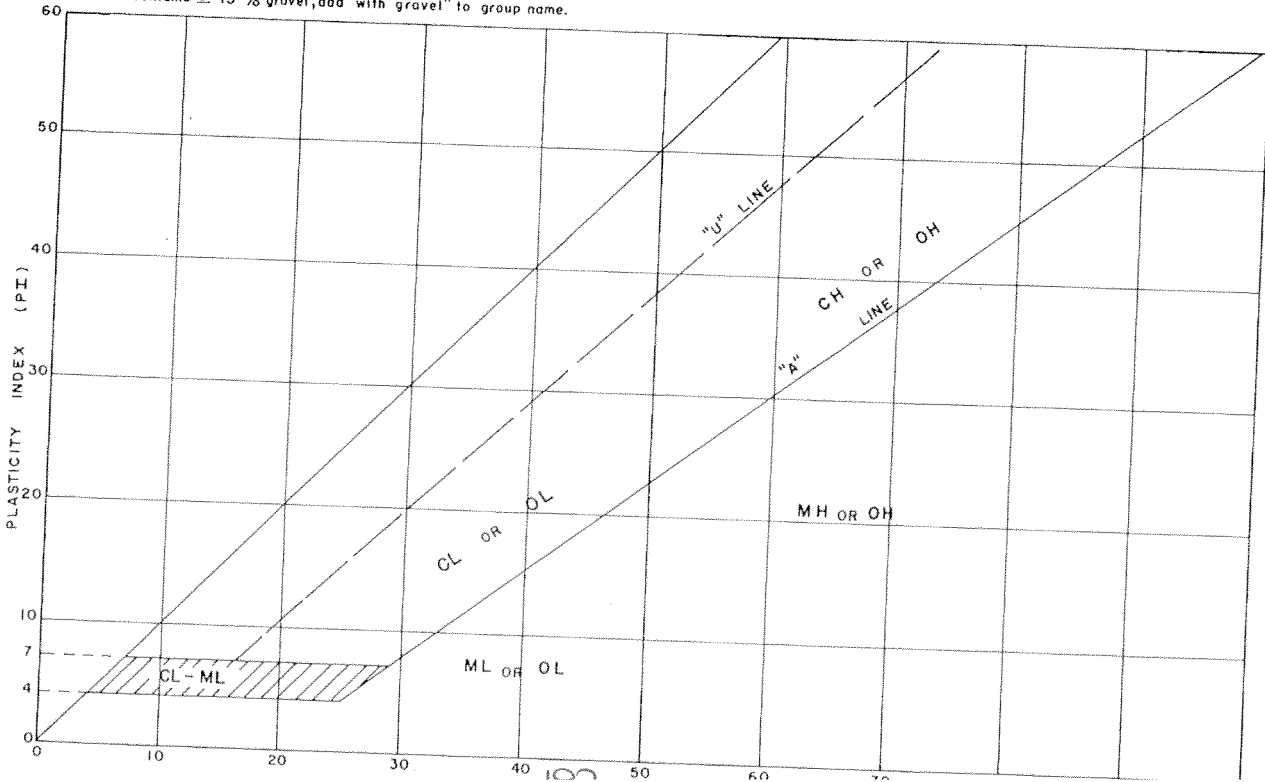
**13. OTHER AGREEMENTS:** TSC shall not be bound by any provision or agreement (i) requiring or providing for arbitration of disputes or controversies arising out of this Agreement or its performance, (ii) wherein TSC waives any rights to a mechanics lien or surety bond claim; (iii) that conditions TSC's right to receive payment for its services upon payment to Client by any third party or (iv) that requires TSC to indemnify any party beyond its own negligence. These General Conditions are notice, where required, that TSC shall file a lien whenever necessary to collect past due amounts. This Agreement contains the entire understanding between the parties. Unless expressly accepted by TSC in writing prior to delivery of TSC's services, Client shall not add any conditions or impose conditions which are in conflict with those contained herein, and no such additional or conflicting terms shall be binding upon TSC. The unenforceability or invalidity of any provision or provisions shall not render any other provision or provisions unenforceable or invalid. This Agreement shall be construed and enforced in accordance with the laws of the State of Illinois. In the event of a dispute arising out of or relating to the performance of this Agreement, the breach thereof or TSC's services, the parties agree to try in good faith to settle the dispute by mediation under the Construction Industry Mediation Rules of the American Arbitration Association as a condition precedent to filing any demand for arbitration, or any petition or complaint with any court. Paragraph headings are for convenience only and shall not be construed as limiting the meaning of the provisions contained in these General Conditions.

**TESTING SERVICE CORPORATION  
UNIFIED CLASSIFICATION CHART**

CRITERIA FOR ASSIGNING GROUP SYMBOLS AND GROUP NAMES USING LABORATORY TESTS <sup>a</sup>				SOIL CLASSIFICATION	
				GROUP SYMBOL	GROUP NAME <sup>b</sup>
COARSE-GRAINED SOILS more than 50% retained on No. 200 sieve	GRAVELS More than 50% of coarse fraction retained on No. 4 sieve	CLEAN GRAVELS Less than 5% fines <sup>c</sup>	$C_u \geq 4$ and $1 \leq C_c \leq 3$ <sup>e</sup>	GW	Well graded gravel <sup>f</sup>
			$C_u < 4$ and/or $1 > C_c > 3$ <sup>e</sup>	GP	Poorly graded gravel <sup>f</sup>
		GRAVELS WITH FINES More than 12% fines <sup>c</sup>	Fines classify as ML or MH	GM	Silty gravel <sup>f,g,h</sup>
			Fines classify as CL or CH	GC	Clayey gravel <sup>f,g,h</sup>
	SANDS 50% or more of coarse fraction passes No. 4 sieve	CLEAN SANDS Less than 5% fines <sup>d</sup>	$C_u \geq 6$ and $1 \leq C_c \leq 3$ <sup>e</sup>	SW	Well-graded sand <sup>i</sup>
			$C_u < 6$ and/or $1 > C_c > 3$ <sup>e</sup>	SP	Poorly graded sand <sup>i</sup>
		SANDS WITH FINES More than 12% fines <sup>d</sup>	Fines classify as ML or MH	SM	Silty sand <sup>g,h,f</sup>
			Fines classify as CL or CH	SC	Clayey sand <sup>g,h,f</sup>
FINE-GRAINED SOILS 50% or more passed the No. 200 sieve	SILTS & CLAYS Liquid limit less than 50%	Inorganic	$PI > 7$ and plots on or above "A" line <sup>j</sup>	CL	Lean clay <sup>k,l,m</sup>
			$PI < 4$ or plots below "A" line <sup>j</sup>	ML	Silt <sup>k,l,m</sup>
	SILTS & CLAYS Liquid limit 50% or more	Inorganic	$\frac{\text{Liquid limit} - \text{oven dried}}{\text{Liquid limit} - \text{not dried}} < 0.75$	OL	Organic clay <sup>k,l,m,n</sup> Organic silt <sup>k,l,m,o</sup>
			$PI$ plots on or above "A" line	CH	Fat clay <sup>k,l,m</sup>
	SILTS & CLAYS Liquid limit 50% or more	Organic	$PI$ plots below "A" line	MH	Elastic silt <sup>k,l,m</sup>
			$\frac{\text{Liquid limit} - \text{oven dried}}{\text{Liquid limit} - \text{not dried}} < 0.75$	OH	Organic clay <sup>k,l,m,p</sup> Organic silt <sup>k,l,m,q</sup>
Highly organic soils	Primarily organic matter, dark in color, and organic odor			PT	Peat

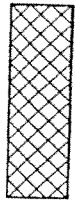
- a. Based on the material passing the 3-in (75-mm) sieve.
- b. If field sample contained cobbles and/or boulders, add "with cobbles and/or boulders" to group name.
- c. Gravels with 5 to 12% fines require dual symbols  
 GW-GM well graded gravel with silt  
 GW-GC well graded gravel with clay  
 GP-GM poorly graded gravel with silt  
 GP-GC poorly graded gravel with clay
- d. Sands with 5% to 12% fines require dual symbols  
 SW-SM well graded sand with silt  
 SW-SC well graded sand with clay  
 SP-SM poorly graded sand with silt  
 SP-SC poorly graded sand with clay
- e.  $C_u = D_{60}/D_{10}$      $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$
- f. If soil contains  $\geq 15\%$  sand, add "with sand" to group name.
- g. If fines classify as CL-ML, use dual symbol GC-GM, SC-SM.
- h. If fines are organic, add "with organic fines" to group name.
- i. If soil contains  $\geq 15\%$  gravel, add "with gravel" to group name.

- j. If Atterberg Limits plot in hatched area, soil is a CL-ML, silty clay.
- k. If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel" whichever is predominant.
- l. If soil contains  $\geq 30\%$  plus No. 200, predominantly sand, add "sandy" to group name.
- m. If soil contains  $\geq 30\%$  plus No. 200, predominantly gravel, add "gravelly" to group name.
- n.  $PI \geq 4$  and plots on or above "A" line.
- o.  $PI \geq 4$  or plots below "A" line.
- p.  $PI$  plots on or above "A" line.
- q.  $PI$  plots below "A" line.



# TESTING SERVICE CORPORATION

## LEGEND FOR BORING LOGS



FILL



TOPSOIL



PEAT



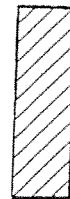
GRAVEL



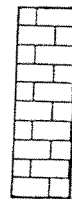
SAND



SILT



CLAY



DOLOMITE

### SAMPLE TYPE:

- SS = Split Spoon
- ST = Thin-Walled Tube
- A = Auger

### FIELD AND LABORATORY TEST DATA:

- N = Standard Penetration Resistance in Blows per Foot
- Wc = In-Situ Water Content
- Qu = Unconfined Compressive Strength in Tons per Square Foot
  - \* Pocket Penetrometer Measurement; Maximum Reading = 4.5 tsf
- $\gamma_D$  = Dry Unit Weight in Pounds per Cubic Foot

### WATER LEVELS:

- ▼ While Drilling
- ▽ End of Boring
- ▼ 24 Hours

### SOIL DESCRIPTION:

#### MATERIAL

BOULDER  
 COBBLE  
 Coarse GRAVEL  
 Small GRAVEL  
 Coarse SAND  
 Medium SAND  
 Fine SAND  
 SILT and CLAY

#### PARTICLE SIZE RANGE

Over 12 inches  
 12 inches to 3 inches  
 3 inches to ¾ inch  
 ¾ inch to No. 4 Sieve  
 No. 4 Sieve to No. 10 Sieve  
 No. 10 Sieve to No. 40 Sieve  
 No. 40 Sieve to No. 200 Sieve  
 Passing No. 200 Sieve

#### COHESIVE SOILS

<u>CONSISTENCY</u>	<u>Qu</u>
Very Soft	Less than 0.3
Soft	0.3 to 0.6
Stiff	0.6 to 1.0
Tough	1.0 to 2.0
Very Tough	2.0 to 4.0
Hard	4.0 and over

#### COHESIONLESS SOILS

<u>RELATIVE DENSITY</u>	<u>N</u>
Very Loose	0 - 4
Loose	4 - 10
Firm	10 - 30
Dense	30 - 50
Very Dense	50 and over

#### MODIFYING TERM

Trace  
 Little  
 Some

#### PERCENT BY WEIGHT

1 - 10  
 10 - 20  
 20 - 35

PROJECT **Williams Road Lift Station, Warrenville, Illinois**

CLIENT **Engineering Enterprises, Inc., Sugar Grove, Illinois**



BORING **101** DATE STARTED **2-7-12** DATE COMPLETED **2-7-12** JOB **L-78,019**

ELEVATIONS  
 GROUND SURFACE **700.0**  
 END OF BORING **675.0**

WATER LEVEL OBSERVATIONS  
 ▽ WHILE DRILLING **5.5'**  
 ▽ AT END OF BORING **5.0'**  
 ▽ 24 HOURS

DISTANCE BELOW SURFACE IN FEET	LENGTH RECOVERY	SAMPLE		N	WC	Qu	γ <sub>DRY</sub>	DEPTH	ELEV.	SOIL DESCRIPTIONS
		NO.	TYPE							
0										FILL - Black clayey TOPSOIL (OL)
1.1		1	SS	13	30.0	1.09 1.0*			698.9	Tough brown silty CLAY, trace sand and gravel, trace organic, very moist (CL)
2.5									697.5	
5.5		2	SS	20					694.5	Firm brown SAND and GRAVEL, moist (SP/GP)
		3	SS	16						
		4	SS	16						Firm brown SAND and GRAVEL, saturated (SP/GP)
		5	SS	19						
		6	SS	83				13.0	687.0	
		7	SS	57						
		8	SS	42						Very dense to dense brown to brownish-gray SAND and GRAVEL, occasional Cobbles, saturated (SP/GP)
		9	SS	37						* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.
										SPT Hammer = Rope and Cathead
23.0									677.0	
		10	SS	34	13.7	2.15 2.0*				Very tough gray silty CLAY, some sand, trace gravel, moist (CL)

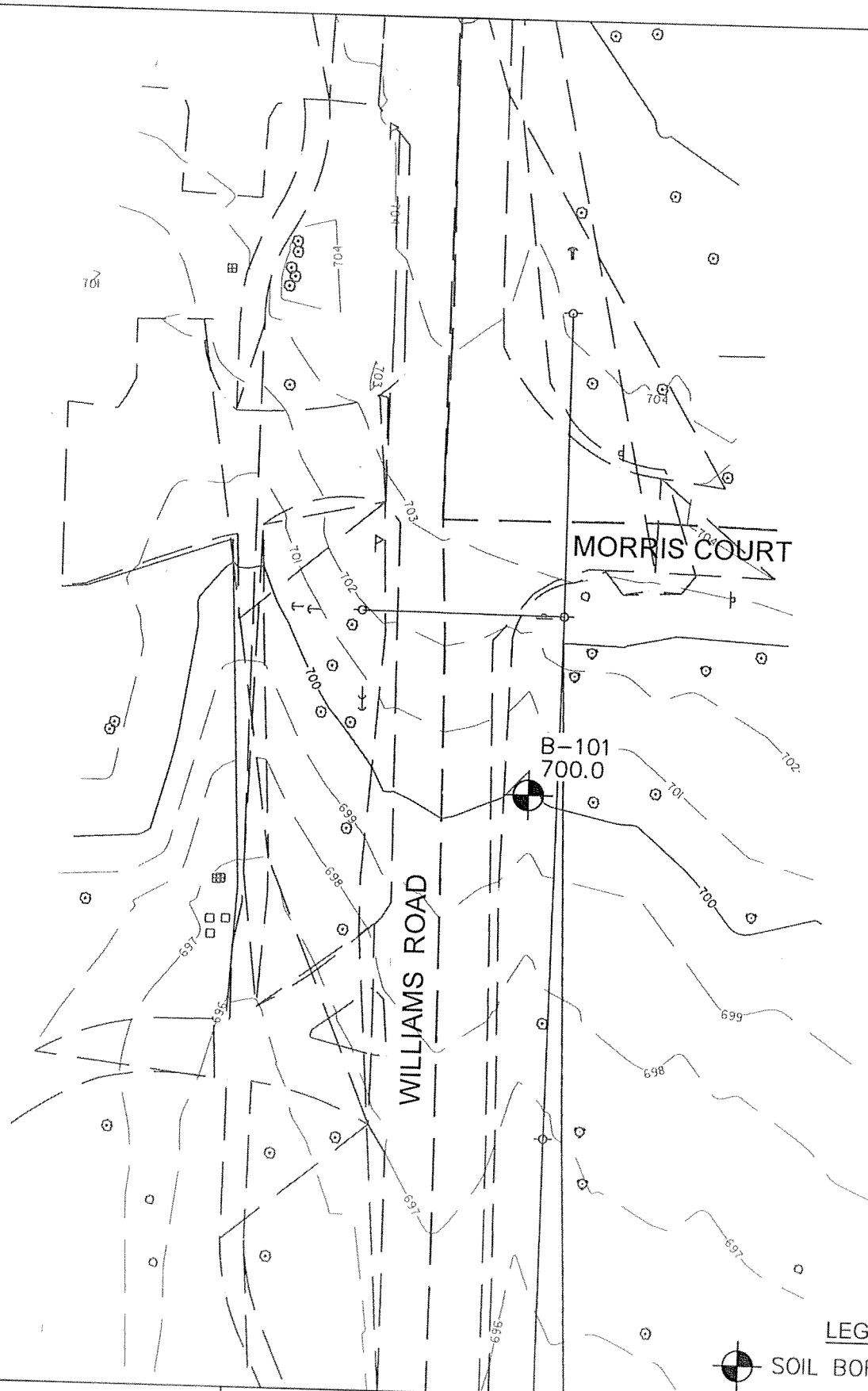
TSC 78019.GPJ TSC\_ALL.GDT 2/14/12


DRILL RIG NO. **292**

Division lines between deposits represent approximate boundaries between soil layers. 195

N

SCALE 1" = 30'



**LEGEND**  
 SOIL BORING LOCATION

**BORING LOCATION PLAN**  
**PROPOSED LIFT STATION**  
**WILLIAMS ROAD**  
**WARRENVILLE, ILLINOIS**



**TESTING SERVICE CORP.**  
 457 EAST GUNDERSEN DRIVE  
 CAROL STREAM, ILLINOIS 60188

**DRAWN BY:** TRP  
**CHECKED BY:** AJB  
**JOB NO. :** L-78,019  
**DATE:** 02-14-12

**PAGE NO.**  
 1 OF 1

191

## CONCRETE WEARING SURFACE

Effective: June 23, 1994

Revised: February 6, 2013

### Description.

This work consists of placing a concrete wearing surface, to the specified thickness, on precast concrete deck beams. Included in this work is cleaning and preparing the concrete deck beam surface prior to placement of the concrete wearing surface. This work shall be according to the applicable articles of Section 503 and the following.

### Materials.

The concrete wearing surface shall be class BS concrete, except as follows, when Steel Bridge Rail is used in conjunction with concrete wearing surface, the 14 day mix design shall be replaced by a 28 day mix design with a compressive strength of 5000 psi (34,500 kPa) and a design flexural strength of 800 psi (5,500 kPa).

Equipment: The equipment used shall be subject to the approval of the Engineer and shall meet the following requirements:

- (a) Surface Preparation Equipment. Surface preparation equipment shall be according to the applicable portions of Section 1100 and the following:
  - (1) Mechanical Blast Cleaning Equipment. Mechanical blast cleaning may be performed by high-pressure waterblasting or shotblasting. Mechanical blast cleaning equipment shall be capable of removing concrete laitance from the top surface of the deck beams.

Mechanical high-pressure waterblasting equipment shall be mounted on a wheeled carriage and shall include multiple nozzles mounted on a rotating assembly, and shall be operated with a 7000 psi (48 MPa) minimum water pressure. The distance between the nozzles and the deck surface shall be kept constant and the wheels shall maintain contact with the deck beam surface during operation.

- (2) Hand-Held Blast Cleaning Equipment. Blast cleaning using hand-held equipment may be performed by high-pressure waterblasting or abrasive blasting. Hand-held blast cleaning equipment shall have oil traps.

Hand-held high-pressure waterblasting equipment that is used in areas inaccessible to mechanical blast cleaning equipment shall have a minimum water pressure of 7000 psi (48 MPa).

- (3) Vacuum Cleanup Equipment. The equipment shall be equipped with fugitive dust control devices capable of removing wet debris and water all in the same pass. Vacuum equipment shall also be capable of washing the deck with pressurized water prior to the vacuum operation to dislodge all debris and slurry from the deck surface.



- (b) Pull-off Test Equipment. Equipment used to perform pull-off testing shall be either approved by the Engineer, or obtained from one of the following approved sources:

James Equipment  
007 Bond Tester  
800-426-6500

Germann Instruments, Inc.  
BOND-TEST Pull-off System  
847-329-9999

SDS Company  
DYNA Pull-off Tester  
805-238-3229

Pull-off test equipment shall include all miscellaneous equipment and materials to perform the test and clean the equipment, as indicated in the Illinois Test procedure 304 and 305 "Pull-off Test (Surface or Overlay Method)". Prior to the start of testing, the Contractor shall submit to the Engineer a technical data sheet and material safety data sheet for the epoxy used to perform the testing. For solvents used to clean the equipment, a material safety data sheet shall be submitted.

- (c) Concrete Equipment: Equipment for proportioning and mixing the concrete shall be according to Article 1020.03.
- (d) Finishing Equipment. Finishing equipment shall be according to Article 503.03.
- (e) Mechanical Fogging Equipment. Mechanical fogging equipment shall be according to 503.03.

#### Surface Preparation.

Prior to placement of the concrete wearing surface, the top surface of the bridge deck beams shall be clean and free of all foreign material and laitance.

Blast cleaning may be performed by either wet sandblasting, high pressure waterblasting, steel shot blasting, shrouded dry sandblasting, dry sandblasting with dust collectors, or other methods approved by the Engineer. Oil traps on blast equipment will be required.

The method used shall be performed so as to conform with air and water pollution regulations of Illinois and also to conform to applicable safety and health regulations. Any method which does not consistently produce satisfactory work and does not conform to the above requirements shall be discontinued and replaced by an acceptable method.

All debris of every type, including dirty water, resulting from the cleaning operation shall be reasonably confined during the performance of the cleaning work and shall be immediately and thoroughly removed from the cleaned surfaces and all other areas where debris may have accumulated.

Prior to placement of the concrete wearing surface, the Engineer will inspect the cleaned surface, all areas still contaminated shall be cleaned again at the Contractor's expense.

After the surface preparation has been completed and before placement of the overlay, the prepared surface will be tested by the Engineer according to the Illinois Test Procedure 304 "Pull-off Test (Surface Method)". The Contractor shall provide the test equipment.

- a. Start-up Testing. Prior to the first overlay placement, the Engineer will evaluate the blast cleaning method. The start-up area shall be a minimum of 600 sq. ft. (56 sq. m). After the area has been prepared, six random test locations will be determined by the Engineer, and tested according to the Illinois Test Procedure 304 "Pull-off Test (Surface Method)".

The average of the six tests shall be a minimum of 175 psi (1,207 kPa) and each individual test shall have a minimum strength of 160 psi (1,103 kPa). If the criteria are not met, the Contractor shall adjust the blast cleaning method. Start-up testing will be repeated until satisfactory results are attained.

Once an acceptable surface preparation method is established, it shall be continued for the balance of the work. The Contractor may, with the permission of the Engineer, change the surface preparation method, in which case, additional start-up testing will be required.

- b. Lot Testing. After start-up testing has been completed, the following testing frequency will be used. For each structure, each stage will be divided into lots of not more than 4500 sq. ft. (420 sq. m). Three random test locations will be determined by the Engineer for each lot, and tested according to the Illinois Test procedure 304 "Pull-off Test (Surface Method)".

The average of the three tests shall be a minimum of 175 psi (1,207 kPa) and each individual test shall have a minimum strength of 160 psi (1,103 kPa). In the case of a failing individual test or a failing average of three tests, the Engineer will determine the area that requires additional surface preparation by the Contractor. Additional test locations will be determined by the Engineer.

#### Wearing Surface Placement.

The concrete wearing surface placement shall be according to Article 503.16 of the Standard Specifications. Dry sandblast cleaned areas to receive the overlay shall be either thoroughly or continuously wetted with water at least one hour before placement of the concrete wearing surface is started. When the surface is pre-wetted any accumulations of water shall be dispersed or removed prior to placement of the concrete wearing surface.

Plans for anchoring support rails and the mixture-placing procedure shall be submitted to the Engineer for approval.

#### Curing and Protection.

The concrete shall be continuously wet cured for at least 14 days according to Article 1020.13(a)(5). However, if the minimum specified compressive strength or flexural strength is

obtained prior to 14 days, the cure time may be reduced, but at no time shall the wet cure be less than 7 days. The concrete shall be protected from low air temperatures according to Article 1020.13(d)(1)(2), except the protection method shall remain in place for the entire curing period.

Opening to Traffic.

The concrete wearing surface without Steel Bridge Rail attached may be opened to traffic when test specimens have obtained a minimum compressive strength of 4000 psi (27,500 kPa) or a minimum flexural strength of 675 psi (4650 kPa), but not prior to the completion of the wet cure. When Steel Bridge Rail is utilized, the concrete wearing surface may be opened when test specimens have obtained a minimum compressive strength of 5000 psi (34,500 kPa) or a minimum flexural strength of 800 psi (5500 kPa), but not prior to the completion of the wet cure.

Method of Measurement.

Concrete wearing surface will be measured for payment in place and the area computed in square yards (square meters).

Basis of Payment.

This work including cleaning and surface preparation will be paid for at the contract unit price per square yard (square meter) for CONCRETE WEARING SURFACE, of the thickness specified.

## **PIPE UNDERDRAINS FOR STRUCTURES**

Effective: May 17, 2000

Revised: January 22, 2010

Description. This work shall consist of furnishing and installing a pipe underdrain system as shown on the plans, as specified herein, and as directed by the Engineer.

Materials. Materials shall meet the requirements as set forth below:

The perforated pipe underdrain shall be according to Article 601.02 of the Standard Specifications. Outlet pipes or pipes connecting to a separate storm sewer system shall not be perforated.

The drainage aggregate shall be a combination of one or more of the following gradations, FA1, FA2, CA5, CA7, CA8, CA11, or CA13 thru 16, according to Sections 1003 and 1004 of the Standard Specifications.

The fabric surrounding the drainage aggregate shall be Geotechnical Fabric for French Drains according to Article 1080.05 of the Standard Specifications.

Construction Requirements. All work shall be according to the applicable requirements of Section 601 of the Standard Specifications except as modified below.

The pipe underdrains shall consist of a perforated pipe drain situated at the bottom of an area of drainage aggregate wrapped completely in geotechnical fabric and shall be installed to the lines and gradients as shown on the plans.

Method of Measurement. Pipe Underdrains for Structures shall be measured for payment in feet (meters), in place. Measurement shall be along the centerline of the pipe underdrains. All connectors, outlet pipes, elbows, and all other miscellaneous items shall be included in the measurement. Concrete headwalls shall be included in the cost of Pipe Underdrains for Structures, but shall not be included in the measurement for payment.

Basis of Payment. This work will be paid for at the contract unit price per foot (meter) for PIPE UNDERDRAINS FOR STRUCTURES of the diameter specified. Furnishing and installation of the drainage aggregate, geotechnical fabric, forming holes in structural elements and any excavation required, will not be paid for separately, but shall be included in the cost of the pipe underdrains for structures.

## CONCRETE DECK BEAMS

Effective: June 13, 2008

Revised: October 9, 2009

Add the following equipment to Article 504.03.

(c) Mechanical Mixer (Note 1)

1101.19

Note 1: A drill with paddle may be used for mixing small quantities of nonshrink grout. Hand mixing will not be allowed.

Replace the second sentence of the fifth paragraph of Article 504.06(d) with the following.

Dowels at the fixed ends of the deck beams shall be installed, nonshrink grout placed and cured for a minimum of 24 hours. If the bearing area is specified to be grouted it shall be done at the time of dowel placement.

Replace the fourth paragraph of Article 504.06(e) with the following.

A mechanical mixer shall be used to mix the nonshrink grout and the type of mixer and mixing procedures shall be per the manufacturer's recommendations. During placement, the grout shall be worked into the area with a pencil vibrator. The surface shall be troweled to a smooth finish. The nonshrink grout shall be immediately cured with cotton mats according to Article 1020.13 for a minimum of seven days, and field testing will not be required. However, the cure time may be reduced provided the Contractor molds specimens, covers them, and performs cube tests according to ASTM C 1107. The tests shall verify the 6000 psi grout strength has been obtained, but in no case shall the cure time be less than three days.

For Contractor cube tests, each sample shall consist of three test specimens and a minimum of two samples will be required for each day of grouting. Additional samples may be requested by the Engineer. Specimens shall be cured underneath the cotton mats with the beams for a minimum of 48 hours before transport to the laboratory for testing. The laboratory shall be inspected for Hydraulic Cement – Physical Tests by the Cement and Concrete Reference Laboratory (CCRL).

Add the following paragraph to the end of Article 504.06

(f) Construction Inserts. All inserts, including those necessary for the fabrication and construction of the structure or portions thereof shall be cast into the member according to Article 3.5.2 of the Manual for Fabrication of Precast Prestressed Concrete Products.

Replace 1006.06(a) and (b) with the following.

- (a) Transverse Tie Rod Assemblies. Steel for transverse tie rod assemblies (i.e. rods, nuts, washers and coupling nuts) shall be according to ASTM F 1554 Grade 55 (Grade 380). After fabrication, the transverse tie assemblies shall be hot-dipped galvanized according to AASHTO M 232. The small articles may be zinc-coated by the mechanically deposited process according to AASHTO M 298, Class 50. The thickness of the mechanical galvanizing shall not exceed 6 mils (150  $\mu$ m).
- (b) Dowel Rods. Steel for dowel rods shall be according to ASTM F 1554 Grade 55 (Grade 380) or A706 Grade 60. Dowel rods shall be either epoxy coated according to AASHTO M 284 or galvanized according to AASHTO M 111.

Add the following Article to Section 1101.

1101.19 Mechanical Mixer. The mechanical mixer shall have paddles or blades that are suitable for uniformly mixing the material, and shall have sufficient capacity to allow for a continuous work operation.

## COFFERDAMS

Effective: October 15, 2011

Replace Article 502.06 with the following.

**502.06 Cofferdams.** A Cofferdam shall be defined as a temporary structure, consisting of engineered components, designed to isolate the work area from water to enable construction under dry conditions based on either the Estimated Water Surface Elevation (EWSE) or Cofferdam Design Water Elevation (CDWE) shown on the contract plans as specified below. When cofferdams are not specified in the contract documents and conditions are encountered where the excavation for the structure cannot be kept free of water for prosecuting the work by pumping and/or diverting water, the Contractor, with the written permission of the Engineer, will be permitted to construct a cofferdam.

The Contractor shall submit a cofferdam plan for each cofferdam to the Engineer for approval prior to the start of construction. Cofferdams shall not be installed or removed without the Engineer's approval. Work shall not be performed in flowing water except for the installation and removal of the cofferdam. The cofferdam plan shall address the following:

- (a) Cofferdam (Type 1). The Contractor shall submit a cofferdam plan which addresses the proposed methods of construction and removal; the construction sequence including staging; dewatering methods; erosion and sediment control measures; disposal of excavated material; effluent water control measures; backfilling; and the best management practices to prevent reintroduction of excavated material into the aquatic environment. The design and method of construction shall provide, within the measurement limits specified in Article 502.12, necessary clearance for forms, inspection of exterior of the forms, pumping, and protection of fresh concrete from water. For Type 1 cofferdams, it is anticipated the design will be based on the EWSE shown on the contract plans. The Contractor shall assume all liability, financial or otherwise for a Type 1 cofferdam designed for an elevation lower than the EWSE.
- (b) Cofferdam (Type 2). In addition to the requirements of Article 502.06(a), the Contractor's submittal shall include detailed drawings and design calculations, prepared and sealed by an Illinois Licensed Structural Engineer. For Type 2 cofferdams it is anticipated the design will be based on the CDWE shown on the contract plans. The Contractor shall assume all liability, financial or otherwise for a Type 2 cofferdam designed for an elevation lower than the CDWE.
- (c) Seal Coat. The seal coat concrete, when shown on the plans, is based on design assumptions in order to establish an estimated quantity. When seal coat is indeed utilized, it shall be considered an integral part of the overall cofferdam system and, therefore, its design shall be included in the overall cofferdam design submittal. If a seal coat was not specified but determined to be necessary, it shall be added to the contract by written permission of the Engineer. The seal coat concrete shall be constructed according to Article

503.14. After the excavation within the cofferdam has been completed and the piles have been driven (if applicable), and prior to placing the seal coat, the elevation of the bottom of the proposed seal coat shall be verified by soundings. The equipment and methods used to conduct the soundings shall meet the approval of the Engineer. Any material within the cofferdam above the approved bottom of the seal coat elevation shall be removed.

No component of the cofferdam shall extend into the substructure concrete or remain in place without written permission of the Engineer. Removal shall be according to the previously approved procedure. Unless otherwise approved in writing by the Engineer, all components of the cofferdam shall be removed.

Revise the first paragraph of 502.12(b) to read as follows.

- (b) Measured Quantities. Structure excavation, when specified, will be measured for payment in its original position and the volume computed in cubic yards (cubic meters). Horizontal dimensions will not extend beyond vertical planes 2 ft (600 mm) outside of the edges of footings of bridges, walls, and corrugated steel plate arches. The vertical dimension for structure excavation will be the average depth from the surface of the material to be excavated to the bottom of the footing as shown on the plans or ordered in writing by the Engineer. The volume of any unstable and/or unsuitable material removed within the structure excavation will be measured for payment in cubic yards (cubic meters).

Revise the last paragraph of 502.12(b) to read as follows.

Cofferdam excavation will be measured for payment in cubic yards (cubic meters) in its original position within the cofferdam. Unless otherwise shown on the plans, the horizontal dimensions used in computing the volume will not extend beyond vertical planes 2 ft (600 mm) outside of the edges of the substructure footings or 4 ft (1.2 m) outside of the faces of the substructure stem wall, whichever is greater. The vertical dimensions will be the average depth from the surface of the material to be excavated to the elevation shown on the plans for bottom of the footing, stem wall, or seal coat, or as otherwise determined by the Engineer as the bottom of the excavation.

Revise the first sentence of the sixth paragraph of 502.13 to read as follows.

Cofferdams, when specified, will be paid for at the contract unit price per each for COFFERDAM (TYPE 1) or COFFERDAM (TYPE 2), at the locations specified.



**GRANULAR BACKFILL FOR STRUCTURES**

Effective: April 19, 2012

Revised: October 30, 2012

Revise Section 586 of the Standard Specifications to read:

**SECTION 586. GRANULAR BACKFILL FOR STRUCTURES**

**586.01 Description.** This work shall consist of furnishing, transporting and placing granular backfill for abutment structures.

**586.02 Materials.** Materials shall be according to the following.

Item	Article/Section
(a) Fine Aggregate.....	1003.04
(b) Coarse Aggregates .....	1004.05

**CONSTRUCTION REQUIREMENTS**

**586.03 General.** This work shall be done according to Article 502.10 except as modified below. The backfill volume shall be backfilled, with granular material as specified in Article 586.02, to the required elevation as shown in the contract plans. The backfill volume shall be placed in convenient lifts for the full width to be backfilled. Unless otherwise specified in the contract plans, mechanical compaction will not be required. A deposit of gravel or crushed stone placed behind drain holes shall not be required. All drains not covered by geocomposite wall drains or other devices to prevent loss of backfill material shall be covered by sufficient filter fabric material meeting the requirements of Section 1080 and Section 282 with either 6 or 8 oz/sq yd (200 or 270 g/sq m) material allowed, with free edges overlapping the drain hole by at least 12 in. (300 mm) in all directions.

The granular backfill shall be brought to the finished grade as shown in the contract plans. When concrete is to be cast on top of the granular backfill, the Contractor, subject to approval of the Engineer, may prepare the top surface of the fill to receive the concrete as he/she deems necessary for satisfactory placement at no additional cost to the Department.

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

- (a) Contract Quantities. The requirements for the use of contract quantities shall conform to Article 202.07(a).
- (b) Measured Quantities. This work will be measured for payment in place and the volume computed in cubic yards (cubic meters). The volume will be determined by the method of average end areas behind the abutment.

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**586.05 Basis of Payment.** This work will be paid for at the contract unit price per cubic yard (cubic meter) for GRANULAR BACKFILL FOR STRUCTURES.

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

SPECIAL PROVISION  
FOR  
COOPERATION WITH UTILITIES

Effective: January 1, 1999

Revised: January 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.

Replace Article 105.07 of the Standard Specifications with the following:

**“105.07 Cooperation with Utilities.** The adjustment of utilities consists of the relocation, removal, replacement, rearrangements, reconstruction, improvement, disconnection, connection, shifting, new installation or altering of an existing utility facility in any manner.

When the plans or special provisions include information pertaining to the location of underground utility facilities, such information represents only the opinion of the Department as to the location of such utilities and is only included for the convenience of the bidder. The Department assumes no responsibility in respect to the sufficiency or the accuracy of the information shown on the plans relative to the location of the underground utility facilities.

Utilities which are to be adjusted shall be adjusted by the utility owner or the owner's representative or by the Contractor as a contract item. Generally, arrangements for adjusting existing utilities will be made by the Department prior to project construction; however, utilities will not necessarily be adjusted in advance of project construction and, in some cases, utilities will not be removed from the proposed construction limits. When utility adjustments must be performed in conjunction with construction, the utility adjustment work will be shown on the plans and/or covered by Special Provisions.

When the Contractor discovers a utility has not been adjusted by the owner or the owner's representative as indicated in the contract documents, or the utility is not shown on the plans or described in the Special Provisions as to be adjusted in conjunction with construction, the Contractor shall not interfere with said utility, and shall take proper precautions to prevent damage or interruption of the utility and shall promptly notify the Engineer of the nature and location of said utility.

All necessary adjustments, as determined by the Engineer, of utilities not shown on the plans or not identified by markers, will be made at no cost to the Contractor except traffic structures, light poles, etc., that are normally located within the proposed construction limits as hereinafter defined will not be adjusted unless required by the proposed improvement.

(a) Limits of Proposed Construction for Utilities Paralleling the Roadway. For the purpose of this Article, limits of proposed construction for utilities extending in the same longitudinal direction as the roadway, shall be defined as follows:

(1) The horizontal limits shall be a vertical plane, outside of, parallel to, and 600 mm (2 ft) distant at right angles from the plan or revised slope limits.

In cases where the limits of excavation for structures are not shown on the plans, the horizontal limits shall be a vertical plane 1.2 m (4 ft) outside the edges of structure footings or the structure where no footings are required.

(2) The upper vertical limits shall be the regulations governing the roadbed clearance for the specific utility involved.

(3) The lower vertical limits shall be the top of the utility at the depth below the proposed grade as prescribed by the governing agency or the limits of excavation, whichever is less.

(b) Limits of Proposed Construction for Utilities Crossing the Roadway. For the purpose of this Article, limits of proposed construction for utilities crossing the roadway in a generally transverse direction shall be defined as follows:

(1) Utilities crossing excavations for structures that are normally made by trenching such as sewers, underdrains, etc. and all minor structures such as manholes, inlets, foundations for signs, foundations for traffic signals, etc., the limits shall be the space to be occupied by the proposed permanent construction unless otherwise required by the regulations governing the specific utility involved.

(2) For utilities crossing the proposed site of major structures such as bridges, sign trusses, etc., the limits shall be as defined above for utilities extending in the same general direction as the roadway.

The Contractor may make arrangements for adjustment of utilities outside of the limits of proposed construction provided the Contractor furnishes the Department with a signed agreement with the utility owner covering the adjustments to be made. The cost of any adjustments made outside the limits of proposed construction shall be the responsibility of the Contractor unless otherwise provided.

The Contractor shall request all utility owners to field locate their facilities according to Article 107.31. The Engineer may make the request for location from the utility after receipt of notice from the Contractor. On request, the Engineer will make an inspection to verify that the utility company has field located its facilities, but will not assume responsibility for the accuracy of such work. The Contractor shall be responsible for maintaining the excavations or markers provided by the utility owners. This field location procedure may be waived if the utility owner has stated in writing to the Department it is satisfied the construction plans are sufficiently accurate. If the utility owner does not submit such statement to the Department, and they do not field locate their facilities in both horizontal and vertical alignment, the Engineer will authorize the Contractor in writing to proceed to locate the facilities in the most economical and reasonable manner, subject to the approval of the Engineer, and be paid according to Article 109.04.

The Contractor shall coordinate with any planned utility adjustment or new installation and the Contractor shall take all precautions to prevent disturbance or damage to utility facilities. Any failure on the part of the utility owner, or their representative, to proceed with any planned utility adjustment or new installation shall be reported promptly by the Contractor to the Engineer orally and in writing.

The Contractor shall take all necessary precautions for the protection of the utility facilities. The Contractor shall be responsible for any damage or destruction of utility facilities resulting from neglect, misconduct, or omission in the Contractor's manner or method of execution or nonexecution of the work, or caused by defective work or the use of unsatisfactory materials. Whenever any damage or destruction of a utility facility occurs as a result of work performed by the Contractor, the utility company will be immediately notified. The utility company will make arrangements to restore such facility to a condition equal to that existing before any such damage or destruction was done.

It is understood and agreed that the Contractor has considered in the bid all of the permanent and temporary utilities in their present and/or adjusted positions.

No additional compensation will be allowed for any delays, inconvenience, or damage sustained by the Contractor due to any interference from the said utility facilities or the operation of relocating the said utility facilities.

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 Warrenville

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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: August 1, 2013

Description. Bituminous material cost adjustments will be made to provide additional compensation to the Contractor, or credit to the Department, for fluctuations in the cost of bituminous materials when optioned by the Contractor. The adjustments shall apply to permanent and temporary hot-mix asphalt (HMA) mixtures, bituminous surface treatments (cover and seal coats), and preventative maintenance type surface treatments. The adjustments shall not apply to bituminous prime coats, tack coats, crack filling/sealing, or joint filling/sealing.

The bidder shall indicate on the attached form whether or not this special provision will be part of the contract and submit the completed form with his/her bid. Failure to submit the form, or failure to fill out the form completely, shall make this contract exempt of bituminous materials cost adjustments.

Method of Adjustment. Bituminous materials cost adjustments will be computed as follows.

$$CA = (BPI_P - BPI_L) \times (\%AC_V / 100) \times Q$$

- Where: CA = Cost Adjustment, \$.
- BPI<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, \$/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

## COARSE AGGREGATE IN BRIDGE APPROACH SLABS/FOOTINGS (BDE)

Effective: April 1, 2012

Revised: April 1, 2013

Revise the third paragraph of Article 1004.01(b) of the Standard Specifications to read:

“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.”

Revise the first sentence of the first paragraph of Article 1004.02(f) of the Standard Specifications to read:

“(f) Freeze-Thaw Rating. When coarse aggregate is used to produce portland cement concrete for base course, base course widening, pavement (including precast), driveway pavement, sidewalk, shoulders, curb, gutter, combination curb and gutter, median, paved ditch, concrete superstructures on subgrade such as bridge approach slabs (excluding precast), concrete structures on subgrade such as bridge approach footings, or their repair using concrete, the gradation permitted will be determined from the results of the Department’s Freeze-Thaw Test (Illinois Modified AASHTO T 161).”

80292

## COATED GALVANIZED STEEL CONDUIT (BDE)

Effective: January 1, 2013

Revised: August 1, 2014

Revise Article 811.03(b) of the Standard Specifications to read:

“(b) Coated Galvanized Steel Conduit. In addition to the methods described in Article 810.05(a) the following methods shall be observed when installing coated conduit.

Coated conduit pipe vise jaw adapters shall be used when the conduit is being clamped to avoid damaging the coating.

Coated conduit shall be cut with a roller cutter or by other means approved by the conduit manufacturer.

After any cutting or threading operations are completed, the bare steel shall be touched up with the conduit manufacturer’s touch up compound.”

Revise Article 1088.01(a)(3) of the Standard Specifications to read:

“(3) Coated Galvanized Steel Conduit. The conduit prior to coating shall meet the requirements for rigid metal conduit and be manufactured according to NEMA Standard No. RN1.

The coating shall have the following characteristics.

Hardness	85+ Shore A Durometer
Dielectric Strength	400 V/mil @ 60 Hz
Aging	1,000 Hours Atlas Weatherometer
Brittleness Temperature	0 °F (-18 °C) when tested according to ASTM D 746
Elongation	200 percent

The exterior galvanized surfaces shall be coated with a primer before the coating to ensure a bond between the zinc substrate and the coating. The bond strength created shall be greater than the tensile strength of the plastic coating. The nominal thickness of the coating shall be 40 mils (1 mm). The coating shall pass the following bonding test.

Two parallel cuts 1/2 in. (13 mm) apart and 1 1/2 in. (38 mm) in length shall be made with a sharp knife along the longitudinal axis. A third cut shall be made perpendicular to and crossing the longitudinal cuts at one end. The knife shall then be worked under the coating for 1/2 in. (13 mm) to free the coating from the metal.

Using pliers, the freed tab shall be pulled with a force applied vertically and away from the conduit. The tab shall tear rather than cause any additional coating to separate from the substrate.

A two part urethane coating shall be applied to the interior of the conduit. The internal coating shall have a nominal thickness of 2 mils (50  $\mu\text{m}$ ). The interior coating shall be applied in a manner so there are no runs, drips, or pinholes at any point. The coating shall not peel, flake, or chip off after a cut is made in the conduit or a scratch is made in the coating. The urethane interior coating applied shall afford sufficient flexibility to permit field bending without cracking or flaking of the interior coating.

All conduit fittings and couplings shall be as specified and recommended by the conduit manufacturer. All conduit fitting covers shall be furnished with stainless steel screws which have been encapsulated with a polyester material on the head to ensure maximum corrosion protection.”

80310

**CONCRETE GUTTER, CURB, MEDIAN, AND PAVED DITCH (BDE)**

Effective: April 1, 2014

| Revised: August 1, 2014

Add the following to Article 606.02 of the Standard Specifications:

“(i) Polyurethane Joint Sealant ..... 1050.04”

Revise the fifth paragraph of Article 606.07 of the Standard Specifications to read:

“Transverse contraction and longitudinal construction joints shall be sealed according to Article 420.12, except transverse joints in concrete curb and gutter shall be sealed with polysulfide or polyurethane joint sealant.”

Add the following to Section 1050 of the Standard Specifications:

| **1050.04 Polyurethane Joint Sealant.** The joint sealant shall be a polyurethane sealant, Type S, Grade NS, Class 25 or better, Use T (T<sub>1</sub> or T<sub>2</sub>), according to ASTM C 920.”

80334

## CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE)

Effective: June 1, 2010

Revised: November 1, 2014

The reduction of emissions of particulate matter (PM) for off-road equipment shall be accomplished by installing retrofit emission control devices. The term “equipment” refers to diesel fuel powered devices rated at 50 hp and above, to be used on the jobsite in excess of seven calendar days over the course of the construction period on the jobsite (including rental equipment).

Contractor and subcontractor diesel powered off-road equipment assigned to the contract shall be retrofitted using the phased in approach shown below. Equipment that is of a model year older than the year given for that equipment’s respective horsepower range shall be retrofitted:

Effective Dates	Horsepower Range	Model Year
June 1, 2010 <sup>1/</sup>	600-749	2002
	750 and up	2006
June 1, 2011 <sup>2/</sup>	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006
June 1, 2012 <sup>2/</sup>	50-99	2004
	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006

1/ Effective dates apply to Contractor diesel powered off-road equipment assigned to the contract.

2/ Effective dates apply to Contractor and subcontractor diesel powered off-road equipment assigned to the contract.

The retrofit emission control devices shall achieve a minimum PM emission reduction of 50 percent and shall be:

- a) Included on the U.S. Environmental Protection Agency (USEPA) *Verified Retrofit Technology List* (<http://www.epa.gov/cleandiesel/verification/verif-list.htm>), or verified by the California Air Resources Board (CARB) (<http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>); or
- b) Retrofitted with a non-verified diesel retrofit emission control device if verified retrofit emission control devices are not available for equipment proposed to be used on the project, and if the Contractor has obtained a performance certification from the retrofit

device manufacturer that the emission control device provides a minimum PM emission reduction of 50 percent.

Note: Large cranes (Crawler mounted cranes) which are responsible for critical lift operations are exempt from installing retrofit emission control devices if such devices adversely affect equipment operation.

Diesel powered off-road equipment with engine ratings of 50 hp and above, which are unable to be retrofitted with verified emission control devices or if performance certifications are not available which will achieve a minimum 50 percent PM reduction, may be granted a waiver by the Department if documentation is provided showing good faith efforts were made by the Contractor to retrofit the equipment.

Construction shall not proceed until the Contractor submits a certified list of the diesel powered off-road equipment that will be used, and as necessary, retrofitted with emission control devices. The list(s) shall include (1) the equipment number, type, make, Contractor/rental company name; and (2) the emission control devices make, model, USEPA or CARB verification number, or performance certification from the retrofit device manufacturer. Equipment reported as fitted with emissions control devices shall be made available to the Engineer for visual inspection of the device installation, prior to being used on the jobsite.

The Contractor shall submit an updated list of retrofitted off-road construction equipment as retrofitted equipment changes or comes on to the jobsite. The addition or deletion of any diesel powered equipment shall be included on the updated list.

If any diesel powered off-road equipment is found to be in non-compliance with any portion of this special provision, the Engineer will issue the Contractor a diesel retrofit deficiency deduction.

Any costs associated with retrofitting any diesel powered off-road equipment with emission control devices shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed. The Contractor's compliance with this notice and any associated regulations shall not be grounds for a claim.

### **Diesel Retrofit Deficiency Deduction**

When the Engineer determines that a diesel retrofit deficiency exists, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency continues to exist. The calendar day(s) will begin when the time period for correction is exceeded and end with the Engineer's written acceptance of the correction. The daily monetary deduction will be \$1,000.00 for each deficiency identified.

The deficiency will be based on lack of diesel retrofit emissions control.

If a Contractor accumulates three diesel retrofit deficiency deductions for the same piece of equipment in a contract period, the Contractor will be shutdown until the deficiency is corrected.

Such a shutdown will not be grounds for any extension of the contract time, waiver of penalties, or be grounds for any claim.

80261



## CONTRACT CLAIMS (BDE)

Effective: April 1, 2014

Revise the first paragraph of Article 109.09(a) of the Standard Specifications to read:

“(a) Submission of Claim. All claims filed by the Contractor shall be in writing and in sufficient detail to enable the Department to ascertain the basis and amount of the claim. As a minimum, the following information must accompany each claim submitted.”

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

“(e) Procedure. The Department provides two administrative levels for claims review.

Level I Engineer of Construction

Level II Chief Engineer/Director of Highways or Designee

- (1) Level I. All claims shall first be submitted at Level I. Two copies each of the claim and supporting documentation shall be submitted simultaneously to the District and the Engineer of Construction. The Engineer of Construction, in consultation with the District, will consider all information submitted with the claim and render a decision on the claim within 90 days after receipt by the Engineer of Construction. Claims not conforming to this Article will be returned without consideration. The Engineer of Construction may schedule a claim presentation meeting if in the Engineer of Construction’s judgment such a meeting would aid in resolution of the claim, otherwise a decision will be made based on the claim documentation submitted. If a Level I decision is not rendered within 90 days of receipt of the claim, or if the Contractor disputes the decision, an appeal to Level II may be made by the Contractor.
- (2) Level II. An appeal to Level II shall be made in writing to the Engineer of Construction within 45 days after the date of the Level I decision. Review of the claim at Level II shall be conducted as a full evaluation of the claim. A claim presentation meeting may be scheduled if the Chief Engineer/Director of Highways determines that such a meeting would aid in resolution of the claim, otherwise a decision will be made based on the claim documentation submitted. A Level II final decision will be rendered within 90 days of receipt of the written request for appeal.

Full compliance by the Contractor with the provisions specified in this Article is a contractual condition precedent to the Contractor’s right to seek relief in the Court of Claims. The Director’s written decision shall be the final administrative action of the Department. Unless the Contractor files a claim for adjudication by the Court of Claims within 60 days after the date of the written decision, the failure to file shall constitute a release and waiver of the claim.”

## **DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE)**

Effective: September 1, 2000

Revised: August 2, 2011

FEDERAL OBLIGATION. The Department of Transportation, as a recipient of federal financial assistance, is required to take all necessary and reasonable steps to ensure nondiscrimination in the award and administration of contracts. Consequently, the federal regulatory provisions of 49 CFR Part 26 apply to this contract concerning the utilization of disadvantaged business enterprises. For the purposes of this Special Provision, a disadvantaged business enterprise (DBE) means a business certified by the Department in accordance with the requirements of 49 CFR Part 26 and listed in the Illinois Unified Certification Program (IL UCP) DBE Directory.

STATE OBLIGATION. This Special Provision will also be used by the Department to satisfy the requirements of the Business Enterprise for Minorities, Females, and Persons with Disabilities Act, 30 ILCS 575. When this Special Provision is used to satisfy state law requirements on 100 percent state-funded contracts, the federal government has no involvement in such contracts (not a federal-aid contract) and no responsibility to oversee the implementation of this Special Provision by the Department on those contracts. DBE participation on 100 percent state-funded contracts will not be credited toward fulfilling the Department's annual overall DBE goal required by the US Department of Transportation to comply with the federal DBE program requirements.

CONTRACTOR ASSURANCE. The Contractor makes the following assurance and agrees to include the assurance in each subcontract that the Contractor signs with a subcontractor.

The Contractor, subrecipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of contracts funded in whole or in part with federal or state funds. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

OVERALL GOAL SET FOR THE DEPARTMENT. As a requirement of compliance with 49 CFR Part 26, the Department has set an overall goal for DBE participation in its federally assisted contracts. That goal applies to all federal-aid funds the Department will expend in its federally assisted contracts for the subject reporting fiscal year. The Department is required to make a good faith effort to achieve the overall goal. The dollar amount paid to all approved DBE companies performing work called for in this contract is eligible to be credited toward fulfillment of the Department's overall goal.

CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR. This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined that the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. 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 11.00 % 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 [www.dot.il.gov](http://www.dot.il.gov).

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

- (a) The bidder shall submit a Disadvantaged Business Utilization Plan on Department forms SBE 2025 and 2026 with the bid.
- (b) The Utilization Plan shall indicate that the bidder either has obtained sufficient DBE participation commitments to meet the contract goal or has not obtained enough DBE participation commitments in spite of a good faith effort to meet the goal. The Utilization Plan shall further provide the name, telephone number, and telefax number of a responsible official of the bidder designated for purposes of notification of plan approval or disapproval under the procedures of this Special Provision.
- (c) The Utilization Plan shall include a DBE Participation Commitment Statement, Department form SBE 2025, for each DBE proposed for the performance of work to achieve the contract goal. For bidding purposes, submission of the completed SBE 2025 forms, signed by the DBEs and faxed to the bidder will be acceptable as long as the original is available and provided upon request. All elements of information indicated on the said form shall be provided, including but not limited to the following:
  - (1) The names and addresses of DBE firms that will participate in the contract;

- (2) A description, including pay item numbers, of the work each DBE will perform;
- (3) The dollar amount of the participation of each DBE firm participating. The dollar amount of participation for identified work shall specifically state the quantity, unit price, and total subcontract price for the work to be completed by the DBE. If partial pay items are to be performed by the DBE, indicate the portion of each item, a unit price where appropriate and the subcontract price amount;
- (4) DBE Participation Commitment Statements, form SBE 2025, signed by the bidder and each participating DBE firm documenting the commitment to use the DBE subcontractors whose participation is submitted to meet the contract goal;
- (5) if the bidder is a joint venture comprised of DBE companies and non-DBE companies, the plan must also include a clear identification of the portion of the work to be performed by the DBE partner(s); and,
- (6) If the contract goal is not met, evidence of good faith efforts.

GOOD FAITH EFFORT PROCEDURES. The contract will not be awarded until the Utilization Plan submitted by the apparent successful bidder is approved. All information submitted by the bidder must be complete, accurate and adequately document 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 performance to meet the contract goal or the bidder submits sufficient documentation of a good faith effort to meet the contract goal pursuant to 49 CFR Part 26, Appendix A. The Utilization Plan will not be approved by the Department if the Utilization Plan does not 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.
- (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.
- (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 and/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 or supplies obtained from a DBE manufacturer.
  - (3) 100 percent credit for the value of reasonable fees and commissions for the procurement of materials and supplies if not a regular dealer or manufacturer.

CONTRACT COMPLIANCE. Compliance with this Special Provision is an essential part of the contract. The Department is prohibited by federal regulations from crediting the participation of a DBE included in the Utilization Plan toward either the contract goal or the Department's overall goal until the amount to be applied toward the goals has been paid to the DBE. The following administrative procedures and remedies govern the compliance by the Contractor with the contractual obligations established by the Utilization Plan. After approval of the Utilization Plan and award of the contract, the Utilization Plan and individual DBE Participation Statements become part of the contract. If the Contractor did not succeed in obtaining enough DBE participation to achieve the advertised contract goal, and the Utilization Plan was approved and contract awarded based upon a determination of good faith, the total dollar value of DBE work calculated in the approved Utilization Plan as a percentage of the awarded contract value shall become the amended contract goal. All work indicated for performance by an approved DBE shall be performed, managed, and supervised by the DBE executing the Participation 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) TERMINATION OR REPLACEMENT. 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 the Special Provision.
- (c) 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, 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.
- (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 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 1,200 or applicable state law.
- (6) You have determined that the listed DBE subcontractor is not a responsible contractor;
- (7) The listed DBE subcontractor voluntarily withdraws from the projects and provides to you written notice of its withdrawal;
- (8) The listed DBE is ineligible to receive DBE credit for the type of work required;
- (9) A DBE owner dies or becomes disabled with the result that the listed DBE contractor is unable to complete its work on the contract;
- (10) Other documented good cause that compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the prime Contractor seeks to terminate a DBE it relied upon to obtain the contract so that the prime Contractor can self-perform the work for which the DBE contractor was engaged or so that the prime Contractor can substitute another DBE or non-DBE contractor after contract award.

When a DBE is terminated, or fails to complete its work on the Contract for any reason the Contractor shall make a good faith effort to find another DBE to substitute for the original DBE to perform at least the same amount of work under the contract as the terminated DBE to the extent needed to meet the established Contract goal.

- (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 Regional Engineer. If full and final payment has not been made to the DBE, the DBE Payment Agreement shall indicate whether a disagreement as to the payment required exists between the Contractor and the DBE or if the Contractor believes that the work has not been satisfactorily completed. If the Contractor does not have the full amount of work indicated in the Utilization Plan performed by the BDE 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.

80029

**FRICITION AGGREGATE (BDE)**

Effective: January 1, 2011

Revised: November 1, 2014

Revise Article 1004.01(a)(4) of the Standard Specifications to read:

- “(4) Crushed Stone. Crushed stone shall be the angular fragments resulting from crushing undisturbed, consolidated deposits of rock by mechanical means. Crushed stone shall be divided into the following, when specified.
- a. Carbonate Crushed Stone. Carbonate crushed stone shall be either dolomite or limestone. Dolomite shall contain 11.0 percent or more magnesium oxide (MgO). Limestone shall contain less than 11.0 percent magnesium oxide (MgO).
  - b. Crystalline Crushed Stone. Crystalline crushed stone shall be either metamorphic or igneous stone, including but is not limited to, quartzite, granite, rhyolite and diabase.”

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

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

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

Use	Mixture	Aggregates Allowed
Class A	Seal or Cover	<u>Allowed Alone or in Combination</u> <sup>5/</sup> : Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Crushed Concrete

Use	Mixture	Aggregates Allowed
HMA Low ESAL	Stabilized Subbase or Shoulders	<u>Allowed Alone or in Combination</u> <sup>5/</sup> : Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag <sup>1/</sup> Crushed Concrete
HMA High ESAL Low ESAL	Binder IL-19.0 or IL-19.0L  SMA Binder	<u>Allowed Alone or in Combination</u> <sup>5/</sup> : Crushed Gravel Carbonate Crushed Stone <sup>2/</sup> Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Concrete <sup>3/</sup>
HMA High ESAL Low ESAL	C Surface and Leveling Binder IL-9.5 or IL-9.5L  SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination</u> <sup>5/</sup> : Crushed Gravel Carbonate Crushed Stone <sup>2/</sup> Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag <sup>4/</sup> Crushed Concrete <sup>3/</sup>
HMA High ESAL	D Surface and Leveling Binder IL-9.5  SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination</u> <sup>5/</sup> : Crushed Gravel Carbonate Crushed Stone (other than Limestone) <sup>2/</sup> Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag <sup>4/</sup> Crushed Concrete <sup>3/</sup>
		<u>Other Combinations Allowed:</u>
		<i>Up to...</i> <i>With...</i>
		25% Limestone                      Dolomite

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

Use	Mixture	Aggregates Allowed	
		<i>Up to...</i>	<i>With...</i>
		50% Crushed Gravel, Crushed Concrete <sup>3/</sup> , or Dolomite <sup>2/</sup>	Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone

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

80265

**GRANULAR MATERIALS (BDE)**

Effective: November 1, 2012

Revise the title of Article 1003.04 of the Standard Specifications to read:

**“1003.04 Fine Aggregate for Bedding, Trench Backfill, Embankment, Porous Granular Backfill, Sand Backfill for Underdrains, and French Drains.”**

Revise Article 1003.04(c) of the Standard Specifications to read:

“(c) Gradation. The fine aggregate gradations for granular embankment, granular backfill, bedding, and trench backfill for pipe culverts and storm sewers shall be FA 1, FA 2, or FA 6 through FA 21.

The fine aggregate gradation for porous granular embankment, porous granular backfill, french drains, and sand backfill for underdrains shall be FA 1, FA 2, or FA 20, except the percent passing the No. 200 (75 µm) sieve shall be 2±2.”

Revise Article 1004.05(c) of the Standard Specifications to read:

“(c) Gradation. The coarse aggregate gradations shall be as follows.

Application	Gradation
Blotter	CA 15
Granular Embankment, Granular Backfill, Bedding, and Trench Backfill for Pipe Culverts and Storm Sewers	CA 6, CA 9, CA 10, CA 12, CA17, CA18, and CA 19
Porous Granular Embankment, Porous Granular Backfill, and French Drains	CA 7, CA 8, CA 11, CA 15, CA 16 and CA 18”

80303



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

Effective: January 1, 2010

Revised: April 1, 2012

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 ten feet apart longitudinally along the unconfined pavement edge and centered at the random density test location.”

Revise the Density Control Limits table in Article 1030.05(d)(4) of the Standard Specifications to read:

“Mixture Composition	Parameter	Individual Test (includes confined edges)	Unconfined Edge Joint Density Minimum
IL-4.75	N <sub>design</sub> = 50	93.0 – 97.4%	91.0%
IL-9.5, IL-12.5	N <sub>design</sub> ≥ 90	92.0 – 96.0%	90.0%
IL-9.5, IL-9.5L, IL-12.5	N <sub>design</sub> < 90	92.5 – 97.4%	90.0%
IL-19.0, IL-25.0	N <sub>design</sub> ≥ 90	93.0 – 96.0%	90.0%
IL-19.0, IL-19.0L, IL-25.0	N <sub>design</sub> < 90	93.0 – 97.4%	90.0%

SMA	Ndesign = 50 & 80	93.5 – 97.4%	91.0%
All Other	Ndesign = 30	93.0 - 97.4%	90.0%”

80246

**HOT MIX ASPHALT – PRIME COAT (BDE)**

Effective: November 1, 2014

Revise Note 1 of Article 406.02 of the Standard Specifications to read:

“Note 1. The bituminous material used for prime coat shall be one of the types listed in the following table.

When emulsified asphalts are used, any dilution with water shall be performed by the emulsion producer. The emulsified asphalt shall be thoroughly agitated within 24 hours of application and show no separation of water and emulsion.

Application	Bituminous Material Types
Prime Coat on Brick, Concrete, or HMA Bases	SS-1, SS-1h, SS-1hP, SS-1vh, RS-1, RS-2, CSS-1, CSS-1h, CSS-1hp, CRS-1, CRS-2, HFE-90, RC-70
Prime Coat on Aggregate Bases	MC-30, PEP”

Add the following to Article 406.03 of the Standard Specifications.

- “(i) Vacuum Sweeper ..... 1101.19
- “(j) Spray Paver ..... 1102.06”

Revise Article 406.05(b) of the Standard Specifications to read:

“(b) Prime Coat. The bituminous material shall be prepared according to Article 403.05 and applied according to Article 403.10. The use of RC-70 shall be limited to air temperatures less than 60 °F (15 °C).

- (1) Brick, Concrete or HMA Bases. The base shall be cleaned of all dust, debris and any substance that will prevent the prime coat from adhering to the base. Cleaning shall be accomplished by sweeping to remove all large particles and air blasting to remove dust. As an alternative to air blasting, a vacuum sweeper may be used to accomplish the dust removal. The base shall be free of standing water at the time of application. The prime coat shall be applied uniformly and at a rate that will provide a residual asphalt rate on the prepared surface as specified in the following table.

Type of Surface to be Primed	Residual Asphalt Rate lb/sq ft (kg/sq m)
Milled HMA, Aged Non-Milled HMA, Milled Concrete, Non-Milled Concrete & Tined Concrete	0.05 (0.244)
Fog Coat between HMA Lifts, IL-4.75 & Brick	0.025 (0.122)

The bituminous material for the prime coat shall be placed one lane at a time. If a spray paver is not used, the primed lane shall remain closed until the prime coat is

fully cured and does not pickup under traffic. When placing prime coat through an intersection where it is not possible to keep the lane closed, the prime coat may be covered immediately following its application with fine aggregate mechanically spread at a uniform rate of 2 to 4 lb/sq yd (1 to 2 kg/sq m).

- (2) Aggregate Bases. The prime coat shall be applied uniformly and at a rate that will provide a residual asphalt rate on the prepared surface of 0.25 lb/sq ft  $\pm$  0.01 (1.21 kg/sq m  $\pm$ 0.05).

The prime coat shall be permitted to cure until the penetration has been approved by the Engineer, but at no time shall the curing period be less than 24 hours for MC-30 or four hours for PEP. Pools of prime occurring in the depressions shall be broomed or squeegeed over the surrounding surface the same day the prime coat is applied.

The base shall be primed 1/2 width at a time. The prime coat on the second half/width shall not be applied until the prime coat on the first half/width has cured so that it will not pickup under traffic.

The residual asphalt rate will be verified a minimum of once per type of surface to be primed as specified herein for which at least 2000 tons (1800 metric tons) of HMA will be placed. The test will be according to the "Determination of Residual Asphalt in Prime and Tack Coat Materials" test procedure.

Prime coat shall be fully cured prior to placement of HMA to prevent pickup by haul trucks or paving equipment. If pickup occurs, paving shall cease in order to provide additional cure time, and all areas where the pickup occurred shall be repaired.

If after five days, loss of prime coat is evident prior to covering with HMA, additional prime coat shall be placed as determined by the Engineer at no additional cost to the Department."

Revise the last sentence of the first paragraph of Article 406.13(b) of the Standard Specifications to read:

"Water added to emulsified asphalt, as allowed in Article 406.02, will not be included in the quantities measured for payment."

Revise the second paragraph of Article 406.13(b) of the Standard Specifications to read:

"Aggregate for covering prime coat will not be measured for payment."

Revise the first paragraph of Article 406.14 of the Standard Specifications to read:

"**406.14 Basis of Payment.** Prime Coat will be paid for at the contract unit price per pound (kilogram) of residual asphalt applied for BITUMINOUS MATERIALS (PRIME COAT), or POLYMERIZED BITUMINOUS MATERIALS (PRIME COAT)."

Revise Article 407.02 of the Standard Specifications to read:

**“407.02 Materials.** Materials shall be according to Article 406.02, except as follows.

Item	Article/Section
(a) Packaged Rapid Hardening Mortar or Concrete .....	1018”

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

“(b) A bituminous prime coat shall be applied between each lift of HMA according to Article 406.05(b).”

Delete the second paragraph of Article 407.12 of the Standard Specifications.

Revise the first paragraph of Article 408.04 of the Standard Specifications to read:

**“408.04 Method of Measurement.** Bituminous priming material will be measured for payment according to Article 406.13.”

Revise the first paragraph of Article 408.05 of the Standard Specifications to read:

**“408.05 Basis of Payment.** This work will be paid for at the contract unit price per pound (kilogram) of residual asphalt applied for BITUMINOUS MATERIALS (PRIME COAT) or POLYMERIZED BITUMINOUS MATERIALS (PRIME COAT) and at the contract unit price per ton (metric ton) for INCIDENTAL HOT-MIX ASPHALT SURFACING.”

Revise Article 1032.02 of the Standard Specifications to read:

**“1032.02 Measurement.** Asphalt binders, emulsified asphalts, rapid curing liquid asphalt, medium curing liquid asphalts, slow curing liquid asphalts, asphalt fillers, and road oils will be measured by weight.

A weight ticket for each truck load shall be furnished to the inspector. The truck shall be weighed at a location approved by the Engineer. The ticket shall show the weight of the empty truck (the truck being weighed each time before it is loaded), the weight of the loaded truck, and the net weight of the bituminous material.

When an emulsion or cutback is used for prime coat, the percentage of asphalt residue of the actual certified product shall be shown on the producer’s bill of lading or attached certificate of analysis. If the producer adds extra water to an emulsion at the request of the purchaser, the amount of water shall also be shown on the bill of lading.

Payment will not be made for bituminous materials in excess of 105 percent of the amount specified by the Engineer.”

Add the following to the table in Article 1032.04 of the Standard Specifications.

"SS-1vh	160-180	70-80
RS-1, CRS-1	75-130	25-55"

Add the following to Article 1032.06 of the Standard Specifications.

"(g) Non Tracking Emulsified Asphalt SS-1vh shall be according to the following.

Requirements for SS-1vh			
Test		SPEC	AASHTO Test Method
Saybolt Viscosity @ 25C,	SFS	20-200	T 72
Storage Stability, 24hr.,	%	1 max.	T 59
Residue by Evaporation,	%	50 min.	T 59
Sieve Test,	%	0.3 max.	T 59
Tests on Residue from Evaporation			
Penetration @25°C, 100g., 5 sec., dmm		20 max.	T 49
Softening Point,	°C	65 min.	T 53
Solubility,	%	97.5 min.	T 44
Orig. DSR @ 82°C,	kPa	1.00 min.	T 315"

Revise the last table in Article 1032.06(f)(2)d. of the Standard Specifications to read:

"Grade	Use
SS-1, SS-1h, RS-1, RS-2, CSS-1, CRS-1, CRS-2, CSS-1h, HFE-90, SS-1hP, CSS-1hP, SS-1vh	Prime or fog seal
PEP	Bituminous surface treatment prime
RS-2, HFE-90, HFE-150, HFE- 300, CRSP, HFP, CRS-2, HFRS-2	Bituminous surface treatment
CSS-1h Latex Modified	Microsurfacing"

Add the following to Article 1101 of the Standard Specifications.

**"1101.19 Vacuum Sweeper.** The vacuum sweeper shall have a minimum sweeping path of 52 in. (1.3 m) and a minimum blower rating of 20,000 cu ft per minute (566 cu m per minute)."

Add the following to Article 1102 of the Standard Specifications:

**"1102.06 Spray Paver.** The spreading and finishing machine shall be capable of spraying a rapid setting emulsion tack coat, paving a layer of HMA, and providing a smooth HMA mat in one pass. The HMA shall be spread over the tack coat in less than five seconds after the

application of the tack coat during normal paving speeds. No wheel or other part of the paving machine shall come into contact with the tack coat before the HMA is applied. In addition to meeting the requirements of Article 1102.03, the spray paver shall also meet the requirements of Article 1102.05 for the tank, heating system, pump, thermometer, tachometer or synchronizer, and calibration. The spray bar shall be equipped with properly sized and spaced nozzles to apply a uniform application of tack coat at the specified rate for the full width of the mat being placed.”

80348

**LRFD PIPE CULVERT BURIAL TABLES (BDE)**

Effective: November 1, 2013

Revised: November 1, 2014

Revise Article 542.02 of the Standard Specifications to read as follows:

"Item	Article/Section
(a) Galvanized Corrugated Steel Pipe .....	1006.01
(b) Galvanized Corrugated Steel Pipe Arch .....	1006.01
(c) Bituminous Coated Corrugated Steel Pipe .....	1006.01
(d) Bituminous Coated Corrugated Steel Pipe Arch .....	1006.01
(e) Reserved	
(f) Aluminized Steel Type 2 Corrugated Pipe .....	1006.01
(g) Aluminized Steel Type 2 Corrugated Pipe Arch .....	1006.01
(h) Precoated Galvanized Corrugated Steel Pipe .....	1006.01
(i) Precoated Galvanized Corrugated Steel Pipe Arch .....	1006.01
(j) Corrugated Aluminum Alloy Pipe .....	1006.03
(k) Corrugated Aluminum Alloy Pipe Arch .....	1006.03
(l) Extra Strength Clay Pipe .....	1040.02
(m) Concrete Sewer, Storm Drain, and Culvert Pipe .....	1042
(n) Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe .....	1042
(o) Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe.....	1042
(p) Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe .....	1042
(q) Polyvinyl Chloride (PVC) Pipe .....	1040.03
(r) Corrugated Polyvinyl Chloride (PVC) Pipe with a Smooth Interior .....	1040.03
(s) Corrugated Polypropylene (CPP) pipe with smooth Interior .....	1040.07
(t) Corrugated Polyethylene (PE) Pipe with a Smooth Interior .....	1040.04
(u) Polyethylene (PE) Pipe with a Smooth Interior .....	1040.04
(v) Rubber Gaskets and Preformed Flexible Joint Sealants for Concrete Pipe .....	1056
(w) Mastic Joint Sealer for Pipe .....	1055
(x) External Sealing Band .....	1057
(y) Fine Aggregate (Note 1) .....	1003.04
(z) Coarse Aggregate (Note 2) .....	1004.05
(aa) Packaged Rapid Hardening Mortar or Concrete .....	1018
(bb) Nonshrink Grout .....	1024.02
(cc) Reinforcement Bars and Welded Wire Fabric .....	1006.10
(dd) Handling Hole Plugs .....	1042.16

Note 1. The fine aggregate shall be moist.

Note 2. The coarse aggregate shall be wet."



Revise the table for permitted materials in Article 542.03 of the Standard Specifications as follows:

"Class	Materials
A	Rigid Pipes: Extra Strength Clay Pipe Concrete Sewer Storm Drain and Culvert Pipe, Class 3 Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe
C	Rigid Pipes: Extra Strength Clay Pipe Concrete Sewer Storm Drain and Culvert Pipe, Class 3 Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe Flexible Pipes: Aluminized Steel Type 2 Corrugated Pipe Aluminized Steel Type 2 Corrugated Pipe Arch Precoated Galvanized Corrugated Steel Pipe Precoated Galvanized Corrugated Steel Pipe Arch Corrugated Aluminum Alloy Pipe Corrugated Aluminum Alloy Pipe Arch Polyvinyl Chloride (PVC) Pipe Corrugated Polyvinyl Chloride (PVC) Pipe with a Smooth Interior Polyethylene (PE) Pipe with a Smooth Interior Corrugated Polypropylene (CPP) Pipe with Smooth Interior
D	Rigid Pipes: Extra Strength Clay Pipe Concrete Sewer Storm Drain and Culvert Pipe, Class 3 Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe Flexible Pipes: Galvanized Corrugated Steel Pipe Galvanized Corrugated Steel Pipe Arch Bituminous Coated Corrugated Steel Pipe Bituminous Coated Corrugated Steel Pipe Arch Aluminized Steel Type 2 Corrugated Pipe Aluminized Steel Type 2 Corrugated Pipe Arch Precoated Galvanized Corrugated Steel Pipe Precoated Galvanized Corrugated Steel Pipe Arch Corrugated Aluminum Alloy Pipe Corrugated Aluminum Alloy Pipe Arch Polyvinyl Chloride (PVC) Pipe Corrugated Polyvinyl Chloride (PVC) Pipe with a Smooth Interior Corrugated Polyethylene (PE) Pipe with a Smooth Interior Polyethylene (PE) Pipe with a Smooth Interior" Corrugated Polypropylene (CPP) Pipe with Smooth Interior

Revise Articles 542.03(b) and (c) of the Standard Specifications to read:

“(b) Extra strength clay pipe will only be permitted for pipe culverts Type 1, for 10 in., 12 in., 42 in. and 48 in. (250 mm, 300 mm, 1050 mm and 1200 mm), Types 2, up to and including 48 in. (1200 mm), Type 3, up to and including 18 in. (450 mm), Type 4 up to and including 10 in. (250 mm), for all pipe classes.

(c) Concrete sewer, storm drain, and culvert pipe Class 3 will only be permitted for pipe culverts Type 1, up to and including 10 in (250 mm), Type 2, up to and including 30 in. (750 mm), Type 3, up to and including 15 in. (375 mm); Type 4, up to and including 10 in. (250 mm), for all pipe classes.”

Replace the pipe tables in Article 542.03 of the Standard Specifications with the following:

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"Table IA: Classes of Reinforced Concrete Pipe  
for the Respective Diameters of Pipe and Fill Heights over the Top of the Pipe

Nominal Diameter in.	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6	Type 7
	Fill Height: 3' and less 1' min cover	Fill Height: Greater than 3' not exceeding 10'	Fill Height: Greater than 10' not exceeding 15'	Fill Height: Greater than 15' not exceeding 20'	Fill Height: Greater than 20' not exceeding 25'	Fill Height: Greater than 25' not exceeding 30'	Fill Height: Greater than 30' not exceeding 35'
12	IV	II	III	IV	IV	V	V
15	IV	II	III	IV	IV	V	V
18	IV	II	III	IV	IV	V	V
21	III	II	III	IV	IV	V	V
24	III	II	III	IV	IV	V	V
30	IV	II	III	IV	IV	V	V
36	III	II	III	IV	IV	V	V
42	II	II	III	IV	IV	V	V
48	II	II	III	IV	IV	V	V
54	II	II	III	IV	IV	V	V
60	II	II	III	IV	IV	V	V
66	II	II	III	IV	IV	V	V
72	II	II	III	IV	V	V	V
78	II	II	III	IV	2020	2370	2730
84	II	II	III	IV	2020	2380	2740
90	II	II	III	1680	2030	2390	2750
96	II	III	III	1690	2040	2400	2750
102	II	III	III	1700	2050	2410	2760
108	II	III	1360	1710	2060	2410	2770

Notes:

A number indicates the D-Load for the diameter and depth of fill and that a special design is required.  
Design assumptions: Water filled pipe, Type 2 bedding and Class C Walls

Table IA: Classes of Reinforced Concrete Pipe  
for the Respective Diameters of Pipe and Fill Heights over the Top of the Pipe  
(Metric)

Nominal Diameter mm	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6	Type 7
	Fill Height: 1 m and less 0.3 m min cover	Fill Height: Greater than 1 m not exceeding 3 m	Fill Height: Greater than 3 m not exceeding 4.5 m	Fill Height: Greater than 4.5 m not exceeding 6 m	Fill Height: Greater than 6 m not exceeding 7.5 m	Fill Height: Greater than 7.5 m not exceeding 9 m	Fill Height: Greater than 9 m not exceeding 10.5 m
300	IV	II	III	IV	IV	V	V
375	IV	II	III	IV	IV	V	V
450	IV	II	III	IV	IV	V	V
525	III	II	III	IV	IV	V	V
600	III	II	III	IV	IV	V	V
750	IV	II	III	IV	IV	V	V
900	III	II	III	IV	IV	V	V
1050	II	II	III	IV	IV	V	V
1200	II	II	III	IV	IV	V	V
1350	II	II	III	IV	IV	V	V
1500	II	II	III	IV	IV	V	V
1650	II	II	III	IV	IV	V	V
1800	II	II	III	IV	V	V	V
1950	II	II	III	IV	100	110	130
2100	II	II	III	IV	100	110	130
2250	II	II	III	80	100	110	130
2400	II	III	III	80	100	110	130
2550	II	III	III	80	100	120	130
2700	II	III	70	80	100	120	130

Notes:  
A number indicates the D-Load for the diameter and depth of fill and that a special design is required.  
Design assumptions: Water filled pipe, Type 2 bedding and Class C Walls

TABLE 1B: THICKNESS OF CORRUGATED STEEL PIPE FOR THE RESPECTIVE DIAMETER OF PIPE AND FILL HEIGHTS OVER THE TOP OF THE PIPE FOR 2 2/3"x1/2", 3"x1" AND 5"x1" CORRUGATIONS

Nominal Diameter	Type 1		Type 2		Type 3		Type 4		Type 5		Type 6		Type 7		
	Fill Height:		Fill Height:		Fill Height:		Fill Height:		Fill Height:		Fill Height:		Fill Height:		
	3' and less 1' min. cover	Greater than 3' not exceeding 10'	Greater than 3' not exceeding 10'	Greater than 3' not exceeding 10'	Greater than 10' not exceeding 15'	Greater than 15' not exceeding 20'	Greater than 15' not exceeding 20'	Greater than 15' not exceeding 20'	Greater than 20' not exceeding 25'	Greater than 20' not exceeding 25'	Greater than 25' not exceeding 30'	Greater than 25' not exceeding 30'	Greater than 30' not exceeding 35'	Greater than 30' not exceeding 35'	
12	2 2/3" x 1/2"	3"x1"	5"x1"	2 2/3" x 1/2"	3"x1"	5"x1"	2 2/3" x 1/2"	3"x1"	5"x1"	2 2/3" x 1/2"	3"x1"	5"x1"	2 2/3" x 1/2"	3"x1"	5"x1"
15	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
18	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)
21	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)
24	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)
30	(0.109E)	(0.109E)	(0.109E)	(0.109E)	(0.109E)	(0.109E)	(0.109E)	(0.109E)	(0.109E)	(0.109E)	(0.109E)	(0.109E)	(0.109E)	(0.109E)	(0.109E)
36	(0.109E)	(0.109E)	(0.109E)	(0.109E)	(0.109E)	(0.109E)	(0.109E)	(0.109E)	(0.109E)	(0.109E)	(0.109E)	(0.109E)	(0.109E)	(0.109E)	(0.109E)
42	0.079	0.064	0.064	0.064	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)	(0.079)
48	0.109	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)
54	0.109	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)
60	0.109	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)
66	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)
72	0.138	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)
78	0.168	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)
84	0.168	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)
90	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)
96	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)	(0.138)
102	0.109Z	0.109Z	0.109Z	0.109Z	0.109Z	0.109Z	0.109Z	0.109Z	0.109Z	0.109Z	0.109Z	0.109Z	0.109Z	0.109Z	0.109Z
108	0.109Z	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)
114	0.109Z	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)
120	0.109Z	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)	(0.138Z)
126	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z
132	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z
138	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z	0.138Z
144	0.168Z	0.168Z	0.168Z	0.168Z	0.168Z	0.168Z	0.168Z	0.168Z	0.168Z	0.168Z	0.168Z	0.168Z	0.168Z	0.168Z	0.168Z

\* Notes:  
 \* Aluminized Type 2 Steel or Precoated Galvanized Steel shall be required for diameters up to 42" according to Article 1006.01. 1 1/2" x 1/4" corrugations shall be used for diameters less than 12".  
 Thicknesses are based on longitudinal riveted seam fabrication, values in "( )" can be reduced by one gage thickness if helical seam fabrication is utilized.  
 A thickness preceded by "H" indicates only helical seam fabrication is allowed.  
 E Elongation according to Article 542.04(e)  
 Z 1-6" Minimum fill

250

TABLE IB: THICKNESS OF CORRUGATED STEEL PIPE  
FOR THE RESPECTIVE DIAMETER OF PIPE AND FILL HEIGHTS OVER THE TOP OF THE PIPE FOR 68 mm x 13 mm, 75 mm x 25 mm AND 125 mm x 25 mm CORRUGATIONS  
(Metric)

Nominal Diameter mm *	Type 1 Fill Height:		Type 2 Fill Height:		Type 3 Fill Height:		Type 4 Fill Height:		Type 5 Fill Height:		Type 6 Fill Height:		Type 7 Fill Height:	
	1 m and less 0.3 m min. cover	Greater than 1 m not exceeding 3 m	Greater than 3 m not exceeding 4.5 m	Greater than 4.5 m not exceeding 6 m	Greater than 6 m not exceeding 7.5 m	Greater than 7.5 m not exceeding 9 m	Greater than 9 m not exceeding 10.5 m							
300	68 x 13 mm	75 x 25 mm	125 x 25 mm	68 x 13 mm	75 x 25 mm	125 x 25 mm	68 x 13 mm	75 x 25 mm	125 x 25 mm	68 x 13 mm	75 x 25 mm	125 x 25 mm	68 x 13 mm	75 x 25 mm
375	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63
450	(2.01)	1.63	1.63	1.63	1.63	1.63	(2.01)	(2.01)	(2.01)	(2.01)	(2.01)	(2.01)	(2.01)	(2.01)
525	(2.01)	1.63	1.63	1.63	1.63	1.63	(2.01)	(2.01)	(2.01)	(2.01)	(2.01)	(2.01)	(2.01)	(2.01)
600	(2.01)	1.63	1.63	1.63	1.63	1.63	(2.01)	(2.01)	(2.01)	(2.01)	(2.01)	(2.01)	(2.01)	(2.01)
750	(2.77E)	1.63	1.63	1.63	1.63	1.63	(2.01)	(2.01)	(2.01)	(2.01)	(2.01)	(2.01)	(2.77)	(2.77)
900	(2.77E)	1.63	1.63	1.63	1.63	1.63	(2.01)	(2.01)	(2.01)	(2.01)	(2.01)	(2.01)	2.77	2.77
1050	2.01	1.63	1.63	1.63	1.63	1.63	(2.01)	(2.01)	(2.01)	(2.01)	(2.01)	(2.01)	(3.51E)	(3.51E)
1200	2.77	(2.77)	2.01	2.01	2.01	2.01	(2.77)	2.01	(2.77)	2.77	2.77	2.77	(2.77E)	(2.77E)
1350	2.77	(2.77)	2.01	2.01	2.01	2.01	2.77	2.77	2.77	2.77	2.77	2.77	(3.51E)	2.77
1500	2.77	2.77	2.01	2.01	2.01	2.01	2.77	2.77	2.77	2.77	2.77	2.77	(3.51E)	3.51
1650	(3.51)	2.77	2.01	2.01	2.01	2.01	2.77	2.77	2.77	2.77	2.77	2.77	(3.51E)	(3.51E)
1800	3.51	2.77	2.01	2.01	2.01	2.01	2.77	2.77	2.77	2.77	2.77	2.77	(3.51E)	(3.51E)
1950	4.27	2.77	2.01	2.01	2.01	2.01	4.27	2.77	2.77	2.77	2.77	2.77	(4.27E)	(4.27E)
2100	4.27	(3.51)	2.77	2.77	2.77	2.77	4.27	2.77	2.77	2.77	2.77	2.77	(4.27E)	(4.27E)
2250	(3.51)	(3.51)	2.77	2.77	2.77	2.77	(3.51)	(3.51)	(3.51)	(3.51)	(3.51)	(3.51)	(4.27E)	(4.27E)
2400	(3.51)	(3.51)	2.77	2.77	2.77	2.77	(3.51)	(3.51)	(3.51)	(3.51)	(3.51)	(3.51)	(4.27E)	(4.27E)
2550	2.77Z	2.77Z	2.77	2.77	2.77	2.77	(3.51)	(3.51)	(3.51)	(3.51)	(3.51)	(3.51)	(4.27E)	(4.27E)
2700	2.77Z	(3.51Z)	2.77	2.77	2.77	2.77	(3.51)	(3.51)	(3.51)	(3.51)	(3.51)	(3.51)	(4.27E)	(4.27E)
2850	2.77Z	(3.51Z)	2.77	2.77	2.77	2.77	(3.51)	(3.51)	(3.51)	(3.51)	(3.51)	(3.51)	(4.27E)	(4.27E)
3000	2.77Z	(3.51Z)	2.77	2.77	2.77	2.77	(3.51)	(3.51)	(3.51)	(3.51)	(3.51)	(3.51)	(4.27E)	(4.27E)
3150	3.51Z	3.51Z	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	(4.27E)	(4.27E)
3300	3.51Z	3.51Z	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	(4.27E)	(4.27E)
3450	3.51Z	3.51Z	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	(4.27E)	(4.27E)
3600	4.27Z	4.27Z	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27	(4.27E)	(4.27E)

Notes:  
 \* Aluminumized Type 2 Steel or Precoated Galvanized Steel shall be required for diameters up to 1050 mm according to Article 1006.01, 38 mm x 6.5 mm corrugations shall be used for diameters less than 300 mm.  
 Thicknesses are based on longitudinal riveted seam fabrication, values in "( )" can be reduced by one gage thickness if helical seam fabrication is utilized.  
 E Elongation according to Article 542.04(e)  
 Z 450 mm Minimum Fill

TABLE IC: THICKNESS OF CORRUGATED ALUMINUM ALLOY PIPE FOR THE RESPECTIVE DIAMETER OF PIPE AND FILL HEIGHTS OVER THE TOP OF THE PIPE FOR 2 2/3"x1/2" AND 3"x1" CORRUGATIONS														
Nominal Diameter	Type 1		Type 2		Type 3		Type 4		Type 5		Type 6		Type 7	
	Fill Height:	3' and less 1' min. cover	Fill Height:	Greater than 3' not exceeding 10'	Fill Height:	Greater than 10' not exceeding 15'	Fill Height:	Greater than 15' not exceeding 20'	Fill Height:	Greater than 20' not exceeding 25'	Fill Height:	Greater than 25' not exceeding 30'	Fill Height:	Greater than 30' not exceeding 35'
	2 2/3"x1/2"	3"x1"	2 2/3"x1/2"	3"x1"	2 2/3"x1/2"	3"x1"	2 2/3"x1/2"	3"x1"	2 2/3"x1/2"	3"x1"	2 2/3"x1/2"	3"x1"	2 2/3"x1/2"	3"x1"
12	(0.075)		0.060		0.060		0.060		0.060		0.060		0.060	
15	(0.075)		0.060		0.060		0.060		0.060		0.060		0.060	
18	(0.075)		0.060		0.060		0.060		0.060		0.060		0.060	
21	H 0.060E		0.060		0.060		0.060		0.060		0.060		0.060	
24	(0.105E)		0.060		0.060		(0.075)		(0.105)		(0.105)		(0.105)	
30	H 0.075E	H 0.060	0.075	H 0.060	0.075	H 0.060	(0.105)	H 0.060	(0.105)	H 0.060	(0.105)	H 0.060	(0.105)	H 0.060
36	(0.135E)	H 0.060E	0.075	H 0.060	(0.105)	H 0.060	(0.105)	H 0.060	(0.135)	H 0.060	(0.135)	H 0.060	(0.135)	H 0.060
42	0.105E	(0.075)	0.105	0.060	0.105	0.060	0.105	0.060	0.105	0.075	0.105	0.105	0.105	0.105E
48	0.105E	(0.075)	0.105	0.060	0.105	0.060	0.105	0.060	0.105	0.105	0.105	0.105	0.105	0.105E
54	0.105E	(0.105)	0.105	0.060	0.105	0.060	0.105	0.060	0.105	0.105	0.105	0.105	0.105	0.105E
60	0.135E	(0.105)	0.135	0.060	0.135	(0.075)	0.135	(0.105)	0.135	(0.105)	0.135	(0.105)	0.135	(0.135E)
66	0.164E	(0.105)	0.164	0.060	0.164	(0.075)	0.164	(0.105)	0.164	(0.135)	0.164	(0.135)	0.164	(0.135E)
72	0.164E	(0.105)	0.164	0.060	0.164	(0.075)	0.164	(0.105)	0.164	(0.135)	0.164	(0.135)	0.164	(0.135E)
78		(0.135)	0.075	0.075	(0.105)	(0.105)	(0.105)	(0.105)	(0.135)	(0.135)	(0.135)	(0.135)	(0.135)	(0.135E)
84		(0.135)	0.105	0.105	0.105	0.105	0.105	0.105	0.135	0.135	0.135	0.135	0.135	0.135E
90		(0.135)	0.105	0.105	0.105	0.105	0.105	0.135	0.135	0.135	0.135	0.135	0.135	0.135E
96		(0.135)	0.105	0.105	0.105	0.105	0.105	0.135	0.135	0.135	0.135	0.135	0.135	0.135E
102		0.135Z	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135E
108		0.135Z	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135E
114		0.164Z	0.164	0.164	0.164	0.164	0.164	0.164	0.164	0.164	0.164	0.164	0.164	0.164E
120		0.164Z	0.164	0.164	0.164	0.164	0.164	0.164	0.164	0.164	0.164	0.164	0.164	0.164E

Notes:  
 Thicknesses are based on longitudinal riveted seam fabrication, values in "()" can be reduced by one gage thickness if helical seam fabrication is utilized.  
 A thickness preceded by an "H" indicates only helical seam fabrication is allowed.  
 E Elongation according to Article 542.04(e), the elongation requirement for Type 1 fill heights may be eliminated for fills above 1'-6"  
 Z 1"-6" Minimum fill

TABLE IC: THICKNESS OF CORRUGATED ALUMINUM ALLOY PIPE FOR THE RESPECTIVE DIAMETER OF PIPE AND FILL HEIGHTS OVER THE TOP OF THE PIPE FOR 68 mm x 13 mm AND 75 mm x 25 mm CORRUGATIONS (Metric)

Nominal Diameter mm	Type 1		Type 2		Type 3		Type 4		Type 5		Type 6		Type 7	
	Fill Height:	Fill Height:	Fill Height:	Fill Height:	Fill Height:	Fill Height:	Fill Height:	Fill Height:	Fill Height:	Fill Height:	Fill Height:	Fill Height:	Fill Height:	Fill Height:
	1 m and less 0.3 m min. cover	Greater than 1 m not exceeding 3 m	Greater than 3 m not exceeding 4.5 m	Greater than 4.5 m not exceeding 6 m	Greater than 6 m not exceeding 7.5 m	Greater than 7.5 m not exceeding 9 m	Greater than 9 m not exceeding 10.5 m							
	68 x 13 mm	68 x 13 mm	68 x 13 mm	68 x 13 mm	68 x 13 mm	68 x 13 mm	68 x 13 mm	68 x 13 mm	68 x 13 mm	68 x 13 mm	68 x 13 mm	68 x 13 mm	68 x 13 mm	68 x 13 mm
300	(1.91)	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52
375	(1.91)	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52
450	(1.91)	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52
525	H 1.52E	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52
600	(2.67E)	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52
750	H 1.91E	1.91	H 1.52	H 1.52	H 1.52	H 1.52	H 1.52	H 1.52	H 1.52	H 1.52	H 1.52	H 1.52	H 1.52	H 1.52
900	(3.43E)	1.91	H 1.52	H 1.52	H 1.52	H 1.52	H 1.52	H 1.52	H 1.52	H 1.52	H 1.52	H 1.52	H 1.52	H 1.52
1050	2.67E	2.67	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52
1200	2.67E	2.67	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52
1350	2.67E	2.67	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52
1500	3.43E	3.43	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52
1650	4.17E	4.17	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52
1800	4.17E	4.17	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52
1950	(3.43)	1.91	(2.67)	(2.67)	(2.67)	(2.67)	(2.67)	(2.67)	(2.67)	(2.67)	(2.67)	(2.67)	(2.67)	(2.67)
2100	(3.43)	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67
2250	(3.43)	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67
2400	(3.43)	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67
2550	3.43Z	3.43	3.43	3.43	3.43	3.43	3.43	3.43	3.43	3.43	3.43	3.43	3.43	3.43
2700	3.43Z	3.43	3.43	3.43	3.43	3.43	3.43	3.43	3.43	3.43	3.43	3.43	3.43	3.43
2850	4.17Z	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17
3000	4.17Z	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17

Notes:

- Thickneses are based on longitudinal riveted seam fabrication, values in "( )" can be reduced by one gage thickness if helical seam fabrication is utilized.
- A thickness preceded by an "H" indicates only helical seam fabrication is allowed.
- E Elongation according to Article 542.04(e), the elongation requirement for Type 1 fill heights may be eliminated for fills above 450 mm.
- Z 450 mm Minimum fill



Table IIA: THICKNESS FOR CORRUGATED STEEL PIPE ARCHES AND CORRUGATED ALUMINUM ALLOY PIPE ARCHES FOR THE RESPECTIVE EQUIVALENT ROUND SIZE OF PIPE AND FILL HEIGHTS OVER THE TOP OF PIPE														
Equivalent Round Size (in.)	Corrugated Steel & Aluminum Pipe Arch 2 2/3" x 1/2"			Corrugated Steel & Aluminum Pipe Arch 3" x 1"			Corrugated Steel Pipe Arch 5" x 1"			Min. Cover				
	Span Rise (in.)*			Span Rise (in.)			Span Rise (in.)			Steel & Aluminum				
	Span (in.)	Rise (in.)	Span Rise (in.)	Span (in.)	Rise (in.)	Span Rise (in.)	Span (in.)	Rise (in.)	Span Rise (in.)	Steel	Aluminum	Fill Height:	Type	
Type 1			Type 2			Type 3			Fill Height:			Greater than 10' not exceeding 15'		
3' and less			Greater than 3' not exceeding 10'			Greater than 10' not exceeding 15'								
Steel			Steel			Steel			Steel			Aluminum		
2 2/3" x 1/2"			2 2/3" x 1/2"			2 2/3" x 1/2"			2 2/3" x 1/2"			2 2/3" x 1/2"		
5" x 1"			5" x 1"			5" x 1"			5" x 1"			5" x 1"		
3" x 1"			3" x 1"			3" x 1"			3" x 1"			3" x 1"		
15	17	13												
18	21	15												
21	24	18												
24	28	20												
30	35	24												
36	42	29												
42	49	33												
48	57	38												
54	64	43												
60	71	47												
66	77	52												
72	83	57												
78														
84														
90														
96														
102														
108														
114														
120														

Notes:  
 \* Aluminumized Type 2 Steel or Precoated Galvanized Steel shall be required for steel spans up to 42" according to Article 1006.01. Thicknesses are based on longitudinal riveted seam fabrication, values in (") can be reduced by one gage thickness if helical seam fabrication is utilized. The Type 1 corrugated steel or aluminum pipe arches shall be placed on soil having a minimum bearing capacity of 3 tons per square foot. The Type 2 and 3 corrugated steel or aluminum pipe arches shall be placed on soil having a minimum bearing capacity of 2 tons per square foot. This minimum bearing capacity will be determined by the Engineer in the field.

Table IIA: THICKNESS FOR CORRUGATED STEEL PIPE ARCHES AND CORRUGATED ALUMINUM ALLOY PIPE ARCHES FOR THE RESPECTIVE EQUIVALENT ROUND SIZE OF PIPE AND FILL HEIGHTS OVER THE TOP OF PIPE (Metric)

Equivalent Round Size (mm)	Corrugated Steel & Aluminum Pipe Arch 68 x 13 mm		Corrugated Steel & Aluminum Pipe Arch 75 x 25 mm		Corrugated Steel Pipe Arch 125 x 25 mm		Min. Cover	Type 1 Fill Height: 1 m and less						Type 2 Fill Height: Greater than 1 m not exceeding 3 m						Type 3 Fill Height: Greater than 3 m not exceeding 4.5 m					
	Span Rise (mm)*		Span Rise (mm)		Span Rise (mm)			Steel		Aluminum		Steel		Aluminum		Steel		Aluminum		Steel		Aluminum			
	Span (mm)	Rise (mm)	Span (mm)	Rise (mm)	Span (mm)	Rise (mm)		68 x 13 mm	75 x 25 mm	68 x 13 mm	75 x 25 mm	68 x 13 mm	75 x 25 mm	68 x 13 mm	75 x 25 mm	68 x 13 mm	75 x 25 mm	68 x 13 mm	75 x 25 mm	68 x 13 mm	75 x 25 mm	68 x 13 mm	75 x 25 mm		
375	430	330					1.63		1.52			1.63		1.52			1.63		1.52			1.52			
450	530	380					1.63		1.52			1.63		1.52			1.63		1.52			1.52			
525	610	460					1.63		(1.91)			1.63		1.52			1.63		1.52			1.52			
600	710	510					(2.01)		(2.67)			1.63		1.91			1.63		1.91			1.91			
750	870	630					(2.01)		(2.67)			1.63		1.91			(2.01)		(2.67)			(2.67)			
900	1060	740					(2.01)		2.67			1.63		2.67			1.63		2.67			2.67			
1050	1240	840					2.77		2.67			(2.77)		2.67			(2.77)		2.67			2.67			
1200	1440	970	1340	1050	1340	1050	2.77	(2.77)	3.43	1.52		2.77	2.01	2.01	2.01	2.01	2.77	2.01	1.52	2.77	2.01	(2.77)	1.52		
1350	1620	1100	1520	1170	1520	1170	2.77	(2.77)	4.17	(1.91)		2.77	2.01	2.01	2.01	2.01	2.77	2.01	1.52	2.77	(2.77)	2.77	1.52		
1500	1800	1200	1670	1300	1670	1300	3.51	(2.77)	4.17	(1.91)		3.51	2.01	(2.77)	(2.77)	(2.77)	3.51	2.01	1.52	3.51	(2.77)	2.77	1.91		
1650	1950	1320	1850	1400	1850	1400	4.27	(2.77)		1.91		4.27	2.01	(2.77)	(2.77)	(2.77)	4.27	2.01	1.91	4.27	(2.77)	2.77	1.91		
1800	2100	1450	2050	1500	2050	1500	4.27	(2.77)		2.67		4.27	2.01	(2.77)	(2.77)	(2.77)	4.27	2.01	2.67	4.27	(2.77)	2.77	2.67		
1950			2200	1620	2200	1620		2.77	2.77	2.67			(2.77)	2.77	2.77	2.77		(2.77)	2.67		2.77	2.77	2.67		
2100			2400	1720	2400	1720		2.77	2.77	2.67			(2.77)	2.77	2.77	2.77		(2.77)	2.67		2.77	2.77	2.67		
2250			2600	1820	2600	1820		2.77	2.77	3.43			(2.77)	2.77	2.77	2.77		(2.77)	3.43		2.77	2.77	2.67		
2400			2840	1920	2840	1920		2.77	(3.51)	4.17			2.77	2.77	2.77	2.77		2.77	4.17		2.77	(3.51)	4.17		
2550			2970	2020	2970	2020		2.77	(3.51)	4.17			2.77	2.77	2.77	2.77		2.77	4.17		2.77	(3.51)	4.17		
2700			3240	2120	3240	2120		3.51	3.51				3.51	3.51	3.51	3.51		3.51			3.51	(3.51)	4.17		
2850			3470	2220	3470	2220		3.51	3.51				3.51	3.51	3.51	3.51		3.51			3.51	3.51	4.17		
3000			3600	2320	3600	2320		4.27	4.27				4.27	4.27	4.27	4.27		4.27			4.27	4.27	4.17		

Notes:

- \* Aluminized Type 2 Steel or Precoated Galvanized Steel shall be required for steel spans up to 1060 mm according to Article 1006.01.
- Thicknesses are based on longitudinal riveted seam fabrication, values in "()" can be reduced by one gage thickness if helical seam fabrication is utilized.
- The Type 1 corrugated steel or aluminum pipe arches shall be placed on soil having a minimum bearing capacity of 290 kN per square meter.
- The Type 2 and 3 corrugated steel or aluminum pipe arches shall be placed on soil having a minimum bearing capacity of 192 kN per square meter.
- This minimum bearing capacity will be determined by the Engineer in the field.

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Table 11B: CLASSES OF REINFORCED CONCRETE ELLIPTICAL AND REINFORCED CONCRETE ARCH PIPE FOR THE RESPECTIVE EQUIVALENT ROUND SIZE OF PIPE AND FILL HEIGHTS OVER THE TOP OF PIPE												
Equivalent Round Size (in.)	Reinforced Concrete Elliptical pipe (in.)		Reinforced Concrete Arch pipe (in.)		Minimum Cover	Type 1		Type 2		Type 3		
	Span	Rise	Span	Rise		Fill Height: 3' and less		Fill Height: Greater than 3' not exceeding 10'		Fill Height: Greater than 10' not exceeding 15'		
						HE	Arch	HE	Arch	HE	Arch	
15	23	14	18	11	RCCP	HE & A	HE	Arch	HE	Arch	HE	Arch
18	23	14	22	13 1/2	1'-0"		HE-III	A-III	HE-III	A-III	HE-IV	A-IV
21	30	19	26	15 1/2	1'-0"		HE-III	A-III	HE-III	A-III	HE-IV	A-IV
24	30	19	28 1/2	18	1'-0"		HE-III	A-III	HE-III	A-III	HE-IV	A-IV
27	34	22	36 1/4	22 1/2	1'-0"		HE-III	A-III	HE-III	A-III	HE-IV	A-IV
30	38	24	36 1/4	22 1/2	1'-0"		HE-III	A-III	HE-III	A-III	HE-IV	A-IV
36	45	29	43 3/4	26 5/8	1'-0"		HE-II	A-II	HE-III	A-III	HE-IV	A-IV
42	53	34	51 1/8	31 5/16	1'-0"		HE-I	A-I	HE-III	A-III	HE-IV	A-IV
48	60	38	58 1/2	36	1'-0"		HE-I	A-I	HE-III	A-III	1460	1450
54	68	43	65	40	1'-0"		HE-I	A-I	HE-III	A-III	1460	1460
60	76	48	73	45	1'-0"		HE-I	A-I	HE-III	A-III	1460	1470
66	83	53	88	54	1'-0"		HE-I	A-I	HE-III	A-III	1470	1480
72	91	58	88	54	1'-0"		HE-I	A-I	HE-III	A-III	1470	1480

Notes:

A number indicates the D-Load for the diameter and depth of fill and that a special design is required.  
 Design assumptions; Water filled pipe, AASHTO Type 2 installation per AASHTO LRFD Table 12.10.2.1-1

Table IIB: CLASSES OF REINFORCED CONCRETE ELLIPTICAL AND REINFORCED CONCRETE ARCH PIPE FOR THE RESPECTIVE EQUIVALENT ROUND SIZE OF PIPE AND FILL HEIGHTS OVER THE TOP OF PIPE (Metric)

Equivalent Round Size (mm)	Reinforced Concrete Elliptical pipe (mm)		Reinforced Concrete Arch pipe (mm)		Minimum Cover	Type 1		Type 2		Type 3	
	Span	Rise	Span	Rise		Fill Height: 1 m and less		Fill Height: Greater than 1 m not exceeding 3 m		Fill Height: Greater than 3 m not exceeding 4.5 m	
						HE	Arch	HE	Arch	HE	Arch
375	584	356	457	279	RCCP HE & A	HE	Arch	HE	Arch	HE	Arch
450	584	356	559	343	0.3 m	HE-III	A-III	HE-III	A-III	HE-IV	A-IV
525	762	483	660	394	0.3 m	HE-III	A-III	HE-III	A-III	HE-IV	A-IV
600	762	483	724	457	0.3 m	HE-III	A-III	HE-III	A-III	HE-IV	A-IV
686	864	559	921	572	0.3 m	HE-III	A-III	HE-III	A-III	HE-IV	A-IV
750	965	610	921	572	0.3 m	HE-III	A-III	HE-III	A-III	HE-IV	A-IV
900	1143	737	1111	676	0.3 m	HE-II	A-II	HE-III	A-III	HE-IV	A-IV
1050	1346	864	1299	795	0.3 m	HE-I	A-I	HE-III	A-III	HE-IV	A-IV
1200	1524	965	1486	914	0.3 m	HE-I	A-I	HE-III	A-III	70	70
1350	1727	1092	1651	1016	0.3 m	HE-I	A-I	HE-III	A-III	70	70
1500	1930	1219	1854	1143	0.3 m	HE-I	A-I	HE-III	A-III	70	70
1676	2108	1346	2235	1372	0.3 m	HE-I	A-I	HE-III	A-III	70	70
1800	2311	1473	2235	1372	0.3 m	HE-I	A-I	HE-III	A-III	70	70

Notes:

A number indicates the D-Load for the diameter and depth of fill and that a special design is required.  
Design assumptions: Water filled pipe, AASHTO Type 2 installation per AASHTO LRFD Table 12.10.2.1-1

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TABLE IIIA: PLASTIC PIPE PERMITTED FOR A GIVEN PIPE DIAMETER AND FILL HEIGHT OVER THE TOP OF THE PIPE

Nominal Diameter (in.)	Type 1 Fill Height: 3' and less, with 1' min									Type 2 Fill Height: Greater than 3', not exceeding 10'						Type 3 Fill Height: Greater than 10', not exceeding 15'						Type 4 Fill Height: Greater than 15', not exceeding 20'								
	PVC			CPVC			PE			CPE			CPP			PVC			CPVC			PE			CPP					
10	X	X	X	X	X	X	NA	NA	NA	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	NA	NA	NA
12	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
15	X	X	X	X	X	X	NA	NA	NA	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
18	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
21	X	X	X	X	X	X	NA	NA	NA	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
24	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
36	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
42	X	NA	NA	X	X	X	NA	NA	NA	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
48	X	NA	NA	X	X	X	NA	NA	NA	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Notes:

- PVC Polyvinyl Chloride (PVC) pipe with a smooth interior
- CPVC Corrugated Polyvinyl Chloride (CPVC) pipe with a smooth interior
- PE Polyethylene (PE) pipe with a smooth interior
- CPE Corrugated Polyethylene (PE) pipe with a smooth interior
- CPP Corrugated Polypropylene (CPP) pipe with a smooth interior
- X This material may be used for the given pipe diameter and fill height
- NA Not Available

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Nominal Diameter (mm)		TABLE IIIA: PLASTIC PIPE PERMITTED FOR A GIVEN PIPE DIAMETER AND FILL HEIGHT OVER THE TOP OF THE PIPE (Metric)																		
		Type 1				Type 2				Type 3				Type 4						
		Fill Height: 1 m and less, with 0.3 m min. cover				Fill Height: Greater than 1 m, not exceeding 3 m				Fill Height: Greater than 3 m, not exceeding 4.5 m				Fill Height: Greater than 4.5 m, not exceeding 6 m						
	PVC	CPVC	PE	CPE	CPP	PVC	CPVC	PE	CPE	CPP	PVC	CPVC	PE	CPE	CPP	PVC	CPVC	PE	CPP	
250	X	X	X	X	NA	X	X	X	X	NA	X	X	X	X	NA	X	X	X	X	NA
300	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	NA
375	X	X	NA	X	X	X	X	NA	X	X	X	X	NA	NA	X	X	X	X	NA	X
450	X	X	X	X	X	X	X	X	X	X	X	X	X	NA	X	X	X	X	X	NA
525	X	X	NA	NA	NA	X	X	NA	NA	NA	X	X	NA	NA	NA	X	X	X	NA	NA
600	X	X	X	X	X	X	X	X	X	X	X	X	X	NA	X	X	X	X	X	NA
750	X	X	X	X	X	X	X	X	X	X	X	X	X	NA	X	X	X	X	X	NA
900	X	X	X	X	X	X	X	X	X	X	X	X	X	NA	X	X	X	X	X	NA
1000	X	NA	X	X	NA	X	NA	X	NA	NA	X	NA	X	NA	NA	X	NA	X	X	NA
1200	X	NA	X	X	X	X	NA	X	NA	NA	X	NA	X	NA	NA	X	NA	X	X	NA

Notes:  
PVC Polyvinyl Chloride (PVC) pipe with a smooth interior  
CPVC Corrugated Polyvinyl Chloride (CPVC) pipe with a smooth interior  
PE Polyethylene (PE) pipe with a smooth interior  
CPE Corrugated Polyethylene (PE) pipe with a smooth interior  
CPP Corrugated Polypropylene (CPP) pipe with a smooth interior  
X This material may be used for the given pipe diameter and fill height  
NA Not Available

TABLE III-B: PLASTIC PIPE PERMITTED

Nominal Diameter (in.)	Type 5			Type 6		Type 7
	Fill Height: Greater than 20', not exceeding 25'			Fill Height: Greater than 25', not exceeding 30'		Fill Height: Greater than 30', not exceeding 35'
	PVC	CPVC		PVC	CPVC	
10	X	X		X		X
12	X	X		X		X
15	X	X		X		X
18	X	X		X		X
21	X	X		X		X
24	X	X		X		X
30	X	X		X		X
36	X	X		X		X
42	X	NA		X	NA	NA
48	X	NA		X	NA	NA

Notes:  
 PVC Polyvinyl Chloride (PVC) pipe with a smooth interior  
 CPVC Corrugated Polyvinyl Chloride (CPVC) pipe with a smooth interior  
 X This material may be used for the given pipe diameter and fill height  
 NA Not Available

TABLE IIIIB: PLASTIC PIPE PERMITTED  
FOR A GIVEN PIPE DIAMETER AND FILL HEIGHT OVER THE TOP OF THE PIPE  
(metric)

Nominal Diameter (mm)	Type 5 Fill Height: Greater than 6 m, not exceeding 7.5 m		Type 6 Fill Height: Greater than 7.5 m, not exceeding 9 m		Type 7 Fill Height: Greater than 9 m, not exceeding 10.5 m	
	PVC	CPVC	PVC	CPVC	PVC	CPVC
250	X	X	X	X		
300	X	X	X	X		
375	X	X	X	X		
450	X	X	X	X		
525	X	X	X	X		
600	X	X	X	X		
750	X	X	X	X		
900	X	X	X	X		
1000	X	NA	X	NA		
1200	X	NA	X	NA		

Notes:  
PVC Polyvinyl Chloride (PVC) pipe with a smooth interior  
CPVC Corrugated Polyvinyl Chloride (CPVC) pipe with a smooth interior  
PE Polyethylene (PE) pipe with a smooth interior  
X This material may be used for the given pipe diameter and fill height  
NA Not Available"



Revise the first sentence of the first paragraph of Article 542.04(c) of the Standard Specifications to read:

“Compacted aggregate, at least 4 in. (100 mm) in depth below the pipe culvert, shall be placed the entire width of the trench and for the length of the pipe culvert, except compacted impervious material shall be used for the outer 3 ft (1 m) at each end of the pipe culvert.”

Revise the seventh paragraph of Article 542.04(d) of the Standard Specifications to read:

“PVC, PE and CPP pipes shall be joined according to the manufacturer’s specifications.”

Replace the third sentence of the first paragraph of Article 542.04(h) of the Standard Specifications with the following:

“The total cover required for various construction loadings shall be the responsibility of the Contractor.”

Delete “Table IV : Wheel Loads and Total Cover” in Article 542.04(h) of the Standard Specifications.

Revise the first and second paragraphs of Article 542.04(i) of the Standard Specifications to read:

“(i) Deflection Testing for Pipe Culverts. All PE, PVC and CPP pipe culverts shall be tested for deflection not less than 30 days after the pipe is installed and the backfill compacted. The testing shall be performed in the presence of the Engineer.

For PVC, PE, and CPP pipe culverts with diameters 24 in. (600 mm) or smaller, a mandrel drag shall be used for deflection testing. For PVC, PE, and CPP pipe culverts with diameters over 24 in. (600 mm), deflection measurements other than by a mandrel shall be used.”

Revise Articles 542.04(i)(1) and (2) of the Standard Specifications to read:

“(1) For all PVC pipe: as defined using ASTM D 3034 methodology.

(2) For all PE and CPP pipe: the average inside diameter based on the minimum and maximum tolerances specified in the corresponding ASTM or AASHTO material specifications.”

Revise the second sentence of the second paragraph of Article 542.07 of the Standard Specifications to read:

"When a prefabricated end section is used, it shall be of the same material as the pipe culvert, except for polyethylene (PE), polyvinylchloride (PVC), and polypropylene (PP) pipes which shall have metal end sections."

Revise the first paragraph of Article 1040.03 of the Standard Specifications to read:

**"1040.03 Polyvinyl Chloride (PVC) Pipe.** Acceptance testing of PVC pipe and fittings shall be accomplished during the same construction season in which they are installed. The section properties shall be according to the manufacturer pre-submitted geometric properties on file with the Department. The manufacturer shall submit written certification that the material meets those properties. The pipe shall meet the following additional requirements."

Delete Articles 1040.03(e) and (f) of the Standard Specifications.

Revise Articles 1040.04(c) and (d) of the Standard Specifications to read:

"(c) PE Profile Wall Pipe for Insertion Lining. The pipe shall be according to ASTM F 894. When used for insertion lining of pipe culverts, the pipe liner shall have a minimum pipe stiffness of 46 psi (317 kPa) at five percent deflection for nominal inside diameters of 42 in. (1050 mm) or less. For nominal inside diameters of greater than 42 in. (1050 mm), the pipe liner shall have a minimum pipe stiffness of 32.5 psi (225 kPa) at five percent deflection. All sizes shall have wall construction that presents essentially smooth internal and external surfaces.

(d) PE Pipe with a Smooth Interior. The pipe shall be according to ASTM F 714 (DR 32.5) with a minimum cell classification of PE 335434 as defined in ASTM D 3350. The section properties shall be according to the manufacturer pre-submitted geometric properties on file with the Department. The manufacturer shall submit written certification that the material meets those properties and the resin used to manufacture the pipe meets or exceeds the minimum cell classification requirements."

Add the following to Section 1040 of the Standard Specifications:

**"1040.08 Polypropylene (PP) Pipe.** Storage and handling shall be according to the manufacturer's recommendations, except in no case shall the pipe be exposed to direct sunlight for more than six months. Acceptance testing of the pipe shall be accomplished during the same construction season in which it is installed. The section properties shall be according to the manufacturer pre-submitted geometric properties on file with the Department. The manufacturer shall submit written certification that the material meets those properties. The pipe shall meet the following additional requirements.

(a) Corrugated PP Pipe with a Smooth Interior. The pipe shall be according to AAHSTO M 330 (nominal size – 12 to 60 in. (300 to 1500 mm)). The pipe shall be Type S or D.

(b) Perforated Corrugated PP Pipe with A Smooth Interior. The pipe shall be according to AASHTO M 330 (nominal size – 12 to 60 in. (300 to 1500 mm)). The pipe shall be

Type SP. In addition, the top centerline of the pipe shall be marked so that it is readily visible from the top of the trench before backfilling, and the upper ends of the slot perforations shall be a minimum of ten degrees below the horizontal."

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## LRFD STORM SEWER BURIAL TABLES (BDE)

Effective: November 1, 2013

Revised: November 1, 2014

Revise Article 550.02 of the Standard Specifications to read as follows:

Item	Article Section
(a) Clay Sewer Pipe .....	1040.02
(b) Extra Strength Clay Pipe .....	1040.02
(c) Concrete Sewer, Storm Drain, and Culvert Pipe .....	1042
(d) Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe .....	1042
(e) Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe (Note 1) .....	1042
(f) Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe (Note 1) .....	1042
(g) Polyvinyl Chloride (PVC) Pipe .....	1040.03
(h) Corrugated Polyvinyl Chloride (PVC) Pipe with a Smooth Interior .....	1040.03
(i) Corrugated Polypropylene (CPP) Pipe with Smooth Interior .....	1040.07
(j) Rubber Gaskets and Preformed Flexible Joint Sealants for Concrete Pipe .....	1056
(k) Mastic Joint Sealer for Pipe .....	1055
(l) External Sealing Band .....	1057
(m) Fine Aggregate (Note 2) .....	1003.04
(n) Coarse Aggregate (Note 3) .....	1004.05
(o) Reinforcement Bars and Welded Wire Fabric .....	1006.10
(p) Handling Hole Plugs .....	1042.16
(q) Polyethylene (PE) Pipe with a Smooth Interior .....	1040.04
(r) Corrugated Polyethylene (PE) Pipe with a Smooth Interior .....	1040.04

Note 1. The class of elliptical and arch pipe used for various storm sewer sizes and heights of fill shall conform to the requirements for circular pipe.

Note 2. The fine aggregate shall be moist.

Note 3. The coarse aggregate shall be wet.”

Revise the table for permitted materials in Article 550.03 of the Standard Specifications as follows:

"Class	Materials
A	Rigid Pipes: Clay Sewer Pipe Extra Strength Clay Pipe Concrete Sewer, Storm Drain, and Culvert Pipe Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe
B	Rigid Pipes: Clay Sewer Pipe Extra Strength Clay Pipe Concrete Sewer, Storm Drain, and Culvert Pipe Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe Flexible Pipes: Polyvinyl Chloride (PVC) Pipe Corrugated Polyvinyl Chloride Pipe (PVC) with a Smooth Interior Polyethylene (PE) Pipe with a Smooth Interior Corrugated Polyethylene (PE) Pipe with a Smooth Interior Corrugated Polypropylene (CPP) Pipe with a Smooth Interior"

Replace the storm sewers tables in Article 550.03 of the Standard Specifications with the following:

**STORM SEWERS**

**KIND OF MATERIAL PERMITTED AND STRENGTH REQUIRED FOR A GIVEN PIPE DIAMETERS AND FILL HEIGHTS OVER THE TOP OF THE PIPE**

Nominal Diameter in.	Type 1											Type 2					
	Fill Height: 3' and less With 1' minimum cover											Fill Height: Greater than 3' not exceeding 10'					
	RCCP	CSP	ESCP	PVC	CPVC	PE	CPE	CPP	RCCP	CSP	ESCP	PVC	CPVC	PE	CPE	CPP	
10	NA	3	X	X	X	X	X	NA	1	*X	X	X	X	X	NA		
12	IV	NA	X	X	X	X	X	X	1	*X	X	X	X	X	X		
15	IV	NA	NA	X	NA	NA	NA	X	1	*X	X	X	NA	X	X		
18	IV	NA	NA	X	X	X	X	X	2	X	X	X	X	X	X		
21	III	NA	NA	X	X	NA	NA	NA	2	X	X	X	X	NA	NA		
24	III	NA	NA	X	X	X	X	X	2	X	X	X	X	X	X		
27	III	NA	NA	NA	NA	NA	NA	NA	3	X	NA	NA	NA	NA	NA		
30	IV	NA	NA	X	X	X	X	X	3	X	X	X	X	X	X		
33	III	NA	NA	NA	NA	NA	NA	NA	NA	X	NA	NA	NA	NA	NA		
36	III	NA	NA	X	X	X	X	X	NA	X	X	X	X	X	X		
42	II	NA	X	X	NA	X	X	NA	NA	X	X	NA	NA	NA	NA		
48	II	NA	X	X	NA	X	X	NA	NA	X	X	NA	NA	NA	NA		
54	II	NA	NA	NA	NA	NA	NA	NA	NA	X	X	NA	NA	NA	NA		
60	II	NA	NA	NA	NA	NA	NA	NA	NA	X	X	NA	NA	NA	NA		
66	II	NA	NA	NA	NA	NA	NA	NA	NA	X	X	NA	NA	NA	NA		
72	II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
78	II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
84	II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
90	II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
96	II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
102	II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
108	II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		

RCCP Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe  
 CSP Concrete Sewer, Storm drain, and Culvert Pipe  
 PVC Polyvinyl Chloride Pipe  
 CPVC Corrugated Polyvinyl Chloride Pipe  
 ESCP Extra Strength Clay Pipe  
 PE Polyethylene Pipe with a Smooth Interior  
 CPE Corrugated Polyethylene Pipe with a Smooth Interior  
 CPP Corrugated Polypropylene pipe with a Smooth Interior  
 X This material may be used for the given pipe diameter and fill height.  
 NA This material is Not Acceptable for the given pipe diameter and fill height.  
 \* May also use Standard Strength Clay Pipe

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STORM SEWERS (Metric)  
KIND OF MATERIAL PERMITTED AND STRENGTH REQUIRED  
FOR A GIVEN PIPE DIAMETERS AND FILL HEIGHTS OVER THE TOP OF THE PIPE

Nominal Diameter in.	Type 1											Type 2					
	Fill Height: 1 m and less With 300 mm minimum cover											Fill Height: Greater than 1 m not exceeding 3 m					
	RCCP	CSP	ESCP	PVC	CPVC	PE	CPE	CPP	RCCP	CSP	ESCP	PVC	CPVC	PE	CPE	CPP	
250	NA	3	X	X	X	X	X	NA	NA	*X	X	X	X	X	NA		
300	IV	NA	X	X	X	X	X	X	II	*X	X	X	X	X	X		
375	IV	NA	NA	X	X	NA	X	X	II	*X	X	X	NA	X	X		
450	IV	NA	NA	X	X	X	X	X	II	X	X	X	X	X	X		
525	III	NA	NA	X	X	NA	NA	NA	II	X	X	X	X	NA	X		
600	III	NA	NA	X	X	X	X	X	II	X	X	X	X	NA	X		
675	III	NA	NA	NA	NA	NA	NA	NA	II	X	X	X	X	X	NA		
750	IV	NA	NA	X	X	X	X	X	II	X	X	X	NA	NA	NA		
825	III	NA	NA	NA	NA	NA	NA	NA	II	X	X	X	X	X	NA		
900	III	NA	NA	X	X	X	X	X	II	X	X	X	X	X	NA		
1050	II	NA	X	X	NA	X	X	NA	II	NA	X	NA	X	X	NA		
1200	II	NA	X	X	NA	X	X	NA	II	NA	X	NA	X	X	NA		
1350	II	NA	NA	NA	NA	NA	NA	NA	II	NA	X	NA	X	NA	NA		
1500	II	NA	NA	NA	NA	NA	NA	NA	II	NA	X	NA	X	NA	NA		
1650	II	NA	NA	NA	NA	NA	NA	NA	II	NA	X	NA	X	NA	NA		
1800	II	NA	NA	NA	NA	NA	NA	NA	II	NA	X	NA	X	NA	NA		
1950	II	NA	NA	NA	NA	NA	NA	NA	II	NA	X	NA	X	NA	NA		
2100	II	NA	NA	NA	NA	NA	NA	NA	II	NA	X	NA	X	NA	NA		
2250	II	NA	NA	NA	NA	NA	NA	NA	II	NA	X	NA	X	NA	NA		
2400	II	NA	NA	NA	NA	NA	NA	NA	II	NA	X	NA	X	NA	NA		
2550	II	NA	NA	NA	NA	NA	NA	NA	III	NA	NA	NA	NA	NA	NA		
2700	II	NA	NA	NA	NA	NA	NA	NA	III	NA	NA	NA	NA	NA	NA		

RCCP Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe  
 CSP Concrete Sewer, Storm drain, and Culvert Pipe  
 PVC Polyvinyl Chloride Pipe  
 CPVC Corrugated Polyvinyl Chloride Pipe  
 ESCP Extra Strength Clay Pipe  
 PE Polyethylene Pipe with a Smooth Interior  
 CPE Corrugated Polyethylene Pipe with a Smooth Interior  
 CPP Corrugated Polypropylene pipe with a Smooth Interior  
 X This material may be used for the given pipe diameter and fill height.  
 NA This material is Not Acceptable for the given pipe diameter and fill height.  
 \* May also use Standard Strength Clay Pipe

STORM SEWERS															
KIND OF MATERIAL PERMITTED AND STRENGTH REQUIRED FOR A GIVEN PIPE DIAMETERS AND FILL HEIGHTS OVER THE TOP OF THE PIPE															
Nominal Diameter in.	Type 4														
	Type 3						Type 4								
	Fill Height: Greater than 10' not exceeding 15'						Fill Height: Greater than 15' not exceeding 20'								
	RCCP	CSP	ESCP	PVC	CPVC	PE	CPE	CPP	RCCP	CSP	ESCP	PVC	CPVC	PE	CPP
10	NA	2	X	X	X	X	X	NA	NA	3	X	X	X	X	NA
12	III	2	X	X	X	X	NA	X	IV	NA	NA	X	X	X	NA
15	III	3	X	X	X	NA	NA	X	IV	NA	NA	X	X	X	NA
18	III	NA	X	X	X	X	NA	X	IV	NA	NA	X	X	X	NA
21	III	NA	NA	X	X	NA	NA	NA	IV	NA	NA	X	X	X	NA
24	III	NA	NA	X	X	X	NA	NA	IV	NA	NA	X	X	X	NA
27	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	X	X	X	NA
30	III	NA	NA	X	X	X	NA	X	IV	NA	NA	X	X	X	NA
33	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	X	X	X	NA
36	III	NA	NA	NA	X	X	NA	NA	IV	NA	NA	X	X	X	NA
42	III	NA	NA	NA	X	X	NA	NA	IV	NA	NA	X	X	X	NA
48	III	NA	NA	NA	X	X	NA	NA	IV	NA	NA	X	X	X	NA
54	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	X	X	X	NA
60	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	X	X	X	NA
66	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	X	X	X	NA
72	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	X	X	X	NA
78	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	X	X	X	NA
84	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	X	X	X	NA
90	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	X	X	X	NA
96	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	X	X	X	NA
102	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	X	X	X	NA
108	1360	NA	NA	NA	NA	NA	NA	NA	1680	NA	NA	NA	NA	NA	NA

RCCP Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe  
 CSP Concrete Sewer, Storm drain, and Culvert Pipe  
 PVC Polyvinyl Chloride Pipe  
 CPVC Corrugated Polyvinyl Chloride Pipe  
 ESCP Extra Strength Clay Pipe  
 PE Polyethylene Pipe with a Smooth Interior  
 CPE Corrugated Polyethylene Pipe with a Smooth Interior  
 CPP Corrugated Polypropylene pipe with a Smooth Interior  
 X This material may be used for the given pipe diameter and fill height.  
 \* This material is Not Acceptable for the given pipe diameter and fill height.  
 Note May also use Standard Strength Clay Pipe  
 RCCP with a number instead of a Roman numeral shall be furnished according to AASHTO M170 Section 6. This number represents the D-load to produce a 0.01 in crack.



STORM SEWERS (metric)															
KIND OF MATERIAL PERMITTED AND STRENGTH REQUIRED FOR A GIVEN PIPE DIAMETERS AND FILL HEIGHTS OVER THE TOP OF THE PIPE															
Nominal Diameter in.	Type 3							Type 4							
	Fill Height: Greater than 3 m not exceeding 4.5 m							Fill Height: Greater than 4.5 m not exceeding 6 m							
	RCCP	CSP	ESCP	PVC	CPVC	PE	CPE	CPP	RCCP	CSP	ESCP	PVC	CPVC	PE	CPP
250	NA	2	X	X	X	X	X	NA	NA	3	X	X	X	X	NA
300	III	2	X	X	X	X	NA	X	IV	NA	NA	X	X	X	NA
375	III	3	X	X	X	NA	NA	X	IV	NA	NA	X	X	NA	X
450	III	NA	X	X	X	X	NA	X	IV	NA	NA	X	X	X	NA
525	III	NA	NA	X	X	NA	NA	NA	IV	NA	NA	X	X	NA	NA
600	III	NA	NA	X	X	X	NA	NA	IV	NA	NA	X	X	NA	NA
675	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	X	X	NA	NA
750	III	NA	NA	X	X	X	NA	X	IV	NA	NA	X	X	NA	NA
825	III	NA	NA	NA	NA	NA	NA	NA	IV	NA	NA	X	X	NA	NA
900	III	NA	NA	X	X	X	NA	NA	IV	NA	NA	X	X	NA	NA
1050	III	NA	NA	NA	NA	X	NA	NA	IV	NA	NA	X	X	NA	NA
1200	III	NA	NA	NA	NA	X	NA	NA	IV	NA	NA	X	X	NA	NA
1350	III	NA	NA	NA	NA	X	NA	NA	IV	NA	NA	X	X	NA	NA
1500	III	NA	NA	NA	NA	X	NA	NA	IV	NA	NA	X	X	NA	NA
1650	III	NA	NA	NA	NA	X	NA	NA	IV	NA	NA	X	X	NA	NA
1800	III	NA	NA	NA	NA	X	NA	NA	IV	NA	NA	X	X	NA	NA
1950	III	NA	NA	NA	NA	X	NA	NA	IV	NA	NA	X	X	NA	NA
2100	III	NA	NA	NA	NA	X	NA	NA	IV	NA	NA	X	X	NA	NA
2250	III	NA	NA	NA	NA	X	NA	NA	IV	NA	NA	X	X	NA	NA
2400	III	NA	NA	NA	NA	X	NA	NA	IV	NA	NA	X	X	NA	NA
2550	III	NA	NA	NA	NA	X	NA	NA	IV	NA	NA	X	X	NA	NA
2700	70	NA	NA	NA	NA	X	NA	NA	IV	NA	NA	X	X	NA	NA

RCCP Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe

CSP Concrete Sewer, Storm drain, and Culvert Pipe

PVC Polyvinyl Chloride Pipe

CPVC Corrugated Polyvinyl Chloride Pipe

ESCP Extra Strength Clay Pipe

PE Polyethylene Pipe with a Smooth Interior

CPE Corrugated Polyethylene Pipe with a Smooth Interior

CPP Corrugated Polypropylene pipe with a Smooth Interior

X This material may be used for the given pipe diameter and fill height.

\* This material is Not Acceptable for the given pipe diameter and fill height.

Note May also use Standard Strength Clay Pipe

RCCP with a number instead of a Roman numeral shall be furnished according to AASHTO M170 Section 6. This number represents the metric D-load to produce

a 25.4 micro-meter crack.

STORM SEWERS KIND OF MATERIAL PERMITTED AND STRENGTH REQUIRED FOR A GIVEN PIPE DIAMETERS AND FILL HEIGHTS OVER THE TOP OF THE PIPE										
Nominal Diameter in.	Type 5 Fill Height: Greater than 20' not exceeding 25'				Type 6 Fill Height: Greater than 25' not exceeding 30'				Type 7 Fill Height: Greater than 30' not exceeding 35'	
	RCCP	PVC	CPVC		RCCP	PVC	CPVC		RCCP	CPVC
	10	NA	X	X	NA	NA	X	X	NA	NA
12	IV	X	X	V	V	X	X	V	V	X
15	IV	X	X	V	V	X	X	V	V	X
18	IV	X	X	V	V	X	X	V	V	X
21	IV	X	X	V	V	X	X	V	V	X
24	IV	X	X	V	V	X	X	V	V	X
27	IV	NA	NA	V	V	NA	NA	V	V	X
30	IV	X	X	V	V	X	X	V	V	NA
33	IV	NA	NA	V	V	NA	NA	V	V	X
36	IV	X	X	V	V	X	X	V	V	NA
42	IV	X	NA	V	V	X	NA	V	V	X
48	IV	X	NA	V	V	X	NA	V	V	NA
54	IV	NA	NA	V	V	NA	NA	V	V	NA
60	IV	NA	NA	V	V	NA	NA	V	V	NA
66	IV	NA	NA	V	V	NA	NA	V	V	NA
72	V	NA	NA	V	V	NA	NA	V	V	NA
78	2020	NA	NA	2370	NA	NA	NA	2730	NA	NA
84	2020	NA	NA	2380	NA	NA	NA	2740	NA	NA
90	2030	NA	NA	2390	NA	NA	NA	2750	NA	NA
96	2040	NA	NA	2400	NA	NA	NA	2750	NA	NA
102	2050	NA	NA	2410	NA	NA	NA	2760	NA	NA
108	2060	NA	NA	2410	NA	NA	NA	2770	NA	NA

RCCP Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe

PVC Polyvinyl Chloride Pipe

CPVC Corrugated Polyvinyl Chloride Pipe

ESCP Extra Strength Clay Pipe

X This material may be used for the given pipe diameter and fill height.

NA This material is Not Acceptable for the given pipe diameter and fill height.

Note RCCP with a number instead of a Roman numeral shall be furnished according to AASHTO M170 Section 6. This number represents the D-load to produce

a 0.01 in crack.

STORM SEWERS (metric) KIND OF MATERIAL PERMITTED AND STRENGTH REQUIRED FOR A GIVEN PIPE DIAMETERS AND FILL HEIGHTS OVER THE TOP OF THE PIPE											
Nominal Diameter in.	Type 5					Type 6				Type 7	
	Fill Height: Greater than 20' not exceeding 25'					Fill Height: Greater than 25' not exceeding 30'				Fill Height: Greater than 30' not exceeding 35'	
	RCCP	PVC	CPVC	RCCP	PVC	CPVC	RCCP	PVC	CPVC	RCCP	CPVC
250	NA	X	X	NA	X	X	NA	X	X	NA	X
300	IV	X	X	V	X	X	V	X	X	V	X
375	IV	X	X	V	X	X	V	X	X	V	X
450	IV	X	X	V	X	X	V	X	X	V	X
525	IV	X	X	V	X	X	V	X	X	V	X
600	IV	X	X	V	X	X	V	X	X	V	X
675	IV	NA	NA	V	NA	NA	V	NA	NA	V	NA
750	IV	X	X	V	X	X	V	X	X	V	X
825	IV	NA	NA	V	NA	NA	V	NA	NA	V	NA
900	IV	X	X	V	X	X	V	X	X	V	X
1050	IV	X	NA	V	NA	X	V	NA	NA	V	NA
1200	IV	X	NA	V	NA	X	V	NA	NA	V	NA
1350	IV	NA	NA	V	NA	NA	V	NA	NA	V	NA
1500	IV	NA	NA	V	NA	NA	V	NA	NA	V	NA
1650	IV	NA	NA	V	NA	NA	V	NA	NA	V	NA
1800	V	NA	NA	V	NA	NA	V	NA	NA	V	NA
1950	100	NA	NA	110	NA	NA	110	NA	NA	130	NA
2100	100	NA	NA	110	NA	NA	110	NA	NA	130	NA
2250	100	NA	NA	110	NA	NA	110	NA	NA	130	NA
2400	100	NA	NA	120	NA	NA	120	NA	NA	130	NA
2550	100	NA	NA	120	NA	NA	120	NA	NA	130	NA
2700	100	NA	NA	120	NA	NA	120	NA	NA	130	NA

RCCP Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe  
PVC Polyvinyl Chloride Pipe  
CPVC Corrugated Polyvinyl Chloride Pipe  
ESCP Extra Strength Clay Pipe  
X This material may be used for the given pipe diameter and fill height.  
NA This material is Not Acceptable for the given pipe diameter and fill height.  
Note RCCP with a number instead of a Roman numeral shall be furnished according to AASHTO M170 Section 6. This number represents the metric D-load to produce a 25.4 micro-meter crack.

Revise the sixth paragraph of Article 550.06 of the Standard Specifications to read:

“PVC, PE and CPP pipes shall be joined according to the manufacturer’s specifications.”

Revise the first and second paragraphs of Article 550.08 of the Standard Specifications to read:

“**550.08 Deflection Testing for Storm Sewers.** All PVC, PE, and CPP storm sewers shall be tested for deflection not less than 30 days after the pipe is installed and the backfill compacted. The testing shall be performed in the presence of the Engineer.

For PVC, PE, and CPP storm sewers with diameters 24 in. (600 mm) or smaller, a mandrel drag shall be used for deflection testing. For PVC, PE, and CPP storm sewers with diameters over 24 in. (600 mm), deflection measurements other than by a mandrel shall be used.”

Revise the fifth paragraph of Article 550.08 to read as follows.

“The outside diameter of the mandrel shall be 95 percent of the base inside diameter. For all PVC pipe the base inside diameter shall be defined using ASTM D 3034 methodology. For all PE and CPP pipe, the base inside diameter shall be defined as the average inside diameter based on the minimum and maximum tolerances specified in the corresponding ASTM or AASHTO material specifications.”

Revise the first paragraph of Article 1040.03 of the Standard Specifications to read:

“**1040.03 Polyvinyl Chloride (PVC) Pipe.** Acceptance testing of PVC pipe and fittings shall be accomplished during the same construction season in which they are installed. The section properties shall be according to the manufacturer pre-submitted geometric properties on file with the Department. The manufacturer shall submit written certification that the material meets those properties. The pipe shall meet the following additional requirements.”

Delete Articles 1040.03(e) and (f) of the Standard Specifications.

Revise Articles 1040.04(c) and (d) of the Standard Specifications to read:

“(c) PE Profile Wall Pipe for Insertion Lining. The pipe shall be according to ASTM F 894. When used for insertion lining of pipe culverts, the pipe liner shall have a minimum pipe stiffness of 46 psi (317 kPa) at five percent deflection for nominal inside diameters of 42 in. (1050 mm) or less. For nominal inside diameters of greater than 42 in. (1050 mm), the pipe liner shall have a minimum pipe stiffness of 32.5 psi (225 kPa) at five percent deflection. All sizes shall have wall construction that presents essentially smooth internal and external surfaces.

(d) PE Pipe with a Smooth Interior. The pipe shall be according to ASTM F 714 (DR 32.5) with a minimum cell classification of PE 335434 as defined in ASTM D 3350. The section properties shall be according to the manufacturer pre-submitted geometric properties on file with the Department. The manufacturer shall submit written

certification that the material meets those properties and the resin used to manufacture the pipe meets or exceeds the minimum cell classification requirements.”

Add the following to Section 1040 of the Standard Specifications:

**“1040.08 Polypropylene (PP) Pipe.** Storage and handling shall be according to the manufacturer's recommendations, except in no case shall the pipe be exposed to direct sunlight for more than six months. Acceptance testing of the pipe shall be accomplished during the same construction season in which it is installed. The section properties shall be according to the manufacturer pre-submitted geometric properties on file with the Department. The manufacturer shall submit written certification that the material meets those properties. The pipe shall meet the following additional requirements.

- (a) Corrugated PP Pipe with a Smooth Interior. The pipe shall be according to AASHTO M 330 (nominal size – 12 to 60 in. (300 to 1500 mm)). The pipe shall be Type S or D.
- (b) Perforated Corrugated PP Pipe with A Smooth Interior. The pipe shall be according to AASHTO M 330 (nominal size – 12 to 60 in. (300 to 1500 mm)). The pipe shall be Type SP. In addition, the top centerline of the pipe shall be marked so that it is readily visible from the top of the trench before backfilling, and the upper ends of the slot perforations shall be a minimum of ten degrees below the horizontal.”

80325

**PAVEMENT PATCHING (BDE)**

Effective: January 1, 2010

Revise the first sentence of the second paragraph of Article 701.17(e)(1) of the Standard Specifications to read:

“In addition to the traffic control and protection shown elsewhere in the contract for pavement, two devices shall be placed immediately in front of each open patch, open hole, and broken pavement where temporary concrete barriers are not used to separate traffic from the work area.”

80254

## **PAYROLLS AND PAYROLL RECORDS (BDE)**

Effective: January 1, 2014

FEDERAL AID CONTRACTS. Revise the following section of Check Sheet #1 of the Recurring Special Provisions to read:

### **"STATEMENTS AND PAYROLLS**

The payroll records shall include the worker's name, the worker's address, the worker's telephone number when available, the worker's social security number, the worker's classification or classifications, the worker's gross and net wages paid in each pay period, the worker's number of hours worked each day, the worker's starting and ending times of work each day. However, any Contractor or subcontractor who remits contributions to a fringe benefit fund that is not jointly maintained and jointly governed by one or more employers and one or more labor organization must additionally submit the worker's hourly wage rate, the worker's hourly overtime wage rate, the worker's hourly fringe benefit rates, the name and address of each fringe benefit fund, the plan sponsor of each fringe benefit, if applicable, and the plan administrator of each fringe benefit, if applicable.

The Contractor and each subcontractor shall submit payroll records to the Engineer each week from the start to the completion of their respective work, except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead, the payrolls shall include an identification number for each employee (e.g., the last four digits of the employee's social security number). In addition, starting and ending times of work each day may be omitted from the payroll records submitted to the Engineer. The submittals shall be on the Department's form SBE 48, or an approved facsimile. When there has been no activity during a work week, a payroll record shall still be submitted with the appropriate box ("No Work", "Suspended", or "Complete") checked on the form."

STATE CONTRACTS. Revise Section IV of Check Sheet #5 of the Recurring Special Provisions to read:

### **"IV. COMPLIANCE WITH THE PREVAILING WAGE ACT**

1. **Prevailing Wages.** All wages paid by the Contractor and each subcontractor shall be in compliance with The Prevailing Wage Act (820 ILCS 130), as amended, except where a prevailing wage violates a federal law, order, or ruling, the rate conforming to the federal law, order, or ruling shall govern. The Contractor shall be responsible to notify each subcontractor of the wage rates set forth in this contract and any revisions thereto. If the Department of Labor revises the wage rates, the Contractor will not be allowed additional compensation on account of said revisions.
2. **Payroll Records.** The Contractor and each subcontractor shall make and keep, for a period of five years from the later of the date of final payment under the contract or completion of the contract, records of the wages paid to his/her workers. The payroll

records shall include the worker's name, the worker's address, the worker's telephone number when available, the worker's social security number, the worker's classification or classifications, the worker's gross and net wages paid in each pay period, the worker's number of hours worked each day, the worker's starting and ending times of work each day. However, any contractor or subcontractor who remits contributions to a fringe benefit fund that is not jointly maintained and jointly governed by one or more employers and one or more labor organization must additionally submit the worker's hourly wage rate, the worker's hourly overtime wage rate, the worker's hourly fringe benefit rates, the name and address of each fringe benefit fund, the plan sponsor of each fringe benefit, if applicable, and the plan administrator of each fringe benefit, if applicable. Upon seven business days' notice, these records shall be available at a location within the State, during reasonable hours, for inspection by the Department or the Department of Labor; and Federal, State, or local law enforcement agencies and prosecutors.

3. Submission of Payroll Records. The Contractor and each subcontractor shall submit payroll records to the Engineer each week from the start to the completion of their respective work, except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall include an identification number for each employee (e.g., the last four digits of the employee's social security number). In addition, starting and ending times of work each day may be omitted from the payroll records submitted to the Engineer. The submittals shall be on the Department's form SBE 48, or an approved facsimile. When there has been no activity during a work week, a payroll record shall still be submitted with the appropriate box ("No Work", "Suspended", or "Complete") checked on the form.

Each submittal shall be accompanied by a statement signed by the Contractor or subcontractor, or an officer, employee, or officer thereof, which avers that: (i) he or she has examined the records and such records are true and accurate; (ii) the hourly rate paid to each worker is not less than the general prevailing rate of hourly wages required by the Act; and (iii) the Contractor or subcontractor is aware that filing a payroll record that he/she knows to be false is a Class A misdemeanor.

4. Employee Interviews. The Contractor and each subcontractor shall permit his/her employees to be interviewed on the job, during working hours, by compliance investigators of the Department or the Department of Labor."



**PORTLAND CEMENT CONCRETE – CURING OF ABUTMENTS AND PIERS (BDE)**

Effective: January 1, 2014

Revise Note 7/ of the Index Table of Curing and Protection of Concrete Construction of Article 1020.13 of the Standard Specifications to read:

“7/ Asphalt emulsion for waterproofing may be used in lieu of other curing methods when specified and permitted according to Article 503.18. The top surfaces of abutments and piers shall be cured according to Article 1020.13(a)(3) or (5).”

80332

**PORTLAND CEMENT CONCRETE EQUIPMENT (BDE)**

Effective: November 1, 2013

Add the following to the first paragraph of Article 1103.03(a)(5) of the Standard Specifications to read:

“As an alternative to a locking key, the start and finish time for mixing may be automatically printed on the batch ticket. The start and finish time shall be reported to the nearest second.”

80326

## 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

## QUALITY CONTROL/QUALITY ASSURANCE OF CONCRETE MIXTURES (BDE)

Effective: January 1, 2012

Revised: January 1, 2014

Revise Note 7/ of Schedule B of Recurring Special Provision Check Sheet #31 of the Standard Specifications to read:

- 7/ The test of record for strength shall be the day indicated in Article 1020.04. For cement aggregate mixture II, a strength requirement is not specified and testing is not required. Additional strength testing to determine early falsework and form removal, early pavement or bridge opening to traffic, or to monitor strengths is at the discretion of the Contractor. Strength shall be defined as the average of two 6 x 12 in. (150 x 300 mm) cylinder breaks, three 4 x 8 in. (100 x 200 mm) cylinder breaks, or two beam breaks for field tests. Per Illinois Modified AASHTO T 23, cylinders shall be 6 x 12 in. (150 x 300 mm) when the nominal maximum size of the coarse aggregate exceeds 1 in. (25 mm).

80281

## REINFORCEMENT BARS (BDE)

Effective: November 1, 2013

Revise the first and second paragraphs of Article 508.05 of the Standard Specifications to read:

**508.05 Placing and Securing.** All reinforcement bars shall be placed and tied securely at the locations and in the configuration shown on the plans prior to the placement of concrete. Manual welding of reinforcement may only be permitted on precast concrete products as indicated in the current Bureau of Materials and Physical Research Policy Memorandum "Quality Control / Quality Assurance Program for Precast Concrete Products", and for precast prestressed concrete products as indicated in the Department's current "Manual for Fabrication of Precast Prestressed Concrete Products". Reinforcement bars shall not be placed by sticking or floating into place or immediately after placement of the concrete.

Bars shall be tied at all intersections, except where the center to center dimension is less than 1 ft (300 mm) in each direction, in which case alternate intersections shall be tied. Molded plastic clips may be used in lieu of wire to secure bar intersections, but shall not be permitted in horizontal bar mats subject to construction foot traffic or to secure longitudinal bar laps. Plastic clips shall adequately secure the reinforcement bars, and shall permit the concrete to flow through and fully encase the reinforcement. Plastic clips may be recycled plastic, and shall meet the approval of the Engineer. The number of ties as specified shall be doubled for lap splices at the stage construction line of concrete bridge decks when traffic is allowed on the first completed stage during the pouring of the second stage."

Revise the fifth paragraph of Article 508.05 of the Standard Specifications to read:

"Supports for reinforcement in bridge decks shall be metal. For all other concrete construction the supports shall be metal or plastic. Metal bar supports shall be made of cold-drawn wire, or other approved material and shall be either epoxy coated, galvanized or plastic tipped. When the reinforcement bars are epoxy coated, the metal supports shall be epoxy coated. Plastic supports may be recycled plastic. Supports shall be provided in sufficient number and spaced to provide the required clearances. Supports shall adequately support the reinforcement bars, and shall permit the concrete to flow through and fully encase the reinforcement. The legs of supports shall be spaced to allow an opening that is a minimum 1.33 times the nominal maximum aggregate size used in the concrete. Nominal maximum aggregate size is defined as the largest sieve which retains any of the aggregate sample particles. All supports shall meet the approval of the Engineer."

Revise the first sentence of the eighth paragraph of Article 508.05 of the Standard Specifications to read:

"Epoxy coated reinforcement bars shall be tied with plastic coated wire, epoxy coated wire, or molded plastic clips where allowed."

Add the following sentence to the end of the first paragraph of Article 508.06(c) of the Standard Specifications:

“In addition, the total slip of the bars within the splice sleeve of the connector after loading in tension to 30 ksi (207 MPa) and relaxing to 3 ksi (20.7 MPa) shall not exceed 0.01 in. (254 microns).”

Revise Article 1042.03(d) of the Standard Specifications to read:

“(d) Reinforcement and Accessories: The concrete cover over all reinforcement shall be within  $\pm 1/4$  in. ( $\pm 6$  mm) of the specified cover.

Welded wire fabric shall be accurately bent and tied in place.

Miscellaneous accessories to be cast into the concrete or for forming holes and recesses shall be carefully located and rigidly held in place by bolts, clamps, or other effective means. If paper tubes are used for vertical dowel holes, or other vertical holes which require grouting, they shall be removed before transportation to the construction site.”

80327

## REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES (BDE)

Effective: January 1, 2012

Revised: November 2, 2012

Revise Article 669.01 of the Standard Specifications to read:

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

Revise Article 669.08 of the Standard Specifications to read:

**“669.08 Contaminated Soil and/or Groundwater Monitoring.** The Contractor shall hire a qualified environmental firm to monitor the area containing the regulated substances. The affected area shall be monitored with a photoionization detector (PID) utilizing a lamp of 10.6eV or greater or a flame ionization detector (FID). Any field screen reading on the PID or FID in excess of background levels indicates the potential presence of contaminated material requiring handling as a non-special waste, special waste, or hazardous waste. No excavated soils can be taken to a clean construction and demolition debris (CCDD) facility or an uncontaminated soil fill operation with detectable PID or FID meter readings that are above background. The PID or FID meter shall be calibrated on-site and background level readings taken and recorded daily. All testing shall be done by a qualified engineer/technician. Such testing and monitoring shall be included in the work. The Contractor shall identify the exact limits of removal of non-special waste, special waste, or hazardous waste. All limits shall be approved by the Engineer prior to excavation. The Contractor shall take all necessary precautions.

Based upon the land use history of the subject property and/or PID or FID readings indicating contamination, a soil or groundwater sample shall be taken from the same location and submitted to an approved laboratory. Soil or groundwater samples shall be analyzed for the contaminants of concern, including pH, based on the property's land use history or the parameters listed in the maximum allowable concentration (MAC) for chemical constituents in uncontaminated soil established pursuant to Subpart F of 35 Illinois Administrative Code 1100.605. The analytical results shall serve to document the level of soil contamination. Soil and groundwater samples may be required at the discretion of the Engineer to verify the level of soil and groundwater contamination.

Samples shall be grab samples (not combined with other locations). The samples shall be taken with decontaminated or disposable instruments. The samples shall be placed in sealed containers and transported in an insulated container to the laboratory. The container shall maintain a temperature of 39 °F (4 °C). All samples shall be clearly labeled. The labels shall indicate the sample number, date sampled, location and elevation, and any other observations.

The laboratory shall use analytical methods which are able to meet the lowest appropriate practical quantitation limits (PQL) or estimated quantitation limit (EQL) specified in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods", EPA Publication No. SW-846 and "Methods for the Determination of Organic Compounds in Drinking Water", EPA, EMSL, EPA-600/4-88/039. For parameters where the specified cleanup objective is below the acceptable detection limit (ADL), the ADL shall serve as the cleanup objective. For other parameters the ADL shall be equal to or below the specified cleanup objective."

Replace the first two paragraphs of Article 669.09 of the Standard Specifications with the following:

**"669.09 Contaminated Soil and/or Groundwater Management and Disposal.** The management and disposal of contaminated soil and/or groundwater shall be according to the following:

- (a) Soil Analytical Results Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels exceed the most stringent maximum allowable concentration (MAC) for chemical constituents in uncontaminated soil established pursuant to Subpart F of 35 Illinois Administrative Code 1100.605, the soil shall be managed as follows:
  - (1) When analytical results indicate inorganic chemical constituents exceed the most stringent MAC but they are still considered within area background levels by the Engineer, the excavated soil can be utilized within the construction limits as fill, when suitable. Such soil excavated for storm sewers can be placed back into the excavated trench as backfill, when suitable, unless trench backfill is specified. If the soils cannot be utilized within the construction limits, they shall be managed and disposed of off-site as a non-special waste, special waste, or hazardous waste as applicable.
  - (2) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for a Metropolitan Statistical Area (MSA) County, the excavated soil can be utilized within the construction limits as fill, when suitable, or managed and disposed of off-site as "uncontaminated soil" at a CCDD facility or an uncontaminated soil fill operation within an MSA County provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.
  - (3) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, or the MAC within the Chicago corporate limits, the excavated soil can be utilized within the construction limits as fill, when suitable, or managed and disposed of off-site as "uncontaminated soil" at a CCDD facility or an uncontaminated soil fill operation within an MSA County excluding Chicago or within the Chicago corporate limits provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.



- (4) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, the excavated soil can be utilized within the construction limits as fill, when suitable, or managed and disposed of off-site as "uncontaminated soil" at a CCDD facility or an uncontaminated soil fill operation within an MSA County excluding Chicago provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.
- (5) When the Engineer determines soil cannot be managed according to Articles 669.09(a)(1) through (a)(4) above, the soil shall be managed and disposed of off-site as a non-special waste, special waste, or hazardous waste as applicable.
- (b) Soil Analytical Results Do Not Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels do not exceed the most stringent MAC but the pH of the soil is less than 6.25 or greater than 9.0, the excavated soil can be utilized within the construction limits or managed and disposed of off-site as "uncontaminated soil" according to Article 202.03. However the excavated soil cannot be taken to a CCDD facility or an uncontaminated soil fill operation.
- (c) Groundwater. When groundwater analytical results indicate the detected levels are above Appendix B, Table E of 35 Illinois Administrative Code 742, the most stringent Tier 1 Groundwater Remediation Objectives for Groundwater Component of the Groundwater Ingestion Route for Class 1 groundwater, the groundwater shall be managed off-site as a special waste.

All groundwater encountered within lateral trenches may be managed within the trench and allowed to infiltrate back into the ground. If the groundwater cannot be managed within the trench it must be removed as a special or hazardous waste. The Contractor is prohibited from managing groundwater within the trench by discharging it through any existing or new storm sewer. The Contractor shall install backfill plugs within the area of groundwater contamination.

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

Revise Article 669.14 of the Standard Specifications to read:

**"669.14 Final Environmental Construction Report.** At the end of the project, the Contractor will prepare and submit three copies of the Environmental Construction Report on the activities conducted during the life of the project, one copy shall be submitted to the Resident Engineer, one copy shall be submitted to the District's Environmental Studies Unit, and one copy shall be submitted with an electronic copy in Adode.pdf format to the Geologic

and Waste Assessment Unit, Bureau of Design and Environment, IDOT, 2300 South Dirksen Parkway, Springfield, Illinois 62764. The technical report shall include all pertinent information regarding the project including, but not limited to:

- (a) Measures taken to identify, monitor, handle, and dispose of soil or groundwater containing regulated substances, to prevent further migration of regulated substances, and to protect workers,
- (b) Cost of identifying, monitoring, handling, and disposing of soil or groundwater containing regulated substances, the cost of preventing further migration of regulated substances, and the cost for worker protection from the regulated substances. All cost should be in the format of the contract pay items listed in the contract plans (identified by the preliminary environmental site investigation (PESA) site number),
- (c) Plan sheets showing the areas containing the regulated substances,
- (d) Field sampling and testing results used to identify the nature and extent of the regulated substances,
- (e) Waste manifests (identified by the preliminary environmental site investigation (PESA) site number) for special or hazardous waste disposal, and
- (f) Landfill tickets (identified by the preliminary environmental site investigation (PESA) site number) for non-special waste disposal."

Revise the second paragraph of Article 669.16 of the Standard Specifications to read:

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

80283

## REMOVAL AND DISPOSAL OF SURPLUS MATERIALS (BDE)

Effective: November 2, 2012

Revise the first four paragraphs of Article 202.03 of the Standard Specifications to read:

**“202.03 Removal and Disposal of Surplus, Unstable, Unsuitable, and Organic Materials.** Suitable excavated materials shall not be wasted without permission of the Engineer. The Contractor shall dispose of all surplus, unstable, unsuitable, and organic materials, in such a manner that public or private property will not be damaged or endangered.

Suitable earth, stones and boulders naturally occurring within the right-of-way may be placed in fills or embankments in lifts and compacted according to Section 205. Broken concrete without protruding metal bars, bricks, rock, stone, reclaimed asphalt pavement with no expansive aggregate, or uncontaminated dirt and sand generated from construction or demolition activities may be used in embankment or in fill. If used in fills or embankments, these materials shall be placed and compacted to the satisfaction of the Engineer; shall be buried under a minimum of 2 ft (600 mm) of earth cover (except when the materials include only uncontaminated dirt); and shall not create an unsightly appearance or detract from the natural topographic features of an area. Broken concrete without protruding metal bars, bricks, rock, or stone may be used as riprap as approved by the Engineer. If the materials are used for fill in locations within the right-of-way but outside project construction limits, the Contractor must specify to the Engineer, in writing, how the landscape restoration of the fill areas will be accomplished. Placement of fill in such areas shall not commence until the Contractor's landscape restoration plan is approved by the Engineer.

Aside from the materials listed above, all other construction and demolition debris or waste shall be disposed of in a licensed landfill, recycled, reused, or otherwise disposed of as allowed by State or Federal laws and regulations. When the Contractor chooses to dispose of uncontaminated soil at a clean construction and demolition debris (CCDD) facility or at an uncontaminated soil fill operation, it shall be the Contractor's responsibility to have the pH of the material tested to ensure the value is between 6.25 and 9.0, inclusive. A copy of the pH test results shall be provided to the Engineer.

A permit shall be obtained from IEPA and made available to the Engineer prior to open burning of organic materials (i.e., plant refuse resulting from pruning or removal of trees or shrubs) or other construction or demolition debris. Organic materials originating within the right-of-way limits may be chipped or shredded and placed as mulch around landscape plantings within the right-of-way when approved by the Engineer. Chipped or shredded material to be placed as mulch shall not exceed a depth of 6 in. (150 mm).”

80319

**SEEDING (BDE)**

Effective: November 1, 2012

Revise the following seeding mixture shown in Table 1 of Article 250.07 of the Standard Specifications to read.

"TABLE 1 - SEEDING MIXTURES		
Class - Type	Seeds	lb/acre (kg/hectare)
3 Northern Illinois Slope Mixture 7/	Elymus Canadensis (Canada Wild Rye) 5/	5 (5)
	Perennial Ryegrass	20 (20)
	Alsike Clover 2/	5 (5)
	Desmanthus Illinoensis (Illinois Bundleflower) 2/, 5/	2 (2)
	Andropogon Scoparius (Little Bluestem) 5/	12 (12)
	Bouteloua Curtipendula (Side-Oats Grama) 5/	10 (10)
	Fult Salt Grass 1/	30 (35)
	Oats, Spring	50 (55)
	Slender Wheat Grass 5/	15 (15)
	Buffalo Grass (Cody or Bowie) 4/, 5/, 9/	5 (5)"

80307

## STEEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID)

Effective: April 2, 2004

Revised: April 1, 2009

Description. Steel cost adjustments will be made to provide additional compensation to the Contractor, or a credit to the Department, for fluctuations in steel prices when optioned by the Contractor. The bidder shall indicate on the attached form whether or not this special provision will be part of the contract and submit the completed form with his/her bid. Failure to submit the form or failure to indicate contract number, company name, and sign and date the form shall make this contract exempt of steel cost adjustments for all items of steel. Failure to indicate "Yes" for any item of work will make that item of steel exempt from steel cost adjustment.

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

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

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

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

- (a) The dates and quantity of steel, in lb (kg), shipped from the mill to the fabricator.
- (b) The quantity of steel, in lb (kg), incorporated into the various items of work covered by this special provision. The Department reserves the right to verify submitted quantities.

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

$$SCA = Q \times D$$

Where: SCA = steel cost adjustment, in dollars  
Q = quantity of steel incorporated into the work, in lb (kg)  
D = price factor, in dollars per lb (kg)

$$D = MPI_M - MPI_L$$

Where:  $MPI_M$  = The Materials Cost Index for steel as published by the Engineering News-Record for the month the steel is shipped from the mill. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

$MPI_L$  = The Materials Cost Index for steel as published by the Engineering News-Record for the month prior to the letting. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

The unit weights (masses) of steel that will be used to calculate the steel cost adjustment for the various items are shown in the attached table.

No steel cost adjustment will be made for any products manufactured from steel having a mill shipping date prior to the letting date.

If the Contractor fails to provide the required documentation, the method of adjustment will be calculated as described above; however, the  $MPI_M$  will be based on the date the steel arrives at the job site. In this case, an adjustment will only be made when there is a decrease in steel costs.

Basis of Payment. Steel cost adjustments may be positive or negative but will only be made when there is a difference between the  $MPI_L$  and  $MPI_M$  in excess of five percent, as calculated by:

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

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

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

**Attachment**

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

Return With Bid

**ILLINOIS DEPARTMENT  
OF TRANSPORTATION**

**OPTION FOR  
STEEL COST ADJUSTMENT**

The bidder shall submit this completed form with his/her bid. Failure to submit the form or properly complete contract number, company name, and sign and date the form shall make this contract exempt of steel cost adjustments for all items of steel. Failure to indicate "Yes" for any item of work will make that item of steel exempt from steel cost adjustment. After award, this form, when submitted shall become part of the contract.

**Contract No.:** \_\_\_\_\_

**Company Name:** \_\_\_\_\_

**Contractor's Option:**

Is your company opting to include this special provision as part of the contract plans for the following items of work?

Metal Piling	Yes	<input type="checkbox"/>
Structural Steel	Yes	<input type="checkbox"/>
Reinforcing Steel	Yes	<input type="checkbox"/>
Dowel Bars, Tie Bars and Mesh Reinforcement	Yes	<input type="checkbox"/>
Guardrail	Yes	<input type="checkbox"/>
Steel Traffic Signal and Light Poles, Towers and Mast Arms	Yes	<input type="checkbox"/>
Metal Railings (excluding wire fence)	Yes	<input type="checkbox"/>
Frames and Grates	Yes	<input type="checkbox"/>

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

80127

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**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 2. 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: November 1, 2014

Description. This work shall consist of designing, producing and constructing Warm Mix Asphalt (WMA) in lieu of Hot Mix Asphalt (HMA) at the Contractor's option. Work shall be according to Sections 406, 407, 408, 1030, and 1102 of the Standard Specifications, except as modified herein. In addition, any references to HMA in the Standard Specifications, or the special provisions shall be construed to include WMA.

WMA is an asphalt mixture which can be produced at temperatures lower than allowed for HMA utilizing approved WMA technologies. WMA technologies are defined as the use of additives or processes which allow a reduction in the temperatures at which HMA mixes are produced and placed. WMA is produced by the use of additives, a water foaming process, or combination of both. Additives include minerals, chemicals or organics incorporated into the asphalt binder stream in a dedicated delivery system. The process of foaming injects water into the asphalt binder stream, just prior to incorporation of the asphalt binder with the aggregate.

Approved WMA technologies may also be used in HMA provided all the requirements specified herein, with the exception of temperature, are met. However, asphalt mixtures produced at temperatures in excess of 275 °F (135 °C) will not be considered WMA when determining the grade reduction of the virgin asphalt binder grade.

### Equipment.

Revise the first paragraph of Article 1102.01 of the Standard Specifications to read:

**"1102.01 Hot-Mix Asphalt Plant.** The hot-mix asphalt (HMA) plant shall be the batch-type, continuous-type, or dryer drum plant. The plants shall be evaluated for prequalification rating and approval to produce HMA according to the current Bureau of Materials and Physical Research Policy Memorandum, "Approval of Hot-Mix Asphalt Plants and Equipment". Once approved, the Contractor shall notify the Bureau of Materials and Physical Research to obtain approval of all plant modifications. The plants shall not be used to produce mixtures concurrently for more than one project or for private work unless permission is granted in writing by the Engineer. The plant units shall be so designed, coordinated and operated that they will function properly and produce HMA having uniform temperatures and compositions within the tolerances specified. The plant units shall meet the following requirements."

Add the following to Article 1102.01(a) of the Standard Specifications.

"(13) Equipment for Warm Mix Technologies.

- a. Foaming. Metering equipment for foamed asphalt shall have an accuracy of  $\pm 2$  percent of the actual water metered. The foaming control system shall be electronically interfaced with the asphalt binder meter.

- b. Additives. Additives shall be introduced into the plant according to the supplier's recommendations and shall be approved by the Engineer. The system for introducing the WMA additive shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes."

Mix Design Verification.

Add the following to Article 1030.04 of the Standard Specifications.

"(e) Warm Mix Technologies.

- (1) Foaming. WMA mix design verification will not be required when foaming technology is used alone (without WMA additives). However, the foaming technology shall only be used on HMA designs previously approved by the Department.
- (2) Additives. WMA mix designs utilizing additives shall be submitted to the Engineer for mix design verification."

Construction Requirements.

Revise the second paragraph of Article 406.06(b)(1) of the Standard Specifications to read:

"The HMA shall be delivered at a temperature of 250 to 350 °F (120 to 175 °C).  
WMA shall be delivered at a minimum temperature of 215 °F (102 °C)."

Basis of Payment.

This work will be paid at the contract unit price bid for the HMA pay items involved. Anti-strip will not be paid for separately, but shall be considered as included in the cost of the work.

80288

## **WEEKLY DBE TRUCKING REPORTS (BDE)**

Effective: June 2, 2012

The Contractor shall provide 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 on the jobsite; or used for the delivery and/or removal of equipment/material to and from the jobsite. The jobsite shall also include offsite locations, such as plant sites or storage sites, when those locations are used solely for this contract.

The report shall be submitted on the form provided by the Department within ten business days following the reporting period. The reporting period shall be Monday through Sunday for each week reportable trucking activities occur. The report shall be submitted to the Engineer and a copy shall be provided to the district EEO Officer.

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.

**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.