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

PREQUALIFICATION

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

REQUESTS FOR AUTHORIZATION TO BID

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

WHO CAN BID ?

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

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

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

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

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

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

IDOT is not responsible for any e-mail related failures.

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

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

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

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

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

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

WHO SHOULD BE CALLED IF ASSISTANCE IS NEEDED?

Questions Regarding	**Call**
Prequalification and/or Authorization to Bid	(217)782-3413
Preparation and submittal of bids	(217)782-7806
Mailing of plans and proposals	(217)782-7806
Electronic plans and proposals	(217)524-1642

ADDENDUMS AND REVISIONS TO THE PROPOSAL FORMS

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

RETURN WITH BID

151

Proposal Submitted By
Name
Address
City

Letting June 17, 2005

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

NOTICE TO PROSPECTIVE BIDDERS
This proposal can be used for bidding purposes by only those companies that request and receive written AUTHORIZATION TO BID from IDOT's Central Bureau of Construction.
(SEE INSTRUCTIONS ON THE INSIDE OF COVER)

Notice To Bidders, Specifications, Proposal, Contract and Contract Bond

Illinois Department of Transportation

Springfield, Illinois 62764

Contract No. 60881
LAKE County
Section 20R-5
District 1 Construction Funds
Route FAP 337

PLEASE MARK THE APPROPRIATE BOX BELOW:

☐ A Bid Bond is included.

☐ A Cashier's Check or a Certified Check is included.

Prepared by

S

Checked by

(Printed by authority of the State of Illinois)

INSTRUCTIONS

ABOUT IDOT PROPOSALS: All proposals issued by IDOT are potential bidding proposals. Each proposal contains all Certifications and Affidavits, a Proposal Signature Sheet and a Proposal Bid Bond required for Prime Contractors to submit a bid after written **Authorization to Bid** has been issued by IDOT's Central Bureau of Construction.

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

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

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

1. All documents from the Proposal Cover Sheet through the Proposal Bid Bond

2. Other special documentation and/or information that may be required by the contract special provisions

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

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

WHO SHOULD BE CALLED IF ASSISTANCE IS NEEDED?

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

RETURN WITH BID

Illinois Department of Transportation

PROPOSAL

TO THE DEPARTMENT OF TRANSPORTATION

1. Proposal of _____

   _____

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

   Contract No. 60881
   LAKE County
   Section 20R-5
   Route FAP 337
   District 1 Construction Funds

4.78 km of roadway reconstruction with 2 @ 7.2 m and variable width concrete pavement (jointed), drainage improvements and traffic signal modernization along Illinois Route 22 (Half Day Road) from Illinois Route 83 (Mundelein Road) to U.S. Route 45/Illinois Route 21 in Long Grove, Buffalo Grove and Lincolnshire.

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

RETURN WITH BID

3. **ASSURANCE OF EXAMINATION AND INSPECTION/WAIVER.** The undersigned further declares that he/she has carefully examined the proposal, plans, specifications, 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 proposal he/she waives all right to plead any misunderstanding regarding the same.

4. **EXECUTION OF CONTRACT AND CONTRACT BOND.** The undersigned 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, 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:

Amount of Bid			Proposal Guaranty	Amount of Bid			Proposal Guaranty
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 proposals shall be made payable to the Treasurer, State of Illinois, when the state is awarding authority; the county treasurer, when a county is the awarding authority; or the city, village, or town treasurer, when a city, village, or town is the awarding authority.

If a combination bid is submitted, the proposal guaranties which accompany the individual 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 shall fail to execute a contract bond as required herein, it is hereby agreed that the amount of the proposal guaranty shall 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 shall become void or the proposal guaranty check shall 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 proposals, the amount must be equal to the sum of the proposal guaranties which would be required for each individual proposal. If the guaranty check is placed in another proposal, state below where it may be found.

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

Item _____

Section No. _____

County _____

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

BD 354 (Rev. 11/2001)

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

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

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

Schedule of Combination Bids

Combination No.	Sections Included in Combination	Combination Bid Dollars	Cents

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

8. **CERTIFICATE OF AUTHORITY.** The undersigned bidder, if a business organized under the laws of another State, assures the Department that it will furnish a copy of its certificate of authority to do business in the State of Illinois with the return of the executed contract and bond. Failure to furnish the certificate within the time provided for execution of an awarded contract may be cause for cancellation of the award and forfeiture of the proposal guaranty to the State.

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - 60881

State Job # - C-91-552-99
PPS NBR - 1-73541-0100
County Name - LAKE- -
Code - 97 - -
District - 1 - -
Section Number - 20R-5

Project Number

Route FAP 337

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
A2004820	T-GLED TRI-I SK 2-1/2	EACH	31.000				
B2014220	T-MALUS R S TF 2-1/2	EACH	23.000				
MX030074	WOOD FENCE REM & RE-E	METER	25.000				
MX030114	TRENCH DRAIN	METER	8.000				
MX030199	TEMP PAVEMENT	SQ M	11,615.000				
MX030242	SLEEPER SLAB	METER	1,422.000				
MX032134	BRACED EXCAVATION	CU M	80.000				
MX032178	TEMP INFO SIGNING	SQ M	23.000				
MX032529	SEGMENT CONC BLK WALL	SQ M	313.000				
MX032680	WEED CONTR PRE-EM GRN	KG	2.200				
MX032723	PREFORM DETECT LOOP	METER	1,678.000				
MX032819	ELCBL C TRACER 14 1C	METER	5,081.000				
MX032842	BOX CULVERT REMOV	METER	77.000				
MX033510	WATER MN GRAN BEDDING	M TON	224.000				
MX033511	WAT MN VALVE BOX 100	EACH	1.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
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Route FAP 337

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MX033512	WATER MAIN 300 P-JT	METER	628.000				
MX033513	WATER MAIN 300 M-JT	METER	620.000				
MX033514	WAT MN IN CASING PIPE	METER	57.000				
MX033515	WAT MN POLY ENCASEMNT	METER	1,700.000				
MX033516	WATER MN TRACER WIRE	METER	1,700.000				
MX033517	ELCBL 2/0 BARE CU GND	METER	350.000				
MX033518	SEG CONC BLK WALL SPL	SQ M	178.000				
MX033519	TEMPORARY PATCHING	M TON	140.000				
MX033520	R&R EX LANDSCP STONE	SQ M	62.000				
MX033542	SILT CURTAIN	SQ M	43.000				
MX355150	BIT BC SUPER 150	SQ M	455.000				
MX355250	BIT BC SUPER 250	SQ M	1,141.000				
MX356450	BC BC WIDE SUPER 250	SQ M	547.000				
MX406M20	LEV BIND MM SUPER N70	M TON	191.000				
MX406012	BC SC SUPER "C" N50	M TON	482.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
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MX406024	BC SC SUPER "D" N70	M TON	222.000				
MX406043	BC SC SUPER "F" N90	M TON	268.000				
MX406216	BCBC SUP IL-19.0 N70	M TON	1,033.000				
MX482280	BIT SHLD SUPER 150	SQ M	552.000				
MX482380	BIT SHLD SUPER 250	SQ M	373.000				
MX602089	MAN A S 2.1D 2-T1F CL	EACH	1.000				
MX602420	MAN A 1.8D 2T1F CL RP	EACH	6.000				
MX602455	MAN A 2.1D2T1FCL RP	EACH	1.000				
MX810175	CON ENC C 75 GALV	METER	16.500				
MX816090	UD2-1C#4/1C#8GXLP 50P	METER	4,569.000				
MX816091	UD4-1C#4/2-1C#8G 50P	METER	504.000				
MX816092	UD8-1C#4/4-1C#8G 50P	METER	66.000				
MX816093	UD2#4&#8&2-1C#8G 50P	METER	72.000				
MX816094	UD2-1C#8 & 1/C#8G 50P	METER	58.000				
MX830110	LT P S 10.5MH 2-1.8MA	EACH	4.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
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Route
FAP 337

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
MX830111	LT P S 12.2MH 2-1.8MA	EACH	4.000				
MX871055	FOCC62.5/125 MM12SM12	METER	5,081.000				
MX873027	ELCBL C GROUND 6 1C	METER	2,427.000				
MX873030	ELCBL C 20 3C TW SH	METER	1,543.000				
MX878030	CONC FDN TY E 900D	METER	55.000				
MZ001050	AGG SUBGRADE 300	SQ M	120,004.000				
MZ003900	BICYCLE RAILING	METER	19.300				
MZ050100	REM RE-ERECT EX HDRL	METER	25.000				
MZ067300	STEEL CASINGS 300	METER	14.000				
MZ067900	STEEL CASINGS 600	METER	19.000				
M2010110	TREE REMOV 6-15	UNIT	1,571.000				
M2010210	TREE REMOV OVER 15	UNIT	1,741.000				
M2011000	TEMPORARY FENCE	METER	1,300.000				
M2020010	EARTH EXCAVATION	CU M	24,574.000				
M2021200	REM & DISP UNS MATL	CU M	51,060.000				

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FAP 337

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
M2021550	SUB GRAN MAT B	CU M	189.000				
M2040800	FURNISHED EXCAV	CU M	26,623.000				
M2070220	POROUS GRAN EMBANK	CU M	950.000				
M2070420	POROUS GRAN EMB SUBGR	CU M	9,790.000				
M2080150	TRENCH BACKFILL	CU M	15,730.000				
M2101000	GEOTECH FAB F/GR STAB	SQ M	19,730.000				
M2113100	TOPSOIL F & P 100	SQ M	72,473.000				
M2113600	TOPSOIL F & P 600	SQ M	6,644.000				
M2114100	COMPOST F & P 100	SQ M	9,642.000				
M2500210	SEEDING CL 2A	HA	5.600				
M2500300	SEEDING CL 3	HA	1.000				
M2500400	NITROGEN FERT NUTR	KG	757.000				
M2500500	PHOSPHORUS FERT NUTR	KG	757.000				
M2500600	POTASSIUM FERT NUTR	KG	757.000				
M2510630	EROSION CONTR BLANKET	SQ M	65,375.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
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FAP 337

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
M2520100	SODDING	SQ M	703.000				
M2520110	SODDING SALT TOLERANT	SQ M	13,742.000				
M2520200	SUPPLE WATERING	UNIT	3,577.000				
M2800250	TEMP EROS CONTR SEED	KG	750.000				
M2800400	PERIMETER EROS BAR	METER	7,222.000				
M2800407	PERIMETER EROS BAR MD	METER	2,542.000				
M2810103	STONE RIPRAP CL A2	SQ M	272.000				
M2810707	STONE DUMP RIP CL A4	SQ M	330.000				
M2820100	FILTER FAB FOR RIPRAP	SQ M	330.000				
M4060100	BIT MATLS PR CT	LITER	4,577.000				
M4060300	AGG PR CT	M TON	29.000				
M4080400	INCIDENTAL BIT SURF	M TON	55.000				
M4202255	PCC PVT 250 JOINTED	SQ M	101,431.000				
M4205100	PAVEMENT FABRIC	SQ M	4,310.000				
M4205200	PROTECTIVE COAT	SQ M	126,886.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
M4230200	PCC DRIVEWAY PAVT 200	SQ M	1,547.000				
M4240125	PC CONC SIDEWALK 125	SQ M	5,962.000				
M4400000	BIT SURF REM	SQ M	2,971.000				
M4402000	PAVEMENT REM	SQ M	81,816.000				
M4402010	DRIVE PAVEMENT REM	SQ M	3,172.000				
M4402040	COMB CURB GUTTER REM	METER	5,098.000				
M4402050	SIDEWALK REM	SQ M	2,994.000				
M4402420	MEDIAN REMOVAL	SQ M	3,433.000				
M4410100	PAVT REPLACE	SQ M	13.000				
M4812250	AGGREGATE SHLDS B 250	SQ M	631.000				
M4830250	PCC SHOULDERS 250	SQ M	363.000				
M5010240	CONC REM	CU M	43.000				
M5010522	PIPE CULVERT REMOV	METER	404.000				
M5020100	STRUCTURE EXCAVATION	CU M	894.000				
M5030350	CONC STRUCT	CU M	124.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
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FAP 337

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
M5080105	REINFORCEMENT BARS	KG	41,790.000				
M5080205	REINF BARS, EPOXY CTD	KG	8,150.000				
M5090010	ALUM RAILING TY L	METER	70.000				
M5120900	TEMP SHT PILING	SQ M	216.000				
M5403000	CONC BOX CUL	CU M	343.000				
M542E112	PRC FL-END SEC 300	EACH	37.000				
M542E116	PRC FL-END SEC 375	EACH	2.000				
M542E120	PRC FL-END SEC 450	EACH	3.000				
M542E128	PRC FL-END SEC 600	EACH	7.000				
M542E144	PRC FL-END SEC 900	EACH	1.000				
M542E528	PRC FL ES EQ RS 600	EACH	1.000				
M542E544	PRC FL ES EQ RS 900	EACH	1.000				
M542E556	PRC FL ES EQ RS 1350	EACH	1.000				
M542E636	PRCF ES EL EQRS 750	EACH	4.000				
M542E648	PRCF ES EL EQRS 1050	EACH	2.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
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FAP 337

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
M542G035	GRAT-C FL END S 600	EACH	7.000				
M542G055	GRAT-C FL END S 900	EACH	1.000				
M542G235	GRT-C FL ES EQV 600	EACH	1.000				
M542G245	GRT-C FL ES EQV 750	EACH	4.000				
M542G250	GRT-C FL ES EQV 900	EACH	1.000				
M542G255	GRT-C FL ES EQV 1050	EACH	2.000				
M542G265	GRT-C FL ES EQV 1350	EACH	1.000				
M542U485	P CUL CL D 2 2100 TEM	METER	20.000				
M5421205	P CUL 1 RCCP 300	METER	113.000				
M5421210	P CUL 1 RCCP 375	METER	25.000				
M5421920	P CUL 1 RC-E ERS 600	METER	86.000				
M5421930	P CUL 1 RC-E ERS 750	METER	49.000				
M5423425	P CUL 2 RCCP 600	METER	160.000				
M5424120	P CUL 2 RC E-R-S 600	METER	36.000				
M5500030	STORM SEW CL A 1 300	METER	3,082.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
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FAP 337

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
M5500040	STORM SEW CL A 1 375	METER	50.000				
M5500050	STORM SEW CL A 1 450	METER	141.000				
M5500095	STORM SEW CL A 1 1050	METER	6.000				
M5500430	STORM SEW CL A 2 300	METER	748.000				
M5500440	STORM SEW CL A 2 375	METER	138.000				
M5500450	STORM SEW CL A 2 450	METER	692.000				
M5500460	STORM SEW CL A 2 525	METER	105.000				
M5500465	STORM SEW CL A 2 600	METER	292.000				
M5500475	STORM SEW CL A 2 750	METER	28.000				
M5500485	STORM SEW CL A 2 900	METER	29.000				
M5500495	STORM SEW CL A 2 1050	METER	471.000				
M5500505	STORM SEW CL A 2 1350	METER	6.000				
M5500830	STORM SEW CL A 3 300	METER	155.000				
M5500895	STORM SEW CL A 3 1050	METER	176.000				
M5504410	SS 1 RCEP S750 R475	METER	34.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
M5504435	SS 1 RCEP S1050 R675	METER	10.000				
M5504450	SS 1 RCEP S1325 R850	METER	35.000				
M5504520	SS 2 RCEP S750 R475	METER	442.000				
M5504540	SS 2 RCEP S950 R600	METER	95.000				
M5504545	SS 2 RCEP S1050 R675	METER	104.000				
M5504550	SS 2 RCEP S1125 R725	METER	219.000				
M5504560	SS 2 RCEP S1325 R850	METER	112.000				
M5504570	SS 2 RCEP S1500 R950	METER	86.000				
M5504580	SS 2 RCEP S1700 R1075	METER	373.000				
M5504630	SS 3 RCEP S750 R475	METER	105.000				
M5504800	SS CLEANED	METER	210.000				
M5510025	STORM SEWER REM 300	METER	1,233.000				
M5510035	STORM SEWER REM 375	METER	213.000				
M5510045	STORM SEWER REM 450	METER	290.000				
M5510055	STORM SEWER REM 525	METER	80.000				

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M5510060	STORM SEWER REM 600	METER	406.000				
M5510080	STORM SEWER REM 900	METER	123.000				
M5610125	WATER MAIN 100	METER	76.000				
M5610630	WATER VALVES 100	EACH	1.000				
M5610640	WATER VALVES 200	EACH	7.000				
M5610650	WATER VALVES 300	EACH	7.000				
M5620135	WATER SERV LINE 50	METER	9.000				
M5910100	GEOCOMPOSITE WALL DR	SQ M	423.000				
M6010110	PIPE DRAINS 150	METER	1,078.000				
M6010120	PIPE DRAINS 250	METER	14.000				
M6011105	P UNDR - STRUCT 150	METER	126.000				
M6011110	P UNDR - STRUCT 200	METER	21.000				
M6020140	CB A 1.2M D T8G	EACH	11.000				
M6020175	CB A 1.2M D T21F&G	EACH	106.000				
M6020185	CB A 1.2M D T24F&G	EACH	212.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
M6020485	CB A 1.5M D T24F&G	EACH	1.000				
M6021410	MAN A 1.2D T1F CL	EACH	30.000				
M6021610	MAN A 1.5D T1F CL	EACH	16.000				
M6021640	MAN A 1.5D T8G	EACH	2.000				
M6021810	MAN A 1.8D T1F CL	EACH	6.000				
M6022005	MAN A 2.1D T1F OL	EACH	1.000				
M6022010	MAN A 2.1D T1F CL	EACH	11.000				
M6023515	INLET TA T1F OL 600D	EACH	1.000				
M6023705	INLET TA T3 F&G 600D	EACH	31.000				
M6023810	INLET TA T8 G 600D	EACH	1.000				
M6024310	VV TA 1.2MD T1F CL	EACH	7.000				
M6024410	VV TA 1.5MD T1F CL	EACH	7.000				
M6060070	CONC CURB TB	METER	402.000				
M6060500	COMB CC&G TB15.30	METER	133.000				
M6060700	COMB CC&G TB15.60	METER	14,754.000				

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M6061800	COMB CC&G TM5.30	METER	242.000				
M6061990	COMB CC&G TM10.60	METER	80.000				
M6062400	COMB CC&G TM15.60	METER	293.000				
M6063600	CONC MEDIAN SURF 100	SQ M	684.000				
M6063830	CONC MED TSB SPL	SQ M	1,966.000				
M6064200	CONC MED TSB15.60	SQ M	1,378.000				
M6066000	CORRUGATED MED	SQ M	373.000				
M6300100	SPBGR TY A	METER	477.000				
M6300200	SPBGR ATTACH TO STR	METER	21.100				
M6320030	GUARDRAIL REMOV	METER	161.000				
M6640200	CH LK FENCE 1.2 SPL	METER	212.000				
M6641885	CH LK GATE 3.0X3.0 DB	EACH	2.000				
M6641930	CH LK FENCE REM & RE	METER	18.000				
M7030100	SHORT-TERM PAVT MKING	METER	65.000				
M7030210	TEMP PVT MK LTR & SYM	SQ M	101.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
M7030220	TEMP PVT MK LINE 100	METER	22,314.000				
M7030240	TEMP PVT MK LINE 150	METER	1,255.000				
M7030260	TEMP PVT MK LINE 300	METER	863.000				
M7030280	TEMP PVT MK LINE 600	METER	199.000				
M7030510	PAVT MARK TAPE T3 L&S	SQ M	285.000				
M7030520	PAVT MARK TAPE T3 100	METER	33,314.000				
M7030540	PAVT MARK TAPE T3 150	METER	4,586.000				
M7030560	PAVT MARK TAPE T3 300	METER	1,047.000				
M7030580	PAVT MARK TAPE T3 600	METER	364.000				
M7031000	WORK ZONE PAVT MK REM	SQ M	7,736.000				
M7040100	TEMP CONC BARRIER	METER	321.000				
M7040200	REL TEMP CONC BARRIER	METER	321.000				
M7200100	SIGN PANEL T1	SQ M	126.000				
M7200200	SIGN PANEL T2	SQ M	22.400				
M7240310	REMOV SIGN PANEL T1	SQ M	94.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
M7240320	REMOV SIGN PANEL T2	SQ M	2.000				
M7240710	RELOC SIGN PANEL T1	SQ M	16.000				
M7240720	RELOC SIGN PANEL T2	SQ M	2.000				
M7290100	METAL POST TY A	METER	317.000				
M7290200	METAL POST TY B	METER	312.000				
M7300100	WOOD SIN SUPPORT	METER	70.000				
M7800100	THPL PVT MK LTR & SYM	SQ M	20.000				
M7800105	THPL PVT MK LINE 100	METER	968.000				
M7800115	THPL PVT MK LINE 150	METER	218.000				
M7800125	THPL PVT MK LINE 300	METER	46.000				
M7802000	POLYUREA PM T1 LTR&SY	SQ M	300.000				
M7802010	POLYUREA PM T1 LN 100	METER	3,461.000				
M7802015	POLYUREA PM T1 LN 150	METER	4,191.000				
M7802020	POLYUREA PM T1 LN 200	METER	1,541.000				
M7802030	POLYUREA PM T1 LN 300	METER	517.000				

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M7802060	POLYUREA PM T1 LN 600	METER	546.000				
M7830100	PAVT MARKING REMOVAL	SQ M	997.000				
M8070140	GROUND ROD 19 X 3.0	EACH	95.000				
M8100060	CON T 50 GALVS	METER	4,855.000				
M8100070	CON T 65 GALVS	METER	285.000				
M8100100	CON T 100 GALVS	METER	317.000				
M8101050	CON P 50 GALVS	METER	494.000				
M8101070	CON P 75 GALVS	METER	23.000				
M8101090	CON P 100 GALVS	METER	1,277.000				
M8150200	TR & BKFIL F ELECT WK	METER	9,939.000				
M8170060	EC C XLP USE 1C 2	METER	100.000				
M8303010	LT P S 10.5MH 1.8MA	EACH	61.000				
M8360100	LIGHT POLE FDN 600	METER	240.000				
M8731210	ELCBL C SIGNAL 14 2C	METER	1,201.000				
M8731220	ELCBL C SIGNAL 14 3C	METER	3,108.000				

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M8731240	ELCBL C SIGNAL 14 5C	METER	4,788.000				
M8731250	ELCBL C SIGNAL 14 7C	METER	2,514.000				
M8731300	ELCBL C LEAD 14 1PR	METER	5,470.000				
M8731800	ELCBL C SERV 6 2C	METER	136.000				
M8750490	TS POST GALVS 4.25	EACH	7.000				
M8750510	TS POST GALVS 4.85	EACH	6.000				
M8750530	TS POST GALVS 5.45	EACH	2.000				
M8770020	S MAA & P 6.09	EACH	1.000				
M8770030	S MAA & P 7.31	EACH	3.000				
M8770035	S MAA & P 7.92	EACH	1.000				
M8770040	S MAA & P 8.53	EACH	3.000				
M8770045	S MAA & P 9.14	EACH	1.000				
M8770050	S MAA & P 9.75	EACH	3.000				
M8770055	S MAA & P 10.36	EACH	1.000				
M8770060	S MAA & P 10.97	EACH	1.000				

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M8770065	S MAA & P 11.58	EACH	2.000				
M8770070	S MAA & P 12.19	EACH	1.000				
M8770075	S MAA & P 12.80	EACH	3.000				
M8770080	S MAA & P 13.41	EACH	1.000				
M8770090	S MAA & P 14.63	EACH	2.000				
M8770095	S MAA & P 15.24	EACH	2.000				
M8770100	S MAA & P 16.46	EACH	4.000				
M8770500	S MAA&P D 8.53&9.75	EACH	1.000				
M8780100	CONC FDN TY A	METER	19.200				
M8780200	CONC FDN TY D	METER	8.400				
M8780400	CONC FDN TY E 750D	METER	62.000				
M8860100	DET LOOP T1	METER	257.000				
XX001047	VALVE VAULTS ABANDON	EACH	9.000				
XX002056	REOPTIMIZE EX SIG SYS	EACH	1.000				
XX004047	LIGHTING CONTROL SPEC	EACH	2.000				

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X0300020	WATER SERV CONNECTION	EACH	1.000				
X0322719	TEMP DRAINAGE CONNECT	EACH	26.000				
X0323236	TEMPORARY INLET	EACH	26.000				
X0323426	SED CONT DR ST INL CL	EACH	220.000				
X0323599	LOCKS FOR GATES	EACH	2.000				
X0323782	VORTEX MANHOLE LOC 1	EACH	1.000				
X0323783	VORTEX MANHOLE LOC 2	EACH	1.000				
X0323784	VORTEX MANHOLE LOC 3	EACH	1.000				
X0324223	MAINT EX LTG SYS	L SUM	1.000				
X0324635	ADJ WAT MAIN UNDER SS	EACH	1.000				
X0324636	WATER VALVE BOX ABAND	EACH	4.000				
X0324637	BASE COVER LIGHT POLE	EACH	18.000				
X0469600	CONN TO EX WATER MAIN	EACH	12.000				
X4021000	TEMP ACCESS- PRIV ENT	EACH	9.000				
X4022000	TEMP ACCESS- COM ENT	EACH	23.000				

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X4023000	TEMP ACCESS- ROAD	EACH	28.000				
X5640175	FIRE HYDRANT COMPLETE	EACH	8.000				
X6040200	FR & LIDS T1 OL TEMP	EACH	1.000				
X6700410	ENGR FLD OFF A SPL	CAL MO	18.000				
X7015000	CHANGEABLE MESSAGE SN	CAL MO	36.000				
X7240500	RELOC EX SIGNS	EACH	16.000				
X7240505	RELOC SIGN PANEL&POST	EACH	30.000				
X8050010	SERV INSTALL GRND MT	EACH	1.000				
X8050015	SERV INSTALL POLE MT	EACH	6.000				
X8380083	BREAKAWAY DEVICE	EACH	18.000				
X8801300	SH P LED 1F 3S BM	EACH	5.000				
X8801310	SH P LED 1F 3S MAM	EACH	47.000				
X8801395	SH P LED 1F 5S BM	EACH	5.000				
X8801400	SH P LED 1F 5S MAM	EACH	22.000				
X8801415	SH P LED 2F 3S BM	EACH	7.000				

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X8801437	SH P LED 2F 1-3,1-5BM	EACH	8.000				
X8801447	SH P LED 2F 5S BM	EACH	1.000				
X8810395	PED SH P LED 1F BM	EACH	22.000				
X8810495	PED SH P LED 2F BM	EACH	4.000				
Z0002600	BAR SPLICERS	EACH	195.000				
Z0007601	BLDG REMOV NO 1	L SUM	1.000				
Z0013798	CONSTRUCTION LAYOUT	L SUM	1.000				
Z0018500	DRAINAGE STR CLEANED	EACH	12.000				
Z0024478	FLEX DELINEATORS	EACH	35.000				
Z0030240	IMP ATTN TEMP NRD TL2	EACH	11.000				
Z0030340	IMP ATTN REL NRD TL2	EACH	7.000				
Z0048665	RR PROT LIABILITY INS	L SUM	1.000				
Z0049801	R&D FRIABL ASB BLD 1	L SUM	1.000				
Z0049901	R&D NON-FR ASB BLD 1	L SUM	1.000				
20101100	TREE TRUNK PROTECTION	EACH	100.000				

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25000775	SELECT MOWING STAKES	EACH	3.000				
28000300	TEMP DITCH CHECKS	EACH	176.000				
28000510	INLET FILTERS	EACH	410.000				
50100300	REM EXIST STRUCT N1	EACH	1.000				
50100400	REM EXIST STRUCT N2	EACH	1.000				
56400100	FIRE HYDNTS TO BE MVD	EACH	5.000				
56400300	FIRE HYDNTS TO BE ADJ	EACH	1.000				
56400500	FIRE HYDNTS TO BE REM	EACH	2.000				
60208240	CB TC T24F&G	EACH	1.000				
60237470	INLETS TA T24F&G	EACH	44.000				
60247160	DR STR T1 W/2 T20F&G	EACH	1.000				
60248000	JUNCTION CHAMBER N1	EACH	1.000				
60248100	JUNCTION CHAMBER N2	EACH	1.000				
60248200	JUNCTION CHAMBER N3	EACH	1.000				
60248300	JUNCTION CHAMBER N4	EACH	1.000				

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60248400	JUNCTION CHAMBER N5	EACH	1.000				
60250200	CB ADJUST	EACH	12.000				
60252800	CB RECONST	EACH	14.000				
60253100	CB RECON NEW T1F CL	EACH	1.000				
60255500	MAN ADJUST	EACH	9.000				
60257900	MAN RECONST	EACH	9.000				
60258000	MAN RECONST SPL	EACH	28.000				
60258200	MAN RECON NEW T1F CL	EACH	16.000				
60265700	VV ADJUST	EACH	2.000				
60266100	VV RECONST	EACH	4.000				
60266300	VV RECONST NEW T1F CL	EACH	10.000				
60500040	REMOV MANHOLES	EACH	21.000				
60500050	REMOV CATCH BAS	EACH	82.000				
63100045	TRAF BAR TERM T2	EACH	6.000				
63100085	TRAF BAR TERM T6	EACH	1.000				

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63100167	TR BAR TRM T1 SPL TAN	EACH	7.000				
67100100	MOBILIZATION	L SUM	1.000				
70101800	TRAF CONT & PROT SPL	L SUM	1.000				
70103815	TR CONT SURVEILLANCE	CAL DA	547.000				
72400100	REMOV SIN PAN ASSY TA	EACH	3.000				
72400200	REMOV SIN PAN ASSY TB	EACH	19.000				
72400600	RELOC SIN PAN ASSY TB	EACH	14.000				
73200100	CONC FDN-WOOD SN SUPP	EACH	17.000				
73700100	REM GR-MT SIN SUPPORT	EACH	113.000				
78100100	RAISED REFL PAVT MKR	EACH	1,048.000				
78100200	TEMP RAIS REF PVT MKR	EACH	1,568.000				
78200400	GUARDRAIL REFLECTORS	EACH	30.000				
78201000	TERMINAL MARKER - DA	EACH	7.000				
80400100	ELECT SERV INSTALL	EACH	2.000				
80400200	ELECT UTIL SERV CONN	L SUM	1.000		12,000 00		12,000.00

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81400100	HANDHOLE	EACH	63.000				
81400200	HD HANDHOLE	EACH	21.000				
81400300	DBL HANDHOLE	EACH	10.000				
82102250	LUM SV HOR MT 250W	EACH	57.000				
82102400	LUM SV HOR MT 400W	EACH	20.000				
84200500	REM EX LT UNIT SALV	EACH	4.000				
84200700	LIGHTING FDN REMOV	EACH	22.000				
84400105	RELOC EX LT UNIT	EACH	18.000				
85700205	FAC T4 CAB SPL	EACH	6.000				
85700305	FAC T5 CAB SPL	EACH	1.000				
85707000	RAILROAD FAC & CAB	EACH	1.000				
85900100	TRANSCEIVER	EACH	1.000				
86000105	MASTER CONTROLLER SPL	EACH	1.000				
86400100	TRANSCEIVER - FIB OPT	EACH	7.000				
87900200	DRILL EX HANDHOLE	EACH	5.000				

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88200100	TS BACKPLATE	EACH	69.000				
88500100	INDUCTIVE LOOP DETECT	EACH	67.000				
88700200	LIGHT DETECTOR	EACH	20.000				
88700300	LIGHT DETECTOR AMP	EACH	6.000				
88800100	PED PUSH-BUTTON	EACH	25.000				
89000100	TEMP TR SIG INSTALL	EACH	7.000				
89502375	REMOV EX TS EQUIP	EACH	7.000				
89502380	REMOV EX HANDHOLE	EACH	52.000				
89502385	REMOV EX CONC FDN	EACH	66.000				

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THIS IS THE TOTAL BID **$** _____

NOTES:

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

RETURN WITH BID

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

I. GENERAL

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

B. In order to comply with the provisions of Article 50 and to carry out the duty established therein, all bidders are to adhere to ethical standards established for the procurement process, and to make such assurances, disclosures and certifications required by law. By execution of the Proposal Signature Sheet, the bidder indicates that each of the mandated assurances has 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 termination of the contract and the suspension or debarment of the bidder.

II. ASSURANCES

A. 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. The Department may terminate the contract if it is later determined that the bidder rendered a false or erroneous assurance, and the surety providing the performance bond shall be responsible for the completion of the contract.

B. Felons

1. The Illinois Procurement Code provides:

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

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-10.

C. Conflicts of Interest

1. The Illinois Procurement Code provides in pertinent part:

Section 50-13. Conflicts of Interest.

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

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

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

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

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

The current salary of the Governor is $150,700.00. Sixty percent of the salary is $90,420.00.

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

D. Negotiations

1. The Illinois Procurement Code provides in pertinent part:

Section 50-15. Negotiations.

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

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

E. Inducements

1. The Illinois Procurement Code provides:

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

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

F. Revolving Door Prohibition

1. The Illinois Procurement Code provides:

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

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

G. Reporting Anticompetitive Practices

1. The Illinois Procurement Code provides:

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

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

H. Confidentiality

1. The Illinois Procurement Code provides:

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

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

RETURN WITH BID

I. Insider Information

1. The Illinois Procurement Act provides:

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

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

III. CERTIFICATIONS

A. 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. The Department may terminate the contract if it is later determined that the bidder rendered a false or erroneous certification, and the surety providing the performance bond shall be responsible for completion of the contract.

B. Bribery

1. The Illinois Procurement Code provides:

Section 50-5. Bribery.

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

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

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

(b) Businesses. No business shall be barred from contracting with any unit of State or local government 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, and that entity finds that the commission of the offense was not authorized, requested, commanded, or performed by a director, officer, or high managerial agent on behalf of the business as provided in paragraph (2) of subsection (a) of Section 5-4 of the Criminal Code of 1961.

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

(d) Certification. Every bid submitted to and contract executed by the State shall contain a certification by the contractor that the contractor is not barred from being awarded a contract or subcontract under this Section. A contractor who makes a false statement, material to the certification, commits a Class 3 felony.

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

C. Educational Loan

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

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

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

D. Bid-Rigging/Bid Rotating

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

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

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

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

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

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

E. International Anti-Boycott

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

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

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

F. Drug Free Workplace

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

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

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

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

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

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

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

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

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

G. Debt Delinquency

1. The Illinois Procurement Code provides:

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

The contractor or bidder certifies that it, or any affiliate, is not barred from being awarded a contract under 30 ILCS 500. Section 50-11 prohibits a person from entering into a contract with a State agency 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 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 contractor further acknowledges that the contracting State agency may declare the contract void if this certification is false or if the contractor, or any affiliate, is determined to be delinquent in the payment of any debt to the State during the term of the contract.

H. Sarbanes-Oxley Act of 2002

1. The Illinois Procurement Code provides:

Section 50-60(c).

The contractor 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 for a period of five years prior to the date of the bid or contract. The contractor acknowledges that the contracting agency shall declare the contract void if this certification is false.

I. ADDENDA

The contractor or bidder certifies that all relevant addenda have been incorporated in to this contract. Failure to do so may cause the bid to be declared unacceptable.

J. Section 42 of the Environmental Protection Act

The contractor certifies in accordance with 30 ILCS 500/50-12 that the bidder or contractor is not barred from being awarded a contract under this Section which prohibits the bidding on or entering into contracts with the State of Illinois or a State agency 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 contractor acknowledges that the contracting agency may declare the contract void if this certification is false.

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

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

_____

_____

_____

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.

TO BE RETURNED 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 Department may terminate the contract if it is later determined that the bidder rendered a false or erroneous disclosure, and the surety providing the performance bond shall be responsible for completion of the contract.

B. Financial Interests and Conflicts of Interest

1. Section 50-35 of the Illinois Procurement Code provides that all bids of more than $10,000 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.

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

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

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

C. Disclosure Form Instructions

Form A: For bidders that have previously submitted the information requested in Form A

The Department has retained the Form A disclosures submitted by all bidders responding to these requirements for the April 24, 1998 or any subsequent letting conducted by the Department. The bidder has the option of submitting the information again or the bidder may sign the following certification statement indicating that the information previously submitted by the bidder is, as of the date of signature, current and accurate. The Certification must be signed and dated by a person who is authorized to execute contracts for the bidding company. Before signing this certification, the bidder should carefully review its prior submissions to ensure the Certification is correct. If the Bidder signs the Certification, the Bidder should proceed to Form B instructions.

CERTIFICATION STATEMENT

I have determined that the Form A disclosure information previously submitted is current and accurate, and all forms are hereby incorporated by reference in this bid. Any necessary additional forms or amendments to previously submitted forms are attached to this bid.

_____
(Bidding Company)

_____ _____
Name of Authorized Representative (type or print) Title of Authorized Representative (type or print)

_____ _____
Signature of Authorized Representative Date

Form A: For bidders who have NOT previously submitted the information requested in Form A

If the bidder is a publicly traded entity subject to Federal 10K reporting, the 10K Report may be submitted to meet the requirements of Form A. If a bidder is a privately held entity that is exempt from Federal 10K reporting, but has more than 400 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. If a bidder is not subject to Federal 10K reporting, the bidder must determine if any individuals are required by law to complete a financial disclosure form. To do this, the bidder should answer each of the following questions. A "YES" answer indicates Form A must be completed. If the answer to each of the following questions is "NO", then the NOT APPLICABLE STATEMENT on the second page of 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 $90,420.00? YES ___ NO___
3. Does anyone in your organization receive more than $90,420.00 of the bidding entity's or parent entity's distributive income? (Note: Distributive income is, for these purposes, any type of distribution of profits. An annual salary is not 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 $90,420.00? 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 on page 2 of Form A must be signed and dated by a person that is authorized to execute contracts for your company.

Form B: **Identifying Other Contracts & Procurement Related Information** Disclosure Form B must be completed for each bid submitted by the bidding entity. It must be signed by an individual who is authorized to execute contracts for the bidding entity. *Note: Signing the NOT APPLICABLE STATEMENT on Form A does not allow the bidder to ignore Form B. Form B must be completed, signed 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 signature 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.

D. Bidders Submitting More Than One Bid

Bidders submitting multiple bids may submit one set of forms consisting of all required Form A disclosures and one Form B for use with all bids. Please indicate in the space provided below the bid item that contains the original disclosure forms and the bid items which incorporate the forms by reference.

- The bid submitted for letting item _____ contains the Form A disclosures or Certification Statement and the Form B disclosures. The following letting items incorporate the said forms by reference:

_____

_____

RETURN WITH BID/OFFER

ILLINOIS DEPARTMENT OF TRANSPORTATION

Form A
Financial Information & Potential Conflicts of Interest Disclosure

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

Disclosure of the information contained in this Form is required by the Section 50-35 of the Illinois Procurement Code (30 ILCS 500). Vendors desiring to enter into a contract with the State of Illinois must disclose the financial information and potential conflict of interest information as specified in this Disclosure Form. This information shall become part of the publicly available contract file. This Form A must be completed for bids in excess of $10,000, 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.**

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 $90,420.00 (60% of the Governor's salary as of 7/1/01). **(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 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 $90,420.00, (60% of the Governor's salary as of 7/1/01) provide the name the State agency for which you are employed and your annual salary. _____
_____

3. If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds $90,420.00, (60% of the Governor's salary as of 7/1/01) 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 the 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 $90,420.00, (60% of the Governor's salary as of 7/1/01) 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 2 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 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 $90,420.00, (60 % of the Governor's salary as of 7/1/01) 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 $90,420.00, (60% of the salary of the Governor as of 7/1/01) are you entitled to receive (i) more then 71/2% of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of the 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 $90,420.00, (60% of the Governor's salary as of 7/1/01) 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 2 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 __

(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 __

APPLICABLE STATEMENT

This Disclosure Form A is submitted on behalf of the INDIVIDUAL named on previous page.

Completed by: _____
Name of Authorized Representative (type or print)

Completed by: _____
Title of Authorized Representative (type or print)

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

NOT APPLICABLE STATEMENT

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.

_____
Name of Authorized Representative (type or print)

_____
Title of Authorized Representative (type or print)

_____ _____
Signature of Authorized Representative — Date

RETURN WITH BID/OFFER

ILLINOIS DEPARTMENT OF TRANSPORTATION

Form B
Other Contracts & Procurement Related Information Disclosure

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

Disclosure of the information contained in this Form is required by the Section 50-35 of the Illinois Procurement Act (30 ILCS 500). This information shall become part of the publicly available contract file. This Form B must be completed for bids in excess of $10,000, 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 SIGNED

Name of Authorized Representative (type or print)

Title of Authorized Representative (type or print)

Signature of Authorized Representative

Date

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

Illinois Department of Transportation

Contract No. 60881
LAKE County
Section 20R-5
Route FAP 337
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													TABLE B: CURRENT EMPLOYEES TO BE ASSIGNED TO CONTRACT			
			MINORITY EMPLOYEES						TRAINEES							
JOB CATEGORIES	TOTAL EMPLOYEES		BLACK		HISPANIC		*OTHER MINOR.		APPREN-TICES		ON THE JOB TRAINEES		TOTAL EMPLOYEES		MINORITY EMPLOYEES	
	M	F	M	F	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																
TOTAL																

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.

Note: See instructions on the next page

FOR DEPARTMENT USE ONLY

RETURN WITH BID

Contract No. 60881
LAKE County
Section 20R-5
Route FAP 337
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

Contract No. 60881
LAKE County
Section 20R-5
Route FAP 337
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.

Firm Name _____

(IF AN INDIVIDUAL)

Signature of Owner _____

Business Address _____

_____

Firm Name _____

By _____

(IF A CO-PARTNERSHIP)

Business Address _____

_____

Name and Address of All Members of the Firm:

_____ _____

_____ _____

Corporate Name _____

By _____

Signature of Authorized Representative

_____

Typed or printed name and title of Authorized Representative

(IF A CORPORATION)

Attest _____

Signature

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

Business Address _____

_____

Corporate Name _____

By _____

Signature of Authorized Representative

_____

Typed or printed name and title of Authorized Representative

(IF A JOINT VENTURE)

Attest _____

Signature

Business Address _____

_____

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

RETURN WITH BID

Illinois Department of Transportation

Division of Highways
Proposal Bid Bond
(Effective November 1, 1992)

Item No. _____
Letting Date _____

KNOW ALL MEN BY THESE PRESENTS, That We _____

_____

as PRINCIPAL, and _____

_____ as SURETY, are 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 Article 102.09 of the "Standard Specifications for Road and Bridge Construction" in effect on the date of 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, submit a DBE Utilization Plan that is accepted and approved by the Department; 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 make the required DBE submission or 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 and the said SURETY have caused this instrument to be signed by their respective officers this _____ day of _____ A.D., _____.

PRINCIPAL

_____
(Company Name)

By: _____
(Signature & Title)

SURETY

_____
(Company Name)

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

Notary Certification for Principal and Surety

STATE OF ILLINOIS,
COUNTY OF _____

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

_____and _____

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

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

Given under my hand and notarial seal this _____ day of _____, A.D. _____.

My commission expires _____ _____
Notary Public

In lieu of completing the above section of the Proposal Bid Form, the Principal may file an Electronic Bid Bond. By signing below 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

PROPOSAL ENVELOPE

Illinois Department of Transportation

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. 60881
LAKE County
Section 20R-5
Route FAP 337
District 1 Construction Funds

Illinois Department of Transportation

Illinois Department of Transportation

NOTICE TO BIDDERS

1. **TIME AND PLACE OF OPENING BIDS.** Sealed proposals for the improvement described herein will be received by the Department of Transportation at the Harry R. Hanley Building, 2300 South Dirksen Parkway, in Springfield, Illinois until 10:00 o'clock a.m., June 17, 2005. 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. 60881
   LAKE County
   Section 20R-5
   Route FAP 337
   District 1 Construction Funds

4.78 km of roadway reconstruction with 2 @ 7.2 m and variable width concrete pavement (jointed), drainage improvements and traffic signal modernization along Illinois Route 22 (Half Day Road) from Illinois Route 83 (Mundelein Road) to U.S. Route 45/Illinois Route 21 in Long Grove, Buffalo Grove and Lincolnshire.

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

Timothy W. Martin, Secretary

INDEX
FOR
SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS
Adopted March 1, 2005

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

ERRATA Standard Specifications for Road and Bridge Construction (Adopted 1-1-02) (Revised 3-1-05)

SUPPLEMENTAL SPECIFICATIONS

RECURRING SPECIAL PROVISIONS

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

TABLE OF CONTENTS

STATE OF ILLINOIS

SPECIAL PROVISIONS

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction," adopted January 1, 2002 (hereinafter referred to as the Standard Specifications): the latest edition of the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways", and the "Manual of Test Procedures for Materials" in effect on the date of invitation for bids, and the Supplemental Specifications and Recurring Special Provisions indicated on the Check Sheet included herein which apply to and govern the construction of F.A.P. 337 Illinois Route 22 (Half Day Road) from Illinois Route 83 to U.S. Route 45/Illinois Route 21, Section 20R-5, Lake County and in case of conflict with any or part or parts of said specifications, the said Special Provisions shall take precedence and shall govern.

FAP 337 (Illinois Route 22)
Section: 20R-5
County: Lake
Contract: 60881

LOCATION OF IMPROVEMENT

This improvement on Illinois Route 22 (Half Day Road) begins at Station 99+815, approximately 185 meters west of Illinois Route 83 (Mundelein Road) and extends in an easterly direction through the Villages of Long Grove, Buffalo Grove and Lincolnshire and ends at Station 104+600, a point approximately 218 meters west of U.S. Route 45/Illinois Route 21 (Milwaukee Avenue). The roadway improvement gross length is 4,785 meters (4.785 kilometers)

Description of Improvement

The work includes the widening and reconstruction of Illinois Route 22 (Half Day Road), the reconstruction of a portion of Buffalo Grove Road, South Prairie Road, Main Street and Old Half Day Road, including new PCC pavements, curb and gutter removal, replacement and new installation, closed drainage system installation, and other incidental and collateral work. Also included are replacement of seven traffic signals, all with traffic signal interconnection. The work also includes the installation of two box culverts, installation of a new pedestrian underpass structure, and modification of an existing golf course underpass structure.

Maintenance of Roadways

Effective: September 30, 1985 Revised: November 1, 1996

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

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

Status of Utilities to be Adjusted
Effective: January 30, 1987 Revised: July 1, 1994

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

Name of Utility	Type	Location	Estimated Dates for Start and completion of Relocation or Adjustments
ComEd (electric)	Underground cable		
	Replace or relocate	Sta 100+025, Sta 100+750 to 100+875	Prior to or during construction
	Adjust, relocate or replace	Sta 101+475, 102+055, 102+350 to 102+380, 103+315, 103+600, 103+615, 104,145, 104+205, 104+275, 104+350, 104+350 to 104+375, 104+375	During construction
	Overhead lines and poles		
	Relocate or replace	Sta 100+600 to 101+000, 101+250 to 101+400, 102+315 to 104+150	Prior to or during construction

SBC (telecom-munication)	<u>Underground cable and duct</u> Relocate or replace	Sta 100+020, 100+625 to 100+805, 101+370 to 101+550, 101+562, 101+580, 101+650 to 101+710, 103+400, 103+600 to 103+630, 104+330, 104+490	Prior to or during construction

Peoples Energy (natural gas)	<u>GAS PIPELINE</u>		
	2” Adjustments	Sta. 100+020 to 103+340 at various locations	During Construction
		Prairie Rd. Sta 10+044 to 10+131	Prior to and during Construction
	4” Replacement	Sta. 100+780 to 104+145	Prior to and during Construction
		Buffalo Grove Rd. Sta 10+150 to 10+175	Prior to and during Construction
	6” Adjustments and replacement	Sta. 100+020 and 100+700 to 100+780 and at various locations	Prior to and during Construction

West Shore Pipe Line Co. (petroleum)	16” Petroleum Adjustment/relocation of vent pipes.	Sta 102+925	During construction.

Lake County Public Works Department (sanitary sewer force main)	8" Force Main	Sta 100+030 to 100+525	No adjustments expected.

Village of Buffalo Grove (water, sanitary sewer, storm sewer, street lighting)	<u>WATER</u>		
	Fire Hydrants Relocation or adjustment	Sta 103+025, 103+170, 103+365, 103+660, 10+230	Part of construction contract
	Casing Pipe extension	Sta. 101+870, 102+080, 101+595	Part of construction contract
	Valve Vault Adj.	Various locations	Part of construction contract
	<u>SANITARY AND STORM SEWER</u>		
	Manhole adjustments	Various locations	Part of construction contract
	<u>STREET LIGHTING</u>		
	Pole relocation, new foundations and cable	Sta. 101+250 to 103+850	Part of construction contract

Comcast (cable television and communications)	Underground cable and fiber optic cable		
	Cable TV cable adjustment, relocation or replacement.	Sta 100+750, 101+525 to 101+575, 101+585, 101+590, 102+357, 102+370, 102+980, 103+000 to 104+870	Prior to and during Construction
		Buffalo Grove Rd. 10+240 to 10+300	Prior to and during Construction
	Fiber Optic cable, adjustment, relocation or replacement	Sta 100+020, 100+125 to 100+200, 100+410 to 100+500, 101+590	Prior to and during Construction
		Buffalo Grove Rd. Sta 10+240 to 10+300	Prior to and during Construction

TDS Metrocom	Underground cable and duct	Sta 104+200	During construction

Village of Lincolnshire (water, sanitary sewer, storm sewer)	<u>Water</u>		
	Replacement in new location	Sta 103+220 to 104+360	Part of construction contract
	<u>Sanitary and Storm Sewers</u>		
	Manhole adjustments	Various locations	Part of construction contract

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.

Contractor Cooperation

The Contractor's attention is directed to the fact that other separate contracts may be under construction during the duration of this Contract and that the Contractor will be governed by Article 105.08 of the Standard Specifications.

The Contractor will coordinate proposed project start dates and sequence of construction with the Engineer and other Contractors to present an effective and timely schedule for successful completion of project.

No additional compensation will be allowed the Contractor for the above requirements, for any delays or inconvenience resulting from the activities of other contractors.

Completion Date Plus Guaranteed Working Days

The Contractor shall complete all contract items and safely open all roadways to traffic by **11:59 PM on November 30, 2006**.

"The Contractor will be allowed to complete all clean-up work, final pavement marking, landscaping and punch list items within ten (10) guaranteed working days after the completion date for opening the roadway to traffic. Under extenuating circumstances the Engineer may direct that certain items of work, not affecting the safe opening of the roadway to traffic, may be completed within the guaranteed working days allowed for clean up work and punch list items. Temporary lane closures for this work may be allowed at the discretion of the Engineer.

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

Temporary Information Signing

Description: This work shall consist of furnishing, installing, maintaining, relocating for various states of construction and eventually removing temporary informational signs. Included in this item may be ground mount signs, signs on temporary stands, truss mount signs, bridge mount signs, and overlay sign panels which cover portions of existing signs.

Materials: Materials shall be according to the following Articles of Section 1000 - Materials:

	Item	Article/Section
a.)	Sign Base (Notes 1 & 2)	1090
b.)	Sign Face (Note 3)	1091
c.)	Sign Legends	1092
d.)	Sign Supports	1093
e.)	Overlay Panels (Note 4)	1090.01

Note 1. The Contractor may use 16mm (5/8 inch) instead of 19mm (3/4 inch) thick plywood.
Note 2. Type A sheeting can be used on the plywood base.
Note 3. All sign faces shall be Type A except all orange signs shall meet the requirements of Article 1084.02(b).
Note 4. The overlay panels shall be 2mm (0.08 inch) thick.

GENERAL CONSTRUCTION REQUIRMENTS

Installation: The sign sizes and legend sizes shall be verified by the Contractor prior to fabrication.

Signs which are placed along the roadway and/or within the construction zone shall be installed according to the requirements of Article 702.05 and Article 720.04. The signs shall be 2.1m (7') above the near edge of the pavement and shall be a minimum of 600mm (2') beyond the edge of the paved shoulder. A minimum of 2 posts shall be used.

The attachment of temporary signs to existing sign structures or sign panels shall be approved by the Engineer. Any damage to the existing signs due to the Contractor's operations shall be repaired or signs replaced, as determined by the Engineer, at the Contractor's expense.

Signs which are placed on overhead bridge structures shall be fastened to the handrail with stainless steel bands. These signs shall rest on the concrete parapet where possible. The Contractor shall furnish mounting details for approval by the Engineer.

Method of Measurement: This work shall be measured for payment in square meters (square feet) edge to edge (horizontally and vertically).

All hardware, posts, supports, bases for ground mounted signs, connections, which are required for mounting these signs will be included as part of this pay item.

Basis of Payment: This work shall be paid for at the contract unit price per square meter (square feet) for TEMPORARY INFORMATION SIGNING, which price shall be full compensation for all labor, equipment and materials required for performing the work as herein specified.

Topsoil

Topsoil shall conform to the applicable requirements of Article 1081.05 (Topsoil and Compost) of the Standard Specifications except when tested for organic content, topsoil shall be between 1% and 10% as determined in accordance with AASHTO T-194 (Wet Combustion).

Weed Control, Pre-Emergent Granular Herbicide

Description: This work shall consist of spreading a pre-emergent granular herbicide in areas as shown on the plans or as directed by the Engineer. This item will be used in mulched plant beds and mulch rings.

Materials: The pre-emergent granular herbicide (Snapshot 2.5 TG or equivalent) shall contain the chemicals Trifluralin 2% active ingredient and Isoxaben with 0.5% active ingredient. The herbicide label shall be submitted to the Engineer for approval at least seventy-two (72) hours prior to applications.

Method: The pre-emergent granular herbicide shall be used in accordance with the manufacturer's directions on the package. The granules are to be applied prior to mulching.

Apply the granular herbicide using a drop or rotary-type designed to apply granular herbicide or insecticides. Calibrate application equipment to use according to manufacturer's directions. Check frequently to be sure equipment is working properly and distributing granules uniformly. Do not use spreaders that apply material in narrow concentrated bands. Avoid skips or overlaps as poor weed control or crop injury may occur. More uniform application may be achieved by spreading half of the required amount of product over the area and then applying the remaining half in swaths at right angles to the first. Apply the granular herbicide at the rate of 100 lbs/acre (112kg/ha) or 2.3lbs/1000 sq ft (0.01 kg/1000 sq. meters).

Method of Measurement: Pre-emergent granular herbicide will be measured in place in Pounds (Kilograms) of Pre-emergent granular herbicide applied. Areas treated after mulch placement shall not be measure for payment.

Basis of Payment: This work will be paid for at the contract unit price per pond (kilogram) of WEED CONTROL, PRE-EMERGENT GRANULAR HERBICIDE which price shall include all materials, equipment, and labor necessary to complete the work as specified.

Supplemental Watering

This work shall be in accordance with Section 252 of the Standard Specifications except as herein modified.

Description: This work will include watering turn, trees, shrubs, and perennial plants at the rate specified and as directed by the Engineer.

Watering must be completed in a timely manner. When the Engineer directs the Contractor to do supplemental watering, the Contractor must begin the watering operation within 24 hours of notice. Damage to plant material that is a result of the Contractor's failure to water in a timely way must be repaired or replaced at the Contractor's expense.

Source of Water: The Contractor shall notify the Engineer of the source of water used and provide written certifications that the water does not contain chemicals harmful to plant growth.

Rate of Applications: The normal rates of applications for watering are as follows: The Engineer will adjust these rates as needed depending upon weather conditions.

Turf and Perennial plants: 3 gallons per square foot.
Trees: 10 gallons per tree
Shrubs: 3 gallons per shrub
Seedlings: 3 gallons per seedling
Ornamental Grasses: 3 gallons per square foot
Groundcovers and Vines: 2 gallons per square foot.

Method of Application: A spray nozzle that does not damage small plants must be used when watering perennial plants or turf. Water shall be applied at the base of the plant to keep as much water as possible off plant leaves. An open hose may be used to water trees, shrubs, and seedlings if mulch and soil are not displaced by watering. Water shall trickle slowly into the soil and completely soak the root zone. The Contractor must supply metering equipment as needed to assure the specified application rate of water.

Method of Measurement: Supplemental Watering will be measured in units of 1000 gallons (3,785 liters) of water applied as directed.

Basis of Payment: This work will be paid for at the contract unit price per unit of SUPPLEMENTAL WATERING, measure as specified. Payment will include the cost of all water, equipment and labor needed to complete the work specified herein and to the satisfaction of the Engineer.

Porous Granular Embankment, Subgrade
Effective: September 30, 1985 Revised: November 1, 1996

This work consists of furnishing, placing, and compacting porous granular material to the lines and grades shown on the plans or as directed by the Engineer in accordance with applicable portions of Section 207 of the Standard Specifications. The material shall be used as a bridging layer over soft, pumpy, loose soil and for placing under water and shall conform with Article 1004.06 of the Standard Specifications except the gradation shall be as follows:

1. Crushed Stone, Crushed Blast Furnace Slag, and Crushed Concrete

Sieve Size	Percent Passing
*150 mm (6 inches)	97±3
*100 mm (4 inches)	90±10in
50 mm (2 inches)	45±25
(#200)	75 um 5±5

2. Gravel, Crushed Gravel and Pit Run Gravel

Sieve Size	Percent Passing
*150 mm (6 inches)	97±3
*100 mm (4 inches)	90±10
50 mm (2 inches)	55±25
4.75 mm (#4)	30±20
(#200)	75 um 5±5

*For undercut greater than 450 mm (18 inches) the percent passing the 150 mm (6 inches) sieve may be 90±10 and the 100 mm (4 inches) sieve requirements eliminated.

The porous granular material shall be placed in one lift when the total thickness to be placed is 600 mm (2 feet) or less or as directed by the Engineer. Each lift of the porous granular material shall be rolled with a vibratory roller meeting the requirements of Article 1101.01 of the Standard Specifications to obtain the desired keying or interlock and compaction. The Engineer shall verify that adequate keying has been obtained.

A 75 mm (3 inches) nominal thickness top lift of capping aggregate having a gradation of CA 6 will be required when Aggregate Subgrade is not specified in the contract and Porous Granular Embankment, Subgrade will be used under the pavement and shoulders. Capping aggregate will not be required when embankment meeting the requirements of Section 207 of the Standard Specifications or granular subbase is placed on top of the porous granular material.

Construction equipment not necessary for the completion of the replacement material will not be allowed on the undercut areas until completion of the recommended thickness of the porous granular embankment subgrade.

Full depth subgrade undercut should occur at limits determined by the Engineer. A transition slope to the full depth of undercut shall be made outside of the undercut limits at a taper of 300 mm (1 foot) longitudinal per 25 mm (1 inch) depth below the proposed subgrade or bottom of the proposed aggregate subgrade when included in the contract.

This work will be measured for payment in accordance with Article 207.04 of the Standard Specifications. When specified on the contract, the theoretical elevation of the bottom of the aggregate subgrade shall be used to determine the upper limit of Porous Granular Embankment, Subgrade. The volume will be computed by the method of average end areas.

This work shall be paid for at the contract unit price per cubic meter (cubic yard) for POROUS GRANULAR EMBANKMENT, SUBGRADE which price shall include the capping aggregate, when required.

The Porous Granular Embankment, Subgrade shall be used as field conditions warrant at the time of construction. No adjustment in unit price will be allowed for an increase or decrease in quantities from the estimated quantities shown on the plans.

Aggregate Subgrade, 300mm (12")
Effective: May 1, 1990 Revised: July 1, 1999

This work shall be done in accordance with the applicable portions of Section 207 of the Standard Specifications. The material shall conform with Article 1004.06 of the Standard Specifications except as follows:

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

Sieve Size	Percent Passing
150 mm (6 inches)	97±3
100 mm (4 inches)	90±10
50 mm (2 inches)	45±25
75 μm (#200)	5±5

2. Gravel, Crushed Gravel and Pit Run Gravel

Sieve Size	Percent Passing
150 mm (6 inches)	97±3
100 mm (4 inches)	90±10
50 mm (2 inches)	55±25
4.75 mm (#4)	30±20
75 μm (#200)	5±5

3. Crushed Concrete with Bituminous Materials**

Sieve Size Percent Passing	
150 mm (6 inches)	97±3
100 mm (4 inches)	90±10
50 mm (2 inches)	45±25
4.75 mm(#4)	20±20
75 μm (#200)	5±5

**The bituminous material shall be separated and mechanically blended with the crushed concrete so that the bituminous material does not exceed 40% of the final product. The top size of the bituminous material in the final product shall be less than l00 mm (4 inches) and shall not contain steel slag or any material that is considered expansive by the Department.

The Aggregate subgrade shall be placed in two lifts consisting of a 225 mm (9 inches) and variable nominal thickness lower lift and a 75 mm (3 inches) nominal thickness top lift of capping aggregate having a gradation of CA 6. Reclaimed Asphalt Pavement (RAP) meeting Article 1004.07 of the Standard Specifications and having 100% passing the 75 mm (3 inches) sieve and well-graded down through fines may also be used as capping aggregate. RAP shall not contain steel slag or other expansive material. The results of the Department's tests on the RAP material will be the determining factor for consideration as expansive. A vibratory roller meeting the requirements of Article 1101.01 of the Standard Specifications shall be used to roll each lift of material to obtain the desired keying or interlock and necessary compaction. The Engineer will verify that adequate keying has been obtained.

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

Method of Measurement.

(a) Contract Quantities. Contract quantities shall be in accordance with Article 202.07.

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

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

Reclaimed Asphalt Pavement For Non-Porous Embankment and Backfill
Effective: April 1, 2001

Add the following sentence to Article 1004.06 (a) Description of the Standard Specifications for Road and Bridge Construction:

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

Add the following sentence to Article 1004.06 (C) Gradation of the Standard Specifications for Road and Bridge Construction.

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

Reclaimed Asphalt Pavement (RAP) for Temporary Access Entrances and/or Aggregate Shoulders, Type B
Effective: April 1, 2001

Replace the Note in Articles 402.02(a) and 481.02(a) of the Standard Specifications for Road and Bridge Construction with the following:

"Note: Reclaimed asphalt pavement (RAP) may be used as aggregate in surface course for temporary access entrances and/or aggregate shoulders Type B. The RAP material shall be reclaimed asphalt pavement material resulting from the cold milling or crushing of an existing hot-mix bituminous concrete pavement structure, including shoulders. RAP containing contaminants such as earth, brick, concrete, sheet asphalt, sand, or other materials identified by the Department will be unacceptable until the contaminants are thoroughly removed. The RAP shall also meet the following requirements:

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

Temporary Ditch Checks

This Special Provision revises Section 280 of the Standard Specifications for Road and Bridge Construction to eliminate the use of Aggregate Ditch Checks and Hay or Straw Bales for Temporary Ditch Checks.

Delete Paragraphs 2 and 3 of Article 280.04(a) Temporary Ditch Checks.

Add to Article 280.04 (a) Temporary Ditch Checks: Temporary Ditch Checks shall be at least 3.66 meters (12 feet) or longer in length.

Silt Curtain

Description:
This work shall consist of furnishing, installing and removing a temporary silt curtain device to trap silt in existing streams during construction at the locations shown on the plans and as directed by the Engineer.

Materials:
Floatation boom: 8-inch diameter solid expanded polystyrene log type of approved equal with approximately 20lbs/ft. buoyancy. Polystyrene beads or chips shall not be used for floatation.

Fabric: The silt fabric shall have a minimum grab tensile strength of 180 lbs. Equivalent Opening Size (U.S. Standard Sieve) shall be 60to 170. Seams shall be heat sealed or sewn.

Main Load Line: 5/16-inch cable.

Ballast: 5/16-inch chain.

Installation:
The floatation boom shall be installed in such a manner as to prevent drift shoreward or downstream. The floatation log shall be securely attached to the fabric in both the horizontal and vertical direction.

The 5/16-inch cable shall be attached above the floatation members and extend the entire length of each section of silt screen. A 5/16 chain shall be sealed on the lower hem for ballast. Connectors shall join the main load line and ballast chain to carry all tensile pressure. The Fabric shall be joined for its entire height.

Anchorage's shall be installed on both shore and stream side to maximum stability. Shore anchors shall consist of a post with deadmen or approved equal. Stream anchors shall be of sufficient size, type and strength to stabilize the barrier beyond the construction area.

Anchors shall be buoyed to prevent the boom from being pulled under water. Danforth type anchors shall be used in sandy bottom and heavy kedge type or mushroom anchors on mud bottoms.

The contractor shall be responsible for maintenance of the boom throughout construction operations. Upon completion of the work, the contractor shall remove the boom in a manner that will prevent siltation of the river.

Method of Measurement: The silt curtain will be measured in square yards of material measured at the point of installation, the dimension being from the width of stream at the maximum high water level listed on the plans to the channel bottom elevation at the point of installation.

Basis of Payment: This work shall be paid for at the contract price, per square yard for SILT CURTAIN.

Sediment Control, Drainage Structure Inlet Filter Cleaning

Description: This work shall consist of cleaning sediment out of a drainage structure inlet filter when directed by the Engineer. This cleaning work is to be periodically performed as directed by the Engineer, for the duration of the use of each drainage structure inlet filter assembly. The Engineer will be the sole judge of the need for cleaning, based on the rate that debris and silt is collected at each inlet filter location.

Cleaning of the inlet filter shall consist of inspecting, cleaning (includes removal and proper disposal of debris and silt that has accumulated in the filter fabric bag), by vactoring, removing and dumping or any other method approved by the Engineer.

Method of Measurement: Cleaning of the drainage structure inlet filter shall be measured for payment each time that the cleaning work is performed at each of the drainage structure inlet filter locations.

Basis of Payment: The work will be paid for at the contract unit price per each for SEDIMENT CONTROL, DRAINAGE STRUCTURE INLET FILTER CLEANING, which price shall include all costs for labor, materials, equipment, and incidentals necessary to perform the work.

Temporary Pavement

Description: This work shall include all materials, labor, and equipment necessary to construct, Temporary Pavement at the locations shown on the Maintenance of Traffic plans or as directed by the Engineer.

The temporary pavement, at the option of the Contractor, shall be either 204mm (8-inch) Portland Cement Concrete Base Course or 50mm (2-inch) Bituminous Surface Course Superpave, Mix C, N50 with 200mm (8-inch) Bituminous Base Course Superpave. The Temporary Pavement shall be constructed in accordance with the applicable provisions of Sections 353, 354, 355, 356, 358 and 406 of the Standard Specifications.

Removal of Temporary Pavement will be paid for as PAVEMENT REMOVAL.

Basis of Payment: This work will be paid for at the contract unit price per square meter for TEMPORARY PAVEMENT which price shall include payment for all materials, labor, and equipment necessary to provide Temporary Pavement.

Temporary Patching

Description: This work shall include all materials, labor, and equipment necessary to construct, Temporary Patching at the locations as directed by the Engineer.

Temporary patching is intended to pay for the temporary repair of existing roadway pavements within the work zone to provide an adequate riding surface. The extent of temporary patching will be determined by the Engineer in the field.

Materials: Temporary pavement patching (surface patches) shall be Bituminous Surface Course Superpave, Mix C, N50 hot mix asphalt. If hot mix asphalt is not available, patching material shall be bituminuous material meeting the requirements of Bureau of Local Roads and Streets Special Provision LR 442, 'Bituminous Patching Mixes for Maintenance Use'.

Method of Measurement: This work will be measure per metric ton of material used for patching. The minimum payment for any request for pavement patching will be one (1) metric ton.

Basis of Payment: This work will be paid for at the contract unit price per metric ton for TEMPORARY PATCHING.

Temporary Inlets

Description: This work shall consist of installing temporary drainage inlets at the locations shown on the plans or as directed by the Engineer. The work shall be done in accordance with applicable portions of Section 602 of the Standard Specifications.

The work shall include installation and removal of temporary inlets and disposal of old material offsite.

Materials: Temporary inlets may be previously used IDOT standard Inlets or Catch Basins of any size or may be new material to be used in other areas of the project at a later date. Each temporary inlet shall have an unbroken Type 1 frame and open lid or Type 8 grate. Frames and grates may also be previously used or may be new material to be used in other areas of the project at a later date.

Proposed material as well as other types of material must be submitted to and approved by the Engineer prior to use.

If any new material is used in a temporary installation and is to be reused, it must meet all specifications and documentation for new material and must not be damaged in any way during temporary use. Any visible damage may be cause for rejection for re-use.

The area around temporary inlets shall be graded to drain to the inlet and shall be graded in such a manner as to not pose a hazard to the adjacent traffic lane(s).

Basis of Payment: The work will be paid for at the contract unit price, per each, for TEMPORARY INLETS.

Temporary Inlet Connections

Description: This work shall consist of installing temporary drainage inlet connections at the locations shown on the plans or as directed by the Engineer. The work shall be done in accordance with applicable portions of Sections 550 and 602 of the Standard Specifications.

The work shall include installation and removal of temporary inlet connections in including temporary pipe or temporary fittings to existing or proposed storm sewers or culverts and disposal of old removed material offsite.

Temporary connections to existing storm sewer or culvert to be removed may be made by breaking in and connecting temporary pipe in a manner so as not to impede flow in either pipe. Temporary connections to new storm sewer or culvert pipe must be done using a temporary “T” or “Y” fitting in the new storm sewer or culvert pipe. No break-in or core connections to new storm sewer or culvert will be allowed. Any damage to new storm sewer or culverts must be have the pipe replaced at the expense of the Contractor.

Materials: Temporary pipe may be previously used but unbroken pipe material, including PVC, ABS or Corrugated metal , minimum size of 200 mm (8-inch) or may be new material to be used in other areas of the project at a later date.

Proposed material as well as other types of material must be submitted to and approved by the Engineer prior to use.

If any new material is used in a temporary installation and is to be reused, it must meet all specifications and documentation for new material and must not be damaged in any way during temporary use. Any visible damage may be cause for rejection for re-use.

Basis of Payment: The work will be paid for at the contract unit price, per each, for TEMPORARY INLET CONNECTION.

Sleeper Slab

Description: This work consists of constructing a Portland Cement Concrete Sleeper slab as shown on the plans and as per Section 420 of the Standard Specifications.

Joint filler shall consist of a sheet of 13mm (1/2-inch) bituminous preformed fiber joint filler conforming to Article 1051.03 of the Standard Specifications.

The joint shall be sealed with a hot pour joint sealer conforming to Articles 1050.02 of the Standard Specifications.

A single layer of felt roofing paper shall service as a bond breaker.

Reinforcement bars shall conform to Article 1006.10 of the Standard Specifications.

The cost of the bond breaker, reinforcement bars, joint and joint filler shall be consider as included in the price of Sleeper Slab.

Method of Measurement: This work will be measured in meters along the surface of the pavement joint under which the Sleeper Slab has been placed.

Basis of Payment: This work will be paid for at the contract unit price, per meter, for SLEEPER SLAB.

Backfilling Storm Sewer Under Roadway
Effective: September 30, 1985 Revised: July 2, 1994

For storm sewer constructed under the roadway, backfilling methods two and three authorized under the provisions of Article 550.07 will not be allowed.

Storm Sewer Adjacent to or Crossing Water Main
Effective: February 1, 1996 Revised: March 31, 1998

This work consists of constructing storm sewer of the specified diameter adjacent to or crossing water main, at the locations shown on the plans, meeting the material and installation

requirements of the latest edition of the "Standard Specifications for Water and Sewer Main Construction in Illinois", and the applicable portions of Section 550 of the Standard Specifications.

Pipe materials shall meet the requirements of Sections 40 and 41-2.01 of the "Standard Specifications for Water and Sewer Main Construction in Illinois", except PVC pipe will not be allowed. Ductile-Iron pipe shall meet the minimum requirements for Thickness Class 50.

Encasing of standard type storm sewer, in accordance with the details for "Water and Sewer Separation Requirements (Vertical Separation)", (DIV. V/STANDARD DRAWINGS) in the "Standard Specifications for Water and Sewer Main Construction in Illinois", may be used for storm sewers crossing water mains.

Basis of Payment: This work will be paid for in accordance with Article 550.09 of the Standard Specifications, except the pay item shall be STORM SEWER (WATER MAIN REQUIREMENTS), of the diameter specified, and shall include all materials, labor, equipment, concrete collars and encasing pipe with seals.

Fire Hydrants to be Moved
Fire Hydrants to be Adjusted

Description: This work shall be performed in accordance with Section 564 of the Standard Specifications except as herein modified. This work shall also be performed in accordance with Division IV Water Distribution of the Standard Specifications for Water and Sewer Main Construction in Illinois, latest edition. The work shall include all labor, equipment and material necessary for the removal, installation, adjustment and disinfecting of fire hydrants and all required fittings to the lines and grades shown on the plans or as directed by the Engineer and the Village of Buffalo Grove or the Village of Lincolnshire.

The Contractor shall provide for the fire hydrant relocations and adjustments as shown on the plans, specified or as directed by the Engineer and the Village of Buffalo Grove or the Village of Lincolnshire The work shall include all labor, equipment and material required to complete the items excavation, bedding, thrust blocking, backfilling, removal of spoil, sheeting and bracing, and removal of ground water shall be included in the prices bid for this Item. This work shall include and not be limited to the installation of the gasket, continuity wedges and the tightening of all gland nuts and bolts and the installation of the hydrant drain connection fittings.

Material: All material shall conform to Section 45 of the Standard Specifications for Water and Sewer Main Construction in Illinois for Fire Hydrants.

Construction Requirements: Prior to taking any Fire Hydrant out of service for adjustment or relocation, the Contractor shall notify the office of the Village Engineer of the Village of Buffalo Grove or the Village of Lincolnshire a minimum of 48 hours in advance.

A minimum of 1 Cubic Meter (Yard) of clean, washed gravel drain material must be placed adjacent to the hydrant drain opening.

All hydrant nozzle elevations must be at least 600mm (24 inches) above the final finished grade.

Basis of Payment: This work shall be paid for at the contract unit price, each for FIRE HYDRANTS TO BE MOVED or FIRE HYDRANTS TO BE ADJUSTED, which price shall be payment in full for the work described herein.

Temporary Sheet Piling
Effective: September 2, 1994 Revised: December 13, 2002

Description. This work shall consist of furnishing, driving, adjusting for stage construction when required and subsequent removal of the sheet piling according to the dimensions and details shown on the plans and according to the applicable portions of Section 512 of the Standard Specifications.

This work shall also include furnishing, installing and subsequent removal of all miscellaneous steel shapes, plates and connecting hardware when required to attach the sheeting to an existing substructure unit and/or to facilitate stage construction.

General. The Contractor may propose other means of supporting the sides of the excavation provided they are done so at no extra cost to the department. If the Contractor elects to vary from the design requirements shown on the plans, the revised design calculations and details shall be submitted to the Engineer for approval. The calculations shall be prepared and sealed by an Illinois Licensed Structural Engineer. This approval will not relieve the Contractor of responsibility for the safety of the excavation. Approval shall be contingent upon acceptance by all involved utilities and/or railroads.

Material. The sheet piling shall be made of steel and may be new or used material, at the option of the Contractor. The sheet piling shall have a minimum section modulus as shown on the plans or in the approved Contractor's alternate design. The sheeting shall have a minimum yield strength of 265 MPa (38.5 ksi) unless otherwise specified. The sheeting, used by the Contractor, shall be identifiable and in good condition free of bends and other structural defects. The Contractor shall furnish a copy of the published sheet pile section properties to the Engineer for verification purposes. The Engineer's approval will be required prior to driving any sheeting. All driven sheeting not approved by the Engineer shall be removed at the Contractor's expense.

Construction. The Contractor shall verify locations of all underground utilities before driving any sheet piling. Any disturbance or damage to existing structures, utilities or other property, caused by the Contractor's operation, shall be repaired by the Contractor in a manner satisfactory to the Engineer at no additional cost to the Department. The Contractor shall be responsible for determining the appropriate equipment necessary to drive the sheeting to the tip elevation(s) specified on the plans or according to the Contractor's approved design. The sheet piling shall be driven, as a minimum, to the tip elevation(s) specified, prior to commencing any related excavation. If unable to reach the minimum tip elevation, the adequacy of the sheet piling design will require re-evaluation by the Department prior to allowing excavation adjacent to the sheet piling in question. The Contractor shall not excavate below the maximum excavation line shown on the plans without the prior permission of the Engineer. The sheet piling shall remain in place until the Engineer determines it is no longer required.

The sheet piling shall be removed and disposed of by the Contractor when directed by the Engineer. When allowed, the Contractor may elect to cut off a portion of the sheet piling leaving the remainder in place. The remaining sheet piling shall be a minimum of 300 mm (12 in.) below the finished grade or as directed by the Engineer. Removed sheet piling shall become the property of the Contractor.

When an obstruction is encountered, the Contractor shall notify the Engineer and upon concurrence of the Engineer, the Contractor shall begin working to break up, push aside, or remove the obstruction. An obstruction shall be defined as any object (such as but not limited to, boulders, logs, old foundations etc.) where it's presence was not obvious or specifically noted on the plans prior to bidding, that cannot be driven through or around with normal driving procedures, but requires additional excavation or other procedures to remove or miss the obstruction.

Method of Measurement. The temporary sheet piling will be measured for payment in place in square meters (square feet). Any temporary sheet piling cut off, left in place, or driven to dimensions other than those shown on the contract plans without the written permission of the Engineer, shall not be measured for payment but shall be done at the contractor's expense.

If the Contractor is unable to drive the sheeting to the specified tip elevation(s) and can demonstrate that any further effort to drive it would only result in damaging the sheeting, then the Contractor shall be paid based on the plan quantity of temporary sheeting involved. However, no additional payment will be made for any walers, bracing, or other supplement to the temporary sheet piling, which may be required as a result of the re-evaluation in order to insure the original design intent was met.

Basis of Payment. This work will be paid for at the contract unit price per square meter (square foot) for TEMPORARY SHEET PILING.

Payment for any excavation performed in conjunction with this work will not be included in this item but shall be paid for as specified elsewhere in this contract.

Obstruction mitigation shall be paid for according to Article 109.04 of the Standard Specifications.

Braced Excavation

Description. This work shall consist of furnishing all labor, equipment, and materials necessary to install, maintain and remove a braced excavation support system to protect the adjacent roadway during the construction of the tunnel Extensions as shown on the plans and as specified herein.

General Requirements. The design of the braced excavation is the responsibility of the Contractor. The Contractor shall submit drawings and design for the braced excavation to the Engineer for approval. The braced excavation design and drawings shall be signed and sealed by an Illinois licensed Structural Engineer, submitted and approved prior to the start of any work. The Engineer's approval shall not relieve the Contractor from the sole responsibility of the structural integrity of the braced excavation system.

The braced excavation shall be capable of restraining earth pressures resulting from the surcharges imposed by construction equipment, trucks and vehicular traffic on the adjacent roadway. The braced excavation shall include all sheeting, walers, struts, and bracing, hardware and all appurtenant and collateral materials and work required to protect the adjacent roadway where the braced excavation is utilized.

It shall be the Contractor's responsibility to verify all existing conditions, including utilities, and access to the site prior to construction or ordering of materials. Any disturbance or damage to existing structures, utilities or other property, caused by the Contractors operation, shall be repaired by the Contractor in a manner satisfactory to the Engineer at no additional cost to the Department.

All materials, equipment and construction methods shall be in accordance with the requirements of Section 505 and 512 of the Standard Specifications except as herein modified.

At the option of the Contractor, the materials may be new or used. If used, the materials shall be in good condition and acceptable to the Engineer. The Contractor shall provide all temporary or permanent materials required for the proper execution of the work on this Item.

Method of Measurement. This work will be measured for payment as a computed volume in cubic meters as described in Section 502 of the Standard Specifications.

Basis of Payment. This work will be paid for at the Contract unit price per cubic meter for BRACED EXCAVATION. The price shall be payment in full for all work, equipment, and materials necessary for installing, maintaining, and removing the braced excavation support system as shown on the plans and as specified herein.

Chain Link Fence to be Removed and Re-erected

This work shall be done in accordance with applicable portions of Section 664 of the Standard Specifications except as herein modified.

This work shall consist of removing an existing chain link fence from its mounting adjacent to the Buffalo Grove Park District Golf Tunnel to the locations shown on the plans, refabricating sections as needed to fit on the revised tunnel extension, reinstalling the refabricated chain link fence and disposing of the remainder of the fence and post material. The refabrication may use undamaged portions of the existing fence and posts including necessary hardware.

If sufficient hardware or chain link fence panels or parts are not salvageable, the Contractor shall provide new necessary materials of a similar quality, style and color to the existing metal railing at no additional cost to the Department. Samples of proposed replacement material are to be submitted for approval prior to ordering or installation.

Basis of Payment. This work shall be paid for at the contract unit price, per meter for CHAIN LINK FENCE TO BE REMOVED AND RE-ERECTED.

Remove and Re-erect Existing Handrail

Description: This work shall be done in accordance with applicable portions of Section 509 of the Standard Specifications except as herein modified.

This work shall consist of removing an existing metal handrail and supports from its location in the Buffalo Grove Park District Golf Tunnel wall at the locations shown on the plans, storing the railing free from theft or damage and reinstalling the metal handrail on the tunnel walls. The re-installation may use undamaged portions necessary hardware.

If sufficient hardware is not salvageable or additional mounting hardware is needed, the Contractor shall provide new necessary materials of a similar quality, style and color.

Basis of Payment. This work shall be paid for at the contract unit price, per meter for REMOVE AND RE-ERECT EXISTING HANDRAIL.

Bicycle Railing

Description. This work shall consist of the installation of bicycle railing as shown in the plans.

Construction and material requirements are shown on the plans.

The bicycle railing shall be galvanized. All posts, railing, splices, anchor devices, and bent plates shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. All bolts, nuts, washers and anchor rods shall be galvanized according to AASHTO M 232 except stainless steel bolts as noted.

Basis of Payment. This work shall be paid for at the contract unit price per meter for BICYCLE RAILING, which price shall include all equipment, labor, and materials required to complete the work specified.

Removal of Existing Structures No. 1
Removal of Existing Structures No. 2

Description: This work shall be performed in accordance with Section 501 of the Standard Specifications except as herein modified.

This item shall consist of the removal and satisfactory disposal of various structures. All removed materials shall be disposed of in accordance with Article 202.03.

Structure No. 1

Existing Structure No. 1 consists of two reinforced concrete pipe culverts, approximately 30m long, 1.07m diameter, with precast reinforced concrete flared end sections on each side of Illinois 22, located at Station 104+504. This structure carries an unnamed tributary of Indian Creek.

Structure No. 2

Existing Structure No. 2 consists of a cast in place reinforced concrete double box culvert, 2.1m x 1.8m x approximately 10m long, including cast in place reinforced concrete headwalls, approximately 5m long each at Station 100+978. This structure carries Kildeer Creek.

Method of Measurement: Removal of existing structures will be measured for payment per each.

Basis of Payment: This work will be paid for at the contract unit price each for REMOVAL OF EXISTING STRUCTURES, of the number specified.

Trench Drain

Description: This work shall consist of installing a cast iron Trench Drain fitting in cast in place concrete, in accordance with applicable sections of Article 609.

The Trench Drain shall be installed in a cast in place concrete structure, connecting pipe drains for structures. Forming and reinforcement will be constructed per the details on the plans and the cost will be included with CONCRETE BOX CULVERT or REINFORCMENT BARS.

All pipe connections shall be watertight and all voids around the pipe drain entrances shall be sealed with mortar both outside and inside the trench drain.

Materials: The cast iron fitting for Trench Drain shall be in accordance with Articles 1004.14 and 1004.16 of the Standard Specifications and shall be Neenah R-4990-DX or approved equal.

Basis of Payment: This work shall be paid for at the contract unit price, per meter, for TRENCH DRAIN, of the size and material as specified and as shown on the plans.

Pipe Underdrain for Structures
Effective: May 17, 2000

This item shall consist of all labor and materials required to install perforated underdrain pipe behind the wingwalls and along both sides of the pedestrian tunnel, and non-perforated pipe from the wingwall to the drainage structure, as shown on the plans and as specified herein. All work shall be in accordance with the applicable requirements of Section 601 of the Standard Specifications.

Pipe underdrains shall consist of 150 mm (6") perforated, 200 mm (8”) perforated and 250 mm (10”) non-perforated drain pipe and shall be installed to the lines and gradients as shown on the plans. The 150 mm (6”) and 200 mm (8”) drainpipe shall be situated within a 600 mm x 600 mm (2 ft. X 2 ft.) area of porous granular embankment wrapped completely in geotechnical fabric.

Porous granular embankment shall be coarse aggregate with a gradation of CA5 or CA7 in accordance with Section 1004 of the Standard Specifications.

Fabric surrounding the porous granular embankment shall consist of geotechnical fabric for French drains in accordance with Article 1080.05 of the Standard Specifications.

The fabric shall be delivered to the job site in such a manner to facilitate handling and incorporation into the work without damage. In no case shall the fabric be stored and exposed to direct sunlight that might significantly diminish its strength or toughness. Torn or punctured fabric shall not be used.

After the trench has been approved by the Engineer, the fabric shall be loosely rolled out in such a manner that the center of the fabric is at the centerline of the excavated trench, and such that it will not tear when the aggregate is placed. When several sections of fabric are used, the fabric shall overlap a minimum of 600 mm (2 ft.) to assure continuity of the filter. Enough fabric shall remain uncovered after the trench is filled to provide for fabric overlap at the top.

The drain pipe shall be extended through holes formed in the concrete wingwall.

Pipe underdrains shall be measured for payment in meters (feet), in place.

This work will be paid for at the contract unit price per meter (foot) for PIPE UNDERDRAINS FOR STRUCTURES 150 mm (6"), PIPE UNDERDRAINS FOR STRUCTURES 200 mm (8”) and PIPE UNDERDRAINS 250 mm (SPECIAL), installed and measured as specified herein. Furnishing and installation of the porous granular embankment and geotechnical fabric, and forming holes in the wingwall, will not be paid for separately, but shall be included in the cost of the pipe underdrain.

Cleaning Existing Drainage Structures
Effective: September 30, 1985 Revised: November 1, 1996

All existing storm sewers, pipe culverts, manholes, catch basins, and inlets shall be considered as drainage structures insofar as the interpretation of this Special Provision is concerned. When specified for payment, the location of drainage structures to be cleaned will be shown on the plans.

All existing drainage structures which are to be adjusted or reconstructed shall be cleaned in accordance with Article 602.14 of the Standard Specifications. The work will be paid for in accordance with Article 602.15 of the Standard Specifications.

All other existing drainage structures which are specified to be cleaned on the plans will be cleaned in accordance with Article 602.14 of the Standard Specifications. This work will be paid for at the contract unit price each for DRAINAGE STRUCTURES TO BE CLEANED, and at the contract unit price per meter (foot) for STORM SEWERS TO BE CLEANED.

Manhole, Type A, Special, 2.1m Diameter, 2 - Type 1 Frames, Closed Lids

This work shall be performed in accordance with Section 602 of the Standard Specifications except as herein modified.

This manhole shall include installation of a weir plate similar to the District details shown on the plans for restrictor plates. The elevations and dimensions of the weir plate shall be set by the manufacturer of the Vortechs manhole.

Steel Plate, Angles and Fasteners: This work shall be constructed in accordance with applicable sections of Section 505 of the Standard Specifications for Road and Bridge Construction, as per the details as shown on the Plans and as directed by the Engineer.

Prior to manufacture of the item, the Contractor shall provide shop drawings for approval showing the dimensions and details required to locate and install the assembly.

Steel angles, plate material and all fasteners shall be galvanized.

Manhole, Type A, 1.8m Diameter, with 2 Type 1 Frames, Closed Lids, Restrictor Plate
Manhole, Type A, 2.1m Diameter, with 2 Type 1 Frames, Closed Lids, Restrictor Plate

This work shall be performed in accordance with Section 602 of the Standard Specifications except as herein modified.

This manhole shall include installation of restrictor plates of the size and type as shown on the District details as well as any appurtenant items shown on the plans.

Steel Plate, Angles and Fasteners: This work shall be constructed in accordance with applicable sections of Section 505 of the Standard Specifications for Road and Bridge Construction, as per the details as shown on the Plans and as directed by the Engineer.

Prior to manufacture of the item, the Contractor shall provide shop drawings for approval showing the dimensions and details required to locate and install the assembly.

Steel angles, plate material and all fasteners shall be galvanized.

Concrete Median, Type SB (Special)

This work shall be performed in accordance with Section 606 of the Standard Specifications except as herein modified.

Concrete Median, Type SB (Special) shall be installed as per the details shown on the plans.

Chain Link Fence, 1.2m Special

This work shall be performed in accordance with Section 664 of the Standard Specifications except as herein modified.

The chain link fabric material shall be in accordance with Article 1006.27 (a), (1), d., Type IV Class B (polyvinyl chloride (PVC)-coated steel) only. The posts, fence framework, gates, tension wire, fabric ties, and fittings shall be vinyl-coated according to the same requirements as the coating of the fabric. All non-aluminum material shall be galvanized prior to vinyl coating.

The color of the vinyl coating shall be hunter (dark) green. A sample of the coated fabric and/or posts shall be submitted to the Resident Engineer for approval by the Village prior to ordering and/or installing material.

Engineer's Field Office, Type A (Special)
Effective: March 31, 1998

Revise the first paragraph of Article 670.02 to read:

> Engineer's Field Office Type A (Special). Type A (Special) field offices shall have a ceiling height of not less than 2m (7 ft.) and a floor space of not less than 11.5 Sq. M. (1240 sq. ft.) with a minimum of two separate offices. The office shall also have a separate storage room capable of being locked for the storage of the nuclear measuring devices. The office shall be provided with sufficient heat, natural and artificial light, and air conditioning. Doors and windows shall be equipped with locks approved by the Engineer

Revise the second sentence of the fourth paragraph of Article 670.02 to read:

> The facilities shall also include solid waste disposal consisting of 8 wastebaskets and an outside trash container of sufficient size to accommodate a weekly provided pick-up service.

Revise the fifth paragraph of Article 670.02 to read:

> An electric security system that will respond to any breach of exterior doors and windows with an on site alarm shall be provided.

Add the following to Article 670.02:

> A weekly cleaning service for the offices shall be provided.

Revise subparagraph (a) of Article 670.02 to read:

> (a) 6 desks with minimum working surface 1.1 m x 750 mm (42" x 30") each and 6 non-folding chairs with upholstered seats and backs.

Revise the first sentence of subparagraph (c) of Article 670.02 to read:

> (c) 2 four-post drafting table with minimum top size of 950 mm x 1.2 m (37 ½" x 48).

Revise subparagraph (d) of Article 670.02 to read:

(d) 2 free standing 4 drawer legal size file cabinets with lock and an underwriters' laboratories insulated file device 350 degrees one hour rating.

Revise subparagraph (e) of Article 670.02 to read:

(e) 8 folding chairs.

Revise subparagraph (h) of Article 670.02 to read:

(h) 2 electric desk type tape printing calculator and two pocket scientific notation calculators with a 1000 hour battery life or with a portable recharger.

Revise subparagraph (i) of Article 670.02 to read:

(i) 4 telephones, with touch tone, where available, 2 telephone answering machines, and 5 telephone lines including one lone for the fax machine, and two lines for the exclusive use of the Engineer.

Revise subparagraph (j) of Article 670.02 to read:

(j) 1 dry process copy machine capable of reproducing prints up to 280 mm x 430 mm (11" x 17") from nontransparent master sheets, as black or blue lines on white paper, including maintenance, reproduction paper, activating agent and power source.

Revise subparagraph (k) of Article 670.02 to read:

(k) 1 plain paper fax machine including maintenance and supplies.

Revise subparagraph (l) of Article 670.02 to read:

(l) 1 electric water cooler dispenser including water service.

Add the following subparagraphs to Article 670.02:

(m) 1 1.2m x 1.8m (4' x 6') chalk board or dry erase board
(n) 1 complete first aid kit

Basis of Payment: The building or buildings fully equipped, will be paid for at the contract unit price per calendar month or fraction thereof for ENGINEER'S FIELD OFFICE TYPE A (SPECIAL) and according to the applicable portions of Article 670.07.

Traffic Control Plan
Effective: September 30, 1985 Revised: October 1, 1995

Traffic Control shall be in accordance with 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, the Traffic Specifications 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, 701011, 701201, 701301, 701301, 701306, 701326, 701501, 701601, 701606, 701701, 701801, 702001, 704001

DETAILS

Maintenance of Traffic Plans, Stages of Construction
Traffic Control and Protection for Side Roads, Intersections, and Driveways
Temporary Pavement Markings - Letters and Symbols
Traffic Control and Protection at Turn Bays (To Remain Open to Traffic)
Temporary Information Signing
Signing and Pavement Marking for Railroad Crossings

SPECIAL PROVISIONS

Maintenance of Roadways
Traffic Control Plan
Work Zone Traffic Control (Lump Sum Payment)
Temporary Informational Signing
Changeable Message Signs
Flagger Vests
Impact Attenuators, Temporary
Temporary Concrete Barrier
Traffic Control Deficiency Deduction
Work Zone Traffic Control Devices
Portable Changeable Message Signs

Work Zone Traffic Control (Lump Sum Payment)
Effective: February 1, 1996 Revised: November 1, 1996

Specific traffic control plan details and Special Provisions have been prepared for this contract.

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

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

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

Fine Aggregate for Portland Cement Concrete
Effective: September 30, 1985 Revised: November 1, 1996

The gradation of fine aggregate for Portland Cement Concrete shall conform to gradation FA 2 as called for under Article 1 003.02(c) of the Standard Specifications.

Vortex Manhole, Location 1
Vortex Manhole, Location 2
Vortex Manhole, Location 3

Description: This work shall consist of furnishing and installing a VORTEX Manhole, of the size indicated, at the locations shown on the plans and as described herein. Applicable portions of Section 602 of the Standard Specifications regarding installation of manholes shall apply.

Materials: The VORTEX manholes shall be as manufactured by the Vortechnics, Inc., 41 Evergreen Drive, Portland, Maine, 04103, 207-878-3662, fax 201-878-8507, www. vortechnics.com.

The outside box shall be precast concrete meeting the requirements of Article 1043 of the Standard Specifications for precast drainage structures. The access frames and lids shall meet Article 1006.14 of the Standard Specifications.

All other material used in the construction shall be as specified by the manufacturer.

Basis of Payment: This work shall be paid for at the contract unit price, per each for, VORTEX MANHOLE, LOCATION 1, VORTEX MANHOLE, LOCATION 2, and VORTEX MANHOLE, LOCATION 3.

Junction Chamber No. 1
Junction Chamber No. 2
Junction Chamber No. 3
Junction Chamber No. 4
Junction Chamber No. 5

Work under this item shall be performed in accordance with the applicable portions of section 602 of the Standard Specifications and in accordance with the plans, except as herein modified.

Description: This work shall consist of furnishing all labor, equipment and materials necessary for constructing a Junction Chamber sewer connection at the proposed grade and location indicated on the plans, or as directed by the Engineer.

General Requirements: The Contractor shall include in construction procedure provisions for maintaining flows at all times in any existing sewers.

During heavy rains water may rise rapidly in the existing sewers and the Contractor shall be prepared at all times to safeguard workmen and protect the work under this Contract from damage by flooding. All temporary dams or bulkheads shall be removed after completion of the work.

It is the Contractor's responsibility to provide shop drawings by a Licensed Structural Engineer in Illinois for the temporary earth retention and associated members, subject to the approval by the Engineer. However, the Engineer's approval shall not relieve the Contractor from his/her sole responsibility for the successful design and installation of the temporary earth retention (sheeting or shoring). The Contractor shall also provide temporary support for any adjacent structures and utilities during construction per details prepared, signed and sealed by a Structural Engineer registered in Illinois.

Installation of sewer pipe and connections to existing sewer lines shall be paid for as STORM SEWERS of the size indicated. Installation of aggregate backfill for storm sewer construction shall be paid for as TRENCH BACKFILL. All other aggregate backfill outside the area of storm sewer construction and aggregate bedding shall be included as part of JUNCTION CHAMBER.

The Junction Chamber shall be cleaned of any accumulation of silt, debris or foreign matter of any kind, and shall be free from such accumulation at the time of final inspection.

Material: Concrete construction shall be performed in accordance with Section 503 of the Standard Specifications for Road and Bridge Construction, except as herein modified.

Portland Cement Concrete shall be Class SI.

Reinforcement bars shall meet the requirements of Section 508 of the Standard Specifications for Road and Bridge Construction except that the cost of furnishing and installing reinforcement bars shall be included in the cost of JUNCTION CHAMBER.

Method of Measurement: This work is to be measured on a per each basis.

Basis of Payment: This work shall be paid for at the contract unit price, each for JUNCTION CHAMBER of the number specified, which price shall include all materials and labor necessary to complete the work as shown on the plans, as specified herein and as directed by the Engineer.

The contract unit price for this item shall also include the cost for all work, including but not limited to the preparation of the proposed work methods, shop drawings, costs for labor, material, supplies, and equipment, frame, lid, sand cushion, trench backfill, removal and disposal of any miscellaneous abandoned structures, and all excavation and disposal except excavation in rock. Any de-watering and/or sheeting or shoring required to construct the junction chamber as specified shall not be paid for separately and will be considered included in the cost of this item.

Segmental Concrete Block Walls
Effective: January 7, 1999 Revised: August 28, 2001
Project specific revisions

Description. The work consists of furnishing the design computations, shop plans, materials, equipment and labor to construct a Segmental Concrete Block Retaining Wall with a maximum height of ± 1.5m (± 5 feet) as measured from the top of block elevation to the theoretical top of leveling pad line.

General. The wall shall consist of a leveling pad, precast concrete blocks, select granular backfill and, if required by the design, soil reinforcement. The materials, fabrication, and construction of the wall components are subject to the approval by the Engineer. The Engineer reserves the right to obtain random samples for material testing. The wall shall be designed and constructed according to the lines and grades and dimensions shown on the contract plans and approved shop plans.

Submittals. The wall supplier shall submit design computations and shop plans to the Engineer. The shop plans shall be sealed by a Licensed Professional Engineer and shall include all details, dimensions, quantities and cross sections necessary to construct the wall and shall include but not be limited to the following items:

(a) Plan, elevation and cross section sheets for each wall showing the following;

1. A plan view of the wall indicating the offsets for the construction centerline to the first course of blocks at all changes in horizontal alignment. These shall be calculated using the offsets to the front face of the block shown on the contract plans and the supplier's proposed wall batter. The plan view shall indicate bottom (and top course of block when battered), the excavation and select granular backfill limits as well as any soil reinforcing required by the design. The centerline of any drainage structure or pipe behind or passing through/under the wall shall also be shown.

2. An elevation view of the wall, indicating the elevation and all steps in the top course of blocks along the length of the wall. The top of these blocks shall be at or above the theoretical top of block line shown on the contract plans. This view shall also show the steps and proposed tops of leveling pad elevations as well as the finished grade line at the wall face specified on the contract plans. The leveling pad elevations shall be located at or below the theoretical top of leveling line shown on the contract plans. The location, size and length of any soil reinforcing connected to the blocks shall be indicated.

3. Typical cross sections showing the limits of the select granular backfill, soil reinforcement if used in the design. The right of way limits hall be indicated as well as the proposed excavation, cut slopes an the elevations relationship between existing ground conditions and proposed grades.

4. All general notes required for constructing the wall.

(b) All details for the leveling pads, including the steps shall be shown. The theoretical top of the leveling pad shall either be below the anticipated frost depth or 450mm (1.5 Ft.) below

finished grade line at the wall face unless otherwise shown on the plans. The minimum leveling pad thickness shall be 152mm (6 in.).

(c) Cap blocks shall be used to cover the top of the standard block units. The top course of blocks and cap blocks shall be stepped to satisfy the top of block line shown on the contract plans.

(d) All details of the block and /or soil reinforcement placement around all appurtenances located behind, on top of, or passing through the wall shall be clearly indicated. Any modifications to the design of these appurtenances to accommodate a particular design arrangement shall also be submitted.

(e) All details of the blocks, including color and texture shall be shown. The exterior faces shall preferably be straight, textured with a “split rock face” pattern, and dark gray in color unless otherwise stated on the plans.

(f) All block types (standard, cap, corner, and radius turning blocks) shall be detailed showing all dimensions.

(g) All blocks shall have alignment/connection devices such as shear keys, leading/trailing lips or pins. The details for the connection devices between adjacent blocks and the block to soil reinforcement shall be shown. The block set back or race batter shall be limited to 20 degrees from vertical, unless otherwise shown by the plans.

The initial submittal shall include 3 sets of prints to the detailed shop plans and 1 set of calculations. One set of plans will be returned to the Contractor with any corrections indicated. After approval, the Contractor shall furnish the Engineer with 8 sets of corrected plan prints for distribution. No work or ordering of materials for the structure shall be done by the Contractor until the submittal shall been approved in writing by the Engineer.

Materials. The materials shall meet the following requirements:

(a) Pre-cast Concrete Block: The block proposed for use shall be produced according to the Department’s Policy Memorandum “Quality Control/Quality Assurance Program for Precast Concrete Products”, and shall satisfy the following:

Conform to the requirements of ASTM C 1372 except as follows:

1. Fly ash shall be according to Articles 1010.01 and 1010.03.

2. Ground granulated blast-furnace slag shall be according to Section 1016.

3. Aggregate shall be according to Articles 1003.02 and 1004.02 with the exception of gradation. Chert gravel may be used based on past in–service satisfactory performance, in the environment in which the product is to be used.

4. Water shall be according to Section 1002.

5. Testing for freeze-thaw durability will not be required. Hopwever, unsatisfactory filed performance as determined by the Department will be cause to prohibit the use of the block on Department projects.

(b). Select Granular Backfill. The material behind the blocks and above a 1:1 slope extending upward from either the back of the bottom block or soil reinforcement (which ever is greater) shall consist of either a coarse aggregate satisfying Article 1004.06(a), or a fine aggregate according to the first sentence of Article 1003.04(a). The aggregate shall also meet the following:

Coarse Aggregate Gradation	CA 6 thru CA 16 (Article 1004.01(c))
Fine Aggregate Gradation	FA 1, FA 2 or FA 20 (Article 1003.01 (c))
Coarse Aggregate Quality	Minimum Class C (Article 1004.01(b))
Fine Aggregate Quality	Minimum Class C (Article 1003.01(b))
Internal Friction Angle	34 degrees min. (AASHTO T 236)
pH	4.5 to 9 (AASHTO T 289)

When a fine aggregate is selected, the rear of all block joints shall be covered by a non-woven needle punch geotextile filter material according to Article 1080.05 of the Standard Specifications and shall have a minimum permeability according to ASTM D 4491 of 0.008 cm/sec. All fabric overlaps shall be 150mm (6 inches) and non-sewn. As an alternative to the geotextile, a coarse aggregate shall be placed against the back face of the blocks to create a minimum 300 mm (12 inches) wide continuous gradation filter to prevent the select fill material from passing through the block joints.

(c) The leveling pad shall be either be Class SI concrete according to Article 1020.04 or compacted coarse aggregate according to Articles 1004.04, (a) and (b). The compacted coarse aggregate gradation shall be CA 6 or CA 10.

(d) Soil Reinforcement. If soil reinforcement is required by the approved design, the Contractor shall submit a manufacturer's certification for the soil reinforcement properties which equals or exceeds those required in the design computations. The soil reinforcement shall be manufactured from high-density polyethylene (HDPE) uniaxial or polypropylene biaxial resins, or high tenacity polyester fibers with PVC coating, stored between –29 and 60 degrees C (-20 and 140 degrees F). The following standards shall be used in determining and demonstrating the soil reinforcement capacities:

ASTM D-638	Test Method for Tensile Properties of Plastic
ASTM D-1248	Specification for Polyethylene Plastics Molding and Extrusion Materials
ASTM D-4218	Test Method for Carbon Black Content in Polyethylene Compounds
ASTM D-5262	Test Method for Evaluation the Unconfined Tension Creep Behavior of Geosynthetics
GG1-Standard	Test Method for Geogrid Rib Tensile Strength
GG2-Standard	Test Method for Geogrid Junction Strength
GG3-Standard	Practice for Determination for the Long Term Design Strength of Geogrid
GG4-Standard	Practice for Evaluation Geogrid Pullout Behavior

Design Criteria. The design shall be according to AASHTO Specifications and commentaries for Earth Retaining Walls or FHWA Publication no. HI-95-038, SA-96-071 and SA-96-072. The wall Supplier shall be responsible of all internal stability aspects of the wall design.

Internal stability design shall insure that adequate factors of safety against overturning and sliding are present at each level of block. If required by design, soil reinforcement shall be utilized and the loading at the block/soil reinforcement connection as well as the failure surface must be indicated. The calculations to determine the allowable load of the solid reinforcement and the factor of safety against pullout shall also be included. The analyses of settlement, bearing capacity, and overall slope stability are the responsibility of the Department.

External loads such as those applied through structure foundations, from traffic or railroads, slope surcharge, etc., shall be accounted for in the internal stability design. The presence of all appurtenances behind, in front of, mounted upon or passing through the wall volume such as drainage structures, utilities, structure foundation elements, or other items shall be accounted for in the internal stability design of the wall.

Construction Requirements. The Contractor shall obtain technical assistance from the supplier during wall erection to demonstrate proper construction procedures and shall include all costs related to this technical assistance in the unit price bid for this item.

The foundation material for the leveling pad and select granular backfill volume shall be graded to the design elevation and compacted according to Article 205.06 except the minimum required compaction shall be 95 percent of the standard laboratory density. Any foundation soils found to be unsuitable shall be removed and replaced as directed by the Engineer and shall be paid for according to Article 109.04.

The select granular backfill lift placement shall closely follow the erection of each coarse of blocks. All aggregate shall be swept from the top of the block prior to placing the next block lift. If soil reinforcement is used, the selected granular backfill material shall be leveled and compacted before placing an attaching the soil reinforcement to the blocks. The soil reinforcement shall be pulled taut staked in place and select fill placed from the rear face of the blocks outward. The lift thickness shall be the lesser of 255mm (10 inches) loose measurement or the proposed block height.

The select granular backfill shall be compacted according to Article 205.06, except the minimum required compaction shall be 95 percent of the standard laboratory density. Compaction shall be achieved using a minimum of 3 passes of a lightweight mechanical tamper, roller or vibratory system. The top 300 mm (12 Inches) of backfill shall be cohesive, impervious material capable of supporting vegetation, unless other details are specified on the plans.

The blocks shall be maintained in position as successive lifts are compacted along the rear face of the block. Vertical, horizontal, and rotational alignment tolerances shall net exceed 12 mm (1/2 inch) when measured along a 3 m (10 ft.) straight edge.

Segmental Concrete Block Wall, Special. Segmental Concrete Block Wall, Special shall meet all of the specifications and requirements listed above with the following addition. Segmental Concrete Block Wall, Special shall be produced by the Anchor Wall Systems, “Anchor Highland

Stone" with a split rock face pattern. The color shall be "Prairie Blend". A local dealer for this system is the Northfield Block Company, One Hunt Court, Mundelein, IL 60060, telephone (847) 816-9000.

There will be no substitutions allowed for this item.

Method of Measurement: Segmental Concrete Block Wall or Segmental Concrete Block Wall, Special will be measured by the square meter (square foot) of wall face from the top of block line to the theoretical top of the leveling pad for the length of the wall in a vertical plane, as shown on the contract plans.

Basis of Payment: This work will be paid for at the contract unit price per square meter (square foot) for SEGMENTAL CONCRETE BLOCK WALL or SEGMENTAL CONCRETE BLOCK WALL, SPECIAL.

Remove and Reset Existing Landscape Stone.

Description: This work shall consist of the removal of existing landscape stone in median or roadway edge areas and the reset of the stone at the locations shown on the plans or as directed by the Engineer.

Existing landscape stone generally consists of cobbles or boulders up to 2 to 3 feet in diameter placed in landscape beds in median or edge of roadway areas. The existing landscape stone shall be removed at the start of construction, safely stored on the site, and temporarily marked or separated by removal location.

The stone shall be reset in similar locations in designated areas in new medians or roadside edges. The stone shall be set on an aggregate bed of CA-6 material, 100mm deep. The voids adjacent to individual stone shall be filled with fine aggregate material FA-1 or FA-2.

The aggregate bed shall be paid for separately as SUB BASE GRANULAR MATERIAL, TYPE B, 100MM. Excavation for placement of the reset stone and the fine aggregate material shall be included as part of REMOVE AND RESET EXISTING LANDSCAPE STONE.

Excess landscape stone shall remain the property of the owner of the median or roadside area (Village of Buffalo Grove, Buffalo Grove Park District or Village of Lincolnshire) and shall be stored safely on the site free from theft or damage for pick up by the owners. If the owner does not want the stone, the Contractor shall properly dispose of the material offsite.

Method of Measurement. This work shall be measured for payment in square meters of exposed face of the reset stone.

Basis of Payment. This work shall be paid for at the contract unit price, per square meter, for REMOVE AND RESET EXISTING LANDSCAPE STONE.

Wood Fence to be Removed and Re-erected

Description: This work shall be performed in accordance with Section 641 and applicable portions of Section 507 of the Standard Specifications except as herein modified.

This work shall consist of the removal of existing decorative wood fences and reinstallation in the same general areas shown on the plans or as directed by the Engineer.

Existing decorative wooden fences are located at subdivision street entrances at various locations in the project. The existing fence shall be removed to limits determined in the field and stored safely on the site free from theft or damage until re-erection.

The existing fence components shall be reinstalled following final grading and topsoil installation or other construction operations at locations shown on the plans or as determined by the Engineer in the field.

Material: Existing fence material shall be reused as much as possible. Deteriorated material shall be replaced with the same size, weight, type and color as existing.

Backfill of posts shall be per Article 641.04 and included with the cost of the item.

Method of Measurement: Wood Fence to be Removed and Re-erected shall be measured once, for payment, along the top of the fence from center to center of posts of the final relocated section.

Basis of Payment: This work shall be paid for at the contract unit price, per meter, for WOOD FENCE TO BE REMOVED AND RE-ERECTED.

Flexible Delineators

This work shall consist of furnishing and installing vertical flexible delineators with base or attachment units at the locations shown on the plans.

General. The vertical flexible delineators shall be installed in a bituminous or concrete median surface area and shall be capable of reorientation to traffic after being struck. The delineators and delineator bases shall also be capable of crossover by emergency vehicles.

Material. The delineators shall meet or exceed NCHRP350 standards. The base or connecting unit shall be capable of being mounted to the median or pavement surface and shall not exceed 100mm (4-inches) in height and shall be able to have damaged vertical panels be replaced without removal of the base or connection unit.

The vertical panel shall be 1.2m (48-inches) in overall height and 300mm (12 –inches) wide. The panel shall have Type III reflective sheeting on both sides. The reflective

sheeting shall have alternating black and yellow bands at a 45-degree orientation and shall be as shown for device OM-3L in section 3D of the Manual on Uniform Traffic Control Devices.

The panel shall be connected to the base in manner that allows it to return to the vertical position when struck from any angle.

Method of Measurement. The flexible delineator vertical panel units including the base units shall be measured by each unit.

Basis of Payment: This work shall be paid for at the contract unit price, per each of FLEXIBLE DELINEATOR.

Steel Casing, 300mm
Steel Casing, 600mm

Description: This work consists of furnishing and installing various inside diameter steel casing pipes at the location shown on the plans or as directed by the Engineer. This casing pipe is required to extend existing casing pipe to the edges of the proposed roadway. The work shall be performed in accordance with the applicable portions of Section 552 of the Standard Specifications, the applicable portions of the Standard Specifications For Water & Sewer Main Construction In Illinois, the details in the plans and as herein specified.

General: Pipeline to have casing extended over it shall be hand excavated around the perimeter of the pipe and shall have the surface cleaned of dirt or soil material. Any plastic coatings or bags shall be repaired or replaced to the satisfaction of the Village of Buffalo Grove Department of Public Works.

The casing extension may be of single construction, a split pipe installed around the existing pipeline and welded in the field or it may be a split pipe secured by mechanical means.

All extension shall be attached to the existing casing pipe either by field weld or mechanical sleeve.

Pipe joints shall be welded in accordance with AWWA C-206. No hydrostatic test is required but field welds shall be watertight. After welding, the welded area must be covered and treated with hot tar 1/8-inch thick. The tar must be allowed to cool prior to backfilling the casing pipe in place.

Materials: Steel Casing pipe material shall match the existing casing pipe material in the field. The casing may be of single construction or be split in two halves connected using stainless steel banding and/fittings.

The steel casing pipe shall meet or exceed the requirements of ASTM A-139, Grade B, minimum yield strength of 242,000 kPa (35,000 psi). The minimum wall thickness shall be 9.5mm (3/8 inch).

The exterior of steel casing pipe shall have coal-tar enamel in accordance with AWWA C203.

All hardware (clamps, bolts, screws, nuts, etc) for mechanical attachment or securing of casing sleeve halves shall be stainless steel.

Shop drawings or manufacturer's information shall be required for approval by the Village of Buffalo Grove Department of Public Works prior to installation.

Method of Measurement: Steel casing shall be measured along the invert in meters (feet) in place.

Basis of Payment: This work will be paid for at the contract unit price per meter for STEEL CASING, of the size specified, which price shall be payment in full to complete the work as specified.

Manholes to be Reconstructed, Special

Description: This work shall be performed in accordance with Section 602 of the Standard Specifications except as herein modified.

Construction: New Type 1 Frames and Closed Lids shall be provided for each structure to be reconstructed.

All frames and castings shall be secured to the structures by means of an outside 'chimney seal'. The intent of the chimney seal is to stop external water from entering the sanitary sewer manhole through the frame adjustment area. The chimney seal shall be placed on the outside of the structure by means of stainless steel bands or other approved methods.

Manufacturer's literature or shop drawings must be submitted for approval by the Village of Lincolnshire Department of Public Works and the Village of Buffalo Grove Department of Public Works prior to ordering or installing chimney seals.

The cost of the chimney seal shall be included in the cost of MANHOLES TO BE RECONSTRUCTED, SPECIAL.

Basis of Payment: This work will be paid for at the contract unit price, per each, for MANHOLES TO BE RECONSTRUCTED, SPECIAL.

Aggregate Surface Course for Temporary Access
Effective: April 1, 2001

Revise Article 402.10 of the Standard Specifications to read:

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

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

(a) Private Entrance. The minimum width shall be 3.6 m (12 ft). The minimum compacted thickness shall be 150 mm (6 in.). The maximum grade shall be eight percent, except as required to match the existing grade.

(b) Commercial Entrance. The minimum width shall be 7.2 m (24 ft). The minimum compacted thickness shall be 230 mm (9 in.). The maximum grade shall be six percent, except as required to match the existing grade.

(c) Road. The minimum width shall be 7.2 m (24 ft). The minimum compacted thickness shall be 230 mm (9 in.). The grade and elevation shall be the same as the removed pavement, except as required to meet the grade of any new pavement constructed.

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

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

Add the following to Article 402.12 of the Standard Specifications:

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

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

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

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

(a) Upon construction of the temporary access, sixty percent of the contract unit price per each, of the type constructed, will be paid.

(b) Subject to the approval of the Engineer for the adequate maintenance and removal of the temporary access, the remaining forty percent of the pay item will be paid upon the permanent removal of the temporary access."

Relocate Existing Signs
Relocate Sign Panel and Post

This work shall be done in accordance with Section 724 of the Standard Specifications except as herein modified.

Description: This work shall consist of the relocation of existing signs or existing signs/existing posts to new locations within the right of way.

Prior to any relocation work, the Contractor shall provide a log of all signs and sign panels/posts that require relocation, including location, type of post, condition of sign, condition of post and owner (if available). The Engineer will determine relocation timing and if post replacement is necessary.

If it is not possible to relocate signs in a timely manner (ie on new traffic signal poles), they must be stored safely on site in a secure manner, free from theft or damage, until such time as they can be relocated or they are picked up by the owning agency. Any sign not able to be relocated per the Standard Specifications must have approval of the Engineer for storage.

Any sign posts to be relocated that have been previously damaged and requiring replacement shall be paid for as METAL POST, TYPE A or METAL POST TYPE B.

Method of Measurement: Relocate Existing Signs will be paid per each sign, regardless of size. Relocate Sign Panel and Post will be paid per each as a unit of sign panel and post, regardless of the number and size of sign panels attached to the post.

Basis of Payment: This work shall be paid for at the contract unit price, per each for RELOCATE EXISTING SIGNS or RELOCATE SIGN PANEL AND POST.

Perimeter Erosion Barrier, Modified

Work under this item must be performed in accordance with the applicable portions of Section 201 and 280 of the Standard Specifications and in accordance with the Standard details and special detail found on the plans, except as herein modified.

Description: This work must consist of constructing a temporary perimeter erosion barrier as shown on the plans or as directed by the Engineer through the use of silt filter fences in combination with temporary fencing. The perimeter erosion control barrier is intended to be used for both the protection of designated ‘scenic easements’, trees, shrubs and plant material from intrusions of work equipment, to delineate and protect the public from hazardous areas and to serve as the silt fence.

The Perimeter Erosion Barrier, Modified item must consist of furnishing and erecting a temporary fence and a silt fence at the locations shown on the plans, in accordance with the detail on the plans and as directed by the Engineer.

Temporary fence must be chain link fencing. The temporary fence must be a minimum of 1 m (4 ft) high with stakes or posts placed a maximum of 3 m (10 ft) apart. The silt filter fence shall be in accordance with Section 280 of the Standard Specifications. This item also includes the removal and disposal of the temporary fencing and posts when no longer required.

The protection of 'scenic easements' is important on this project. When the Engineer is notified or determines a deficiency exists, he/she will be the sole judge as to the perimeter erosion barrier deficiency. Perimeter Erosion Barrier, Modified deficiencies may include but are not limited to:

Perimeter Erosion Barrier, Modified not in place at the start of construction.
Perimeter Erosion Barrier, Modified fencing damaged or down.
Unauthorized removal of Perimeter Erosion Barrier, Modified fencing.

The Contractor must dispatch sufficient resources within 2 hours of notification to make needed corrections of deficiencies. If the Contractor fails to restore the required Perimeter Erosion Barrier within the time limits specified above, the Engineer will impose a monetary deduction for each incident. This time period will begin with the time of notification to the Contractor and end with the Resident Engineer's acceptance of the corrections. For this project, the monetary deduction will be $500 per occurrence. In addition, if the Contractor fails to respond, the Engineer may correct the deficiencies and the cost thereof will be deducted from monies due or which may become due the Contractor. This corrective action will in no way relieve the Contractor of his/her contractual requirements or responsibilities.

If any material and/or equipment is found to be over or outside of the Perimeter Erosion Barrier, Modified fencing or if the Contractor's operations are found to be encroaching upon the scenic corridor easements, the Engineer will immediately impose a monetary deduction for each occurrence found. An additional $500 deduction will be imposed for each hour that said encroachment is not addressed.

In the event that landscape or landscape elements outside of the Perimeter Erosion Barrier, Modified are damaged by the Contractor's operation or personnel, the Contractor must be responsible for repair or remediation of the damage as determined by the Engineer, the appropriate Municipality, County or Township and/or the property owner. In the event that the damage to any trees are beyond repair and requires removal or trees was mistakenly removed by the Contractor, the trees must be replaced on a unit size for unit size basis, with the minimum acceptable size replacement trees of 5 units or greater. The quality of the replacement tree must be equivalent to the standards of the Illinois Department of Transportation. The cost of this work will be the responsibility of the Contractor.

Method of Measurement: PERIMETER EROSION BARRIER, MODIFIED will be measured for payment in meters in place.

Basis of Payment: The work must be paid for at the contract unit price per meter of PERIMETER EROSION BARRIER, MODIFIED. The contract unit prices must include all labor, material, and equipment required to complete the work as shown on the plans, standard details, and as specified.

BUILDING REMOVAL - CASE I (Non-Friable and Friable Asbestos Abatement) (BDE)
Effective: September 1, 1990 Revised: August 1, 2001

BUILDING REMOVAL: This item shall consist of the removal and disposal of 1 building(s), together with all foundations, retaining walls, and piers, down to a plane 300 mm (1 ft.) below the ultimate or existing grade in the area and also all incidental and collateral work necessary to complete the removal of the building(s) in a manner approved by the Engineer. Any holes, such as basements, shall be filled with a suitable granular material. The building(s) are identified as follows:

Bldg. No.	Parcel No.	Location	Description
1	1DH-0107	22825 N Prairie Road	2 story wood frame single family house

Discontinuance of Utilities: The Contractor shall arrange for the discontinuance of all utility services that serve the building(s) according to the respective requirements and regulations of the City, County, or utility companies involved. The Contractor shall disconnect and seal, in an approved manner, all service outlets that serve any building(s) he/she is to remove.

Signs: Immediately upon execution of the contract and prior to the wrecking of any structures, the Contractor shall be required to paint or stencil, in contrasting colors of an oil base paint, on all four sides of each residence and two opposite sides of other structures, the following sign:

PROPERTY ACQUIRED FOR
HIGHWAY CONSTRUCTION
TO BE DEMOLISHED BY THE

VANDALS WILL BE PROSECUTED

The signs shall be positioned in a prominent location on the structure so that they can be easily seen and read and at a sufficient height to prevent defacing. The Contractor shall not paint signs nor start demolition of any building(s) prior to the time that the State becomes the owner of the respective building(s).

All friable asbestos shall be removed from the building(s) prior to demolition. The Contractor has the option of removing the non-friable asbestos prior to demolition or demolishing the building(s) with the non-friable asbestos in place. Refer to the Special Provisions titled “Asbestos Abatement (General Conditions)”, “Removal and Disposal of Friable Asbestos Building No.1“, and “Removal and Disposal of Non-Friable Asbestos Building No. 1“ contained herein.

Basis of Payment: This work will be paid for at the contract lump sum unit price for BUILDING REMOVAL, numbers as listed above, which price shall be payment in full for complete removal of the buildings and structures, including any necessary backfilling material as specified herein. The lump sum unit price(s) for this work shall represent the cost of demolition and disposal assuming all asbestos, friable and non-friable, is removed prior to demolition. Any salvage value shall be reflected in the contract unit price for this item.

EXPLANATION OF BIDDING TERMS: Three separate contract unit price items have been established for the removal of each building. They are:

1. BUILDING REMOVAL NO. 1

2. REMOVAL AND DISPOSAL OF FRIABLE ASBESTOS, BUILDING NO. 1

3. REMOVAL AND DISPOSAL OF NON-FRIABLE ASBESTOS, BUILDING NO. 1

The Contractor shall have two options available for the removal and disposal of the non-friable asbestos.

The pay item for removal and disposal of non-friable asbestos will not be deleted regardless of the option chosen by the Contractor.

ASBESTOS ABATEMENT (GENERAL CONDITIONS): This work consists of the removal and disposal of friable and non-friable asbestos from the building(s) to be demolished. All work shall be done according to the requirements of the U.S. Environmental Protection Agency (USEPA), the Illinois Environmental Protection Agency (IEPA), the Occupational Safety and Health Administration (OSHA), the Special Provisions for "Removal and Disposal of Friable Asbestos, Building No.1" and "Removal and Disposal of Non-Friable Asbestos, Building No. 1", and as outlined herein.

Sketches indicating the location of Asbestos Containing Material (ACM) are included in the proposal on pages 48 thru 53. Also refer to the Materials Description Table on page 54 for a brief description and location of the various materials. Also included is a Materials Quantities Table on page 55. This table states whether the ACM is friable or non-friable and gives the approximate quantity. The quantities are given only for information and it shall be the Contractor's responsibility to determine the exact quantities prior to submitting his/her bid.

The work involved in the removal and disposal of friable asbestos, and non-friable asbestos if done prior to demolition, shall be performed by a Contractor or Sub-Contractor prequalified with the Illinois Capital Development Board.

The Contractor shall provide a shipping manifest, similar to the one shown on page 56, to the Engineer for the disposal of all ACM wastes.

Permits: The Contractor shall apply for permit(s) in compliance with applicable regulations of the Illinois Environmental Protection Agency. Any and all other permits required by other federal, state, or local agencies for carrying on the work shall be the responsibility of the Contractor. Copies of these permits shall be sent to the district office and the Engineer.

Notifications: The "Demolition/Renovation Notice" form, which can be obtained from the IEPA office, shall be completed and submitted to the address listed below at least 10 days prior to commencement of any asbestos removal or demolition activity. Separate notices shall be sent for the asbestos removal work and the building demolition if they are done as separate operations.

Asbestos Demolition/Renovation Coordinator
Illinois Environmental Protection Agency
Division of Air Pollution Control
P. O. Box 19276
Springfield, Illinois 62794-9276
(217)785-1743

Notices shall be updated if there is a change in the starting date or the amount of asbestos changes by more than 20 percent.

Submittals:

A. All submittals and notices shall be made to the Engineer except where otherwise specified herein.

B. Submittals that shall be made prior to start of work:

1. Submittals required under Asbestos Abatement Experience.

2. Submit documentation indicating that all employees have had medical examinations and instruction on the hazards of asbestos exposure, on use and fitting of respirators, on protective dress, on use of showers, on entry and exit from work areas, and on all aspects of work procedures and protective measures as specified in Worker Protection Procedures.

3. Submit manufacturer's certification stating that vacuums, ventilation equipment, and other equipment required to contain airborne fibers conform to ANSI 29.2.

4. Submit to the Engineer the brand name, manufacturer, and specification of all sealants or surfactants to be used. Testing under existing conditions will be required at the direction of the Engineer.

5. Submit proof that all required permits, site locations, and arrangements for transport and disposal of asbestos-containing or asbestos-contaminated materials, supplies, and the like have been obtained (i.e., a letter of authorization to utilize designated landfill).

6. Submit a list of penalties, including liquidated damages, incurred through non-compliance with asbestos abatement project specifications.

7. Submit a detailed plan of the procedures proposed for use in complying with the requirements of this specification. Include in the plan the location and layout of decontamination units, the sequencing of work, the respiratory protection plan to be used during this work, a site safety plan, a disposal plan including the location of an approved disposal site, and a detailed description of the methods to be used to control pollution. The plan shall be submitted to the Engineer prior to the start of work.

8. Submit proof of written notification and compliance with Paragraph "Notifications."

C. Submittals that shall be made upon completion of abatement work:

1. Submit copies of all waste chain-of-custodies, trip tickets, and disposal receipts for all asbestos waste materials removed from the work area;

2. Submit daily copies of work site entry logbooks with information on worker and visitor access;

3. Submit logs documenting filter changes on respirators, HEPA vacuums, negative pressure ventilation units, and other engineering controls; and

4. Submit results of any bulk material analysis and air sampling data collected during the course of the abatement including results of any on-site testing by any federal, state, or local agency.

Certificate of Insurance:

A. The Contractor shall document general liability insurance for personal injury, occupational disease and sickness or death, and property damage.

B. The Contractor shall document current Workmen's Compensation Insurance coverage.

C. The Contractor shall supply insurance certificates as specified by the Department.

Asbestos Abatement Experience:

A. Company Experience: Prior to starting work, the Contractor shall supply evidence that he/she has been prequalified with the Illinois Capital Development Board and that he/she has been included on the Illinois Department of Public Health's list of approved Contractors.

B. Personnel Experience:

1. For Superintendent, the Contractor shall supply:

a. Evidence of knowledge of applicable regulations in safety and environmental protection is required as well as training in asbestos abatement as evidenced by the successful completion of a training course in supervision of asbestos abatement as specified in 40 CFR 763, Subpart E, Appendix C, EPA Model Contractor Accreditation Plan. A copy of the certificate of successful completion shall be provided to the Engineer prior to the start of work.

b. Documentation of experience with abatement work in a supervisory position as evidenced through supervising at least two asbestos abatement projects; provide names, contact, phone number, and locations of two projects in which the individual(s) has worked in a supervisory capacity.

2. For workers involved in the removal of friable and non-friable asbestos, the Contractor shall provide training as evidenced by the participation and successful completion of an accredited training course for asbestos abatement workers as specified in 40 CFR 763, Subpart E, Appendix C, EPA Model Contractor Accreditation Plan. A copy of the certificate of successful completion shall be provided to all employees who will be working on this project.

ABATEMENT AIR MONITORING: The Contractor shall comply with the following:

A. Personal Monitoring: All personal monitoring shall be conducted per specifications listed in OSHA regulation, Title 29, Code of Federal Regulation 1926.58. All area sampling shall be conducted according to 40 CFR Part 763.90. All air monitoring equipment shall be calibrated and maintained in proper operating condition. Excursion limits shall be monitored daily. Personal monitoring is the responsibility of the Contractor. Additional personal samples may be required by the Engineer at any time during the project.

B. Contained Work Areas for Removal of Friable Asbestos: Area samples shall be collected for the department within the work area daily. A minimum of one sample shall be taken outside of the abatement area removal operations. The Engineer will also have the option to require additional personal samples and/or clearance samples during this type of work.

C. Interior Non-Friable Asbestos-Containing Materials: The Contractor shall perform personal air monitoring during removal of all nonfriable Transite and floor tile removal operations. The Engineer will also have the option to require additional personal samples and/or clearance samples during this type of work.

D. Exterior Non-Friable Asbestos-Containing Materials: The Contractor shall perform personal air monitoring during removal of all nonfriable cementitious panels, piping, roofing felts, and built up roofing materials that contain asbestos.

   The Contractor shall conduct down wind area sampling to monitor airborne fiber levels at a frequency of no less than three per day.

E. Air Monitoring Professional

   1. All air sampling shall be conducted by a qualified Air Sampling Professional supplied by the Contractor. The Air Sampling Professional shall submit documentation of successful completion of the National Institute for Occupational Safety and Health (NIOSH) course #582 - "Sampling and Evaluating Airborne Asbestos Dust".

   2. Air sampling shall be conducted according to NIOSH Method 7400. The results of these tests shall be provided to the Engineer within 24 hours of the collection of air samples.

REMOVAL AND DISPOSAL OF FRIABLE ASBESTOS, BUILDING NO.1: This work consists of the removal and disposal of all friable asbestos from the building(s) prior to demolition. The

work shall be done according to the Special Provision titled "Asbestos Abatement (General Conditions)" and as outlined herein.

This work will be paid for at the contract unit price per lump sum for REMOVAL AND DISPOSAL OF FRIABLE ASBESTOS, BUILDING NO. 1, as shown, which price shall include furnishing all labor, materials, equipment and services required to remove and dispose of the friable asbestos.

REMOVAL AND DISPOSAL OF NON-FRIABLE ASBESTOS, BUILDING NO. 1: The Contractor has the option of removing and disposing of the non-friable asbestos prior to demolition of the building(s) or demolishing the building(s) with the non-friable asbestos in place.

Option #1 - If the Contractor chooses to remove all non-friable asbestos prior to demolition, the work shall be done according to the Special Provision titled "Asbestos Abatement (General Conditions)".

Option #2 - If the Contractor chooses to demolish the building(s) with the non-friable asbestos in place, the following provisions shall apply:

1. Continuously wet all non-friable ACM and other building debris with water during demolition.

2. Dispose of all demolition debris as asbestos containing material by placing it in lined, covered transport haulers and placing it in an approved landfill.

This work will be paid for at the contract unit price per lump sum for REMOVAL AND DISPOSAL OF NON-FRIABLE ASBESTOS, BUILDING NO. 1, as shown.

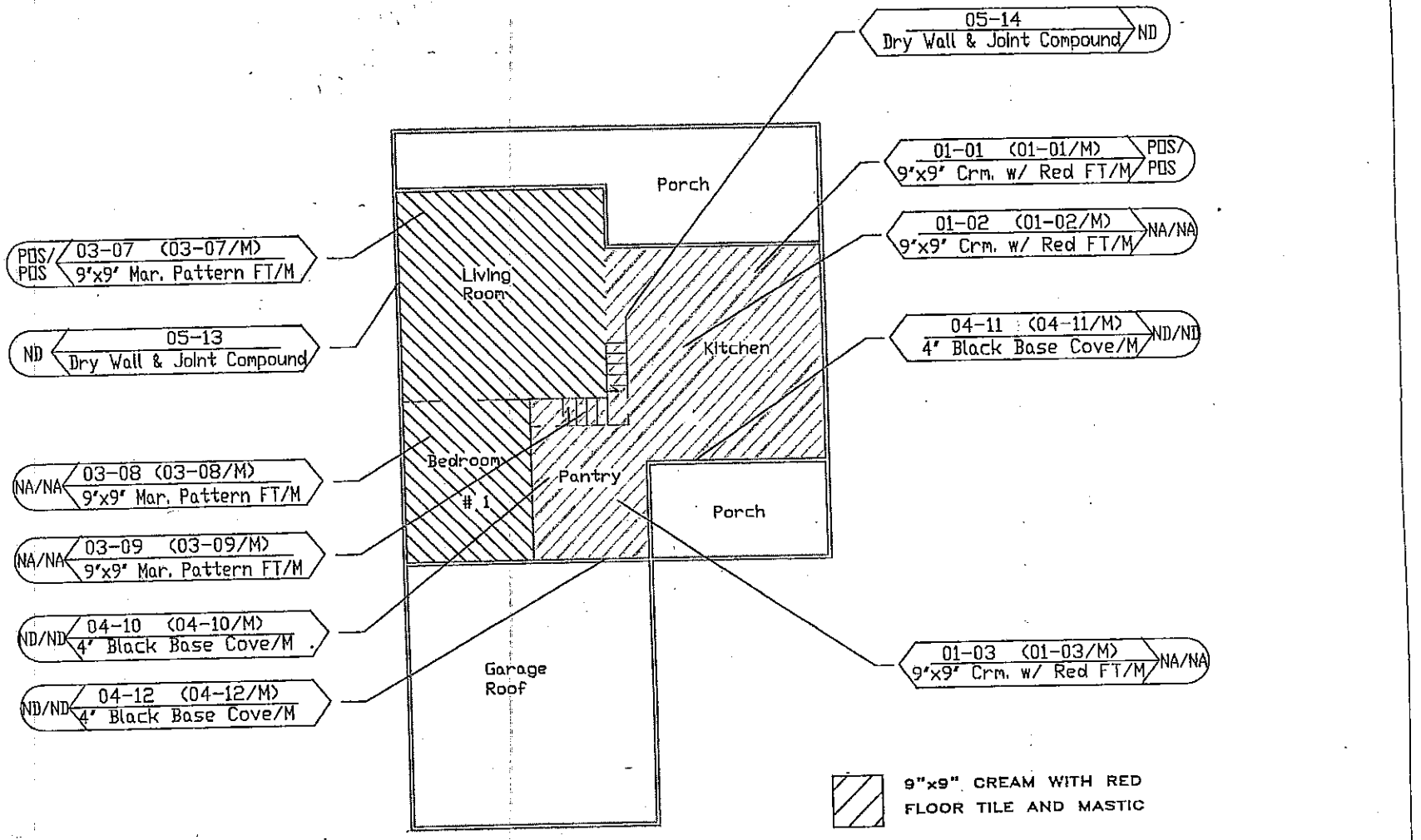
The cost for this work shall be determined as follows:

Option #1 - Actual cost of removal and disposal of non-friable asbestos.

Option #2 - The difference in cost between removing and disposing of the building if all non-friable asbestos is left in place and removing and disposing of the building assuming all non-friable asbestos is removed prior to demolition.

The cost of removing and disposing of the building(s), assuming all asbestos, friable and non-friable is removed first, shall be represented by the pay item "BUILDING REMOVAL NO. 1".

Regardless of the option chosen by the Contractor, this pay item will not be deleted, nor will the pay item BUILDING REMOVAL NO. 1 be deleted.



1ST FLOOR

48

SAMPLE LEGEND

ASBESTOS
SAMPLE GROUP
SAMPLE NUMBER
01-33AV
Floor Tile/Mastic
N/TR
MATERIAL DESCRIPTION
SAMPLE RESULT

NA=NOT ANALYZED
N or ND = NONE DETECTED
P or POS = POSITIVE
TR = TRACE

LEAD
SAMPLE NUMBER
Pb-1
Neg.
SAMPLE RESULT
NEG = NEGATIVE
POS = POSITIVE

FILE

ENVIRONMENTAL DESIGN INTERNATIONAL Inc.
200 S. MICHIGAN AVENUE, SUITE 700
CHICAGO, IL 60604 PHONE: (312)-356-6400

22825 W. PRAIRIE
BUFFALO GROVE, ILLINOIS
PARCEL NO. 1DH0107

DRAWN	CHECKED	DATE	FIG.
S.V.	A.M.	08/01/03	1

ILLINOIS DEPARTMENT OF TRANSPORTATION
2300 SOUTH DIRKSEN PARKWAY
SPRINGFIELD, ILLINOIS 62704

EDI PROJECT NO. 1173.011.33

SCALE: NTS

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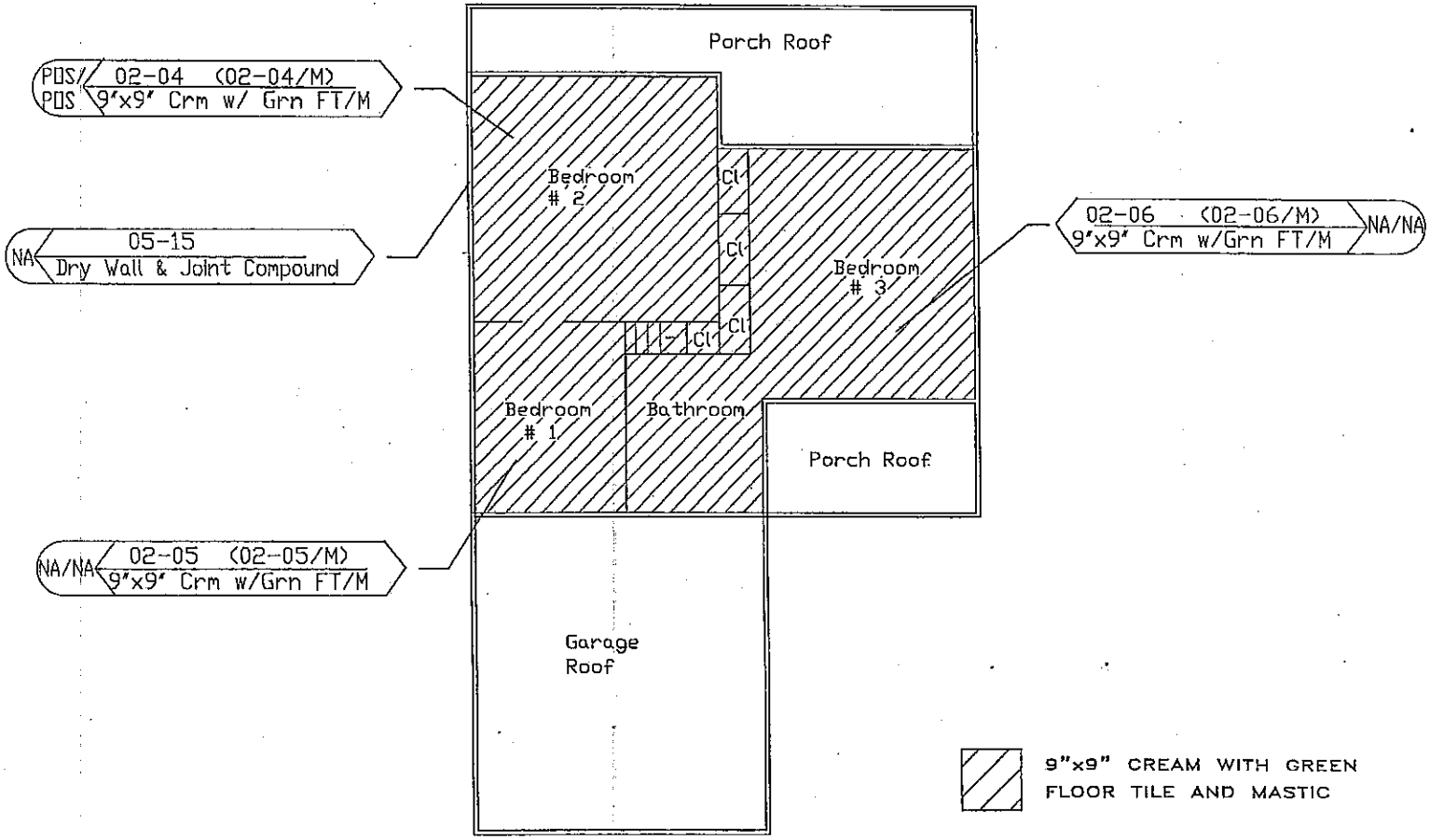
FAP 337 Illinois 22 (Half Day Road)
Section: 20R-5
Lake County
Contract 60881



2nd FLOOR

49

EDI

ENVIRONMENTAL DESIGN INTERNATIONAL Inc.
200 S. MICHIGAN AVENUE, SUITE 700
CHICAGO, IL 60604 PHONE: (312)-556-6400

SAMPLE LEGEND

ASBESTOS
SAMPLE GROUP
SAMPLE NUMBER
BI-SAY Floor Tile/Mastic N/TR
MATERIAL DESCRIPTION
SAMPLE RESULT

NA=NOT ANALYZED
N or ND = NONE DETECTED
P or POS = POSITIVE
TR = TRACE

LEAD
SAMPLE NUMBER
Pb-1 Neg.
SAMPLE RESULT
NEG = NEGATIVE
POS = POSITIVE

FILE

22825 W. PRAIRIE
LINCOLNSHIRE, ILLINOIS
PARCEL NO. 1DH0107

DRAWN	CHECKED	DATE
S.V.	A.M.	08/01/03

ILLINOIS DEPARTMENT OF TRANSPORTATION
2300 SOUTH DIRKSEN PARKWAY
SPRINGFIELD, ILLINOIS 62704

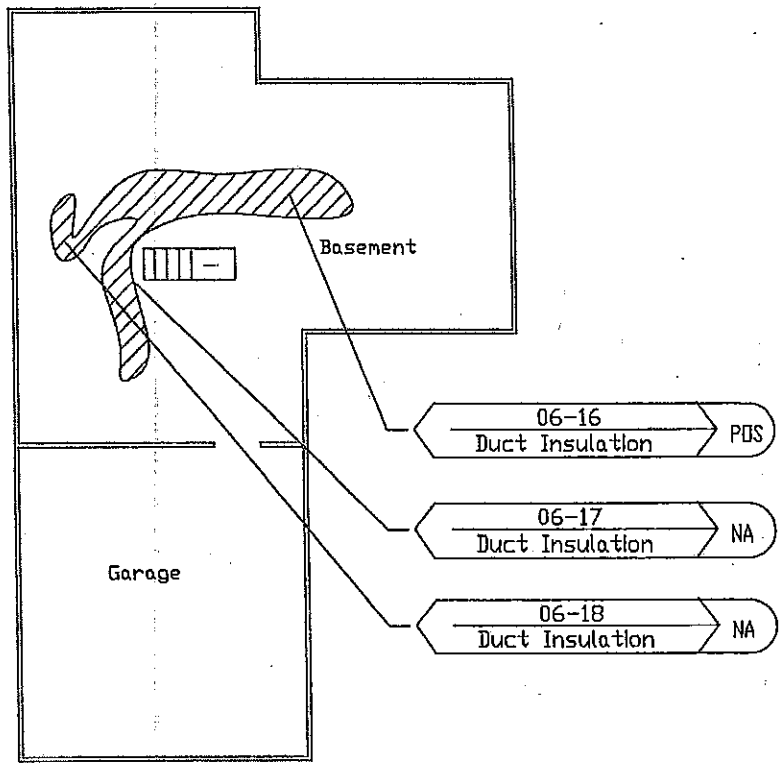
EDI PROJECT NO. 1173.011.33

SCALE: NTS

FI 2

\\SERVER1\INDUSTRIAL_HY.ASBESTOS_2003\IDOT_1173_011\1173_011_33\2nd_FLOOR

FAP 337 Illinois 22 (Half Day Road)
Section: 20R-5
Lake County
Contract 60881



DUCT INSULATION – THROUGHOUT

NORTH

N

NOT TO SCALE

BASEMENT/GROUND LEVEL

50

ENVIRONMENTAL DESIGN INTERNATIONAL Inc.
200 E. MICHIGAN AVENUE, SUITE 700
CHICAGO, IL 60604 PHONE (312)-356-5400

ASBESTOS
SAMPLE GROUP

SAMPLE LEGEND

BI-53AV Floor Tile/Mastic N/TR
MATERIAL DESCRIPTION — SAMPLE RESULT — SAMPLE NUMBER

NA=NOT ANALYZED
N or ND = NONE DETECTED
P or POS = POSITIVE
TR = TRACE

LEAD

Pb-1 Neg
SAMPLE NUMBER — SAMPLE RESULT

NEG = NEGATIVE
POS = POSITIVE

FILE

22825 W. PRAIRIE
BUFFALO GROVE, ILLINOIS
PARCEL NO. 1DH0107

ILLINOIS DEPARTMENT OF TRANSPORTATION
2300 SOUTH DIRKSEN PARKWAY
SPRINGFIELD, ILLINOIS 62704

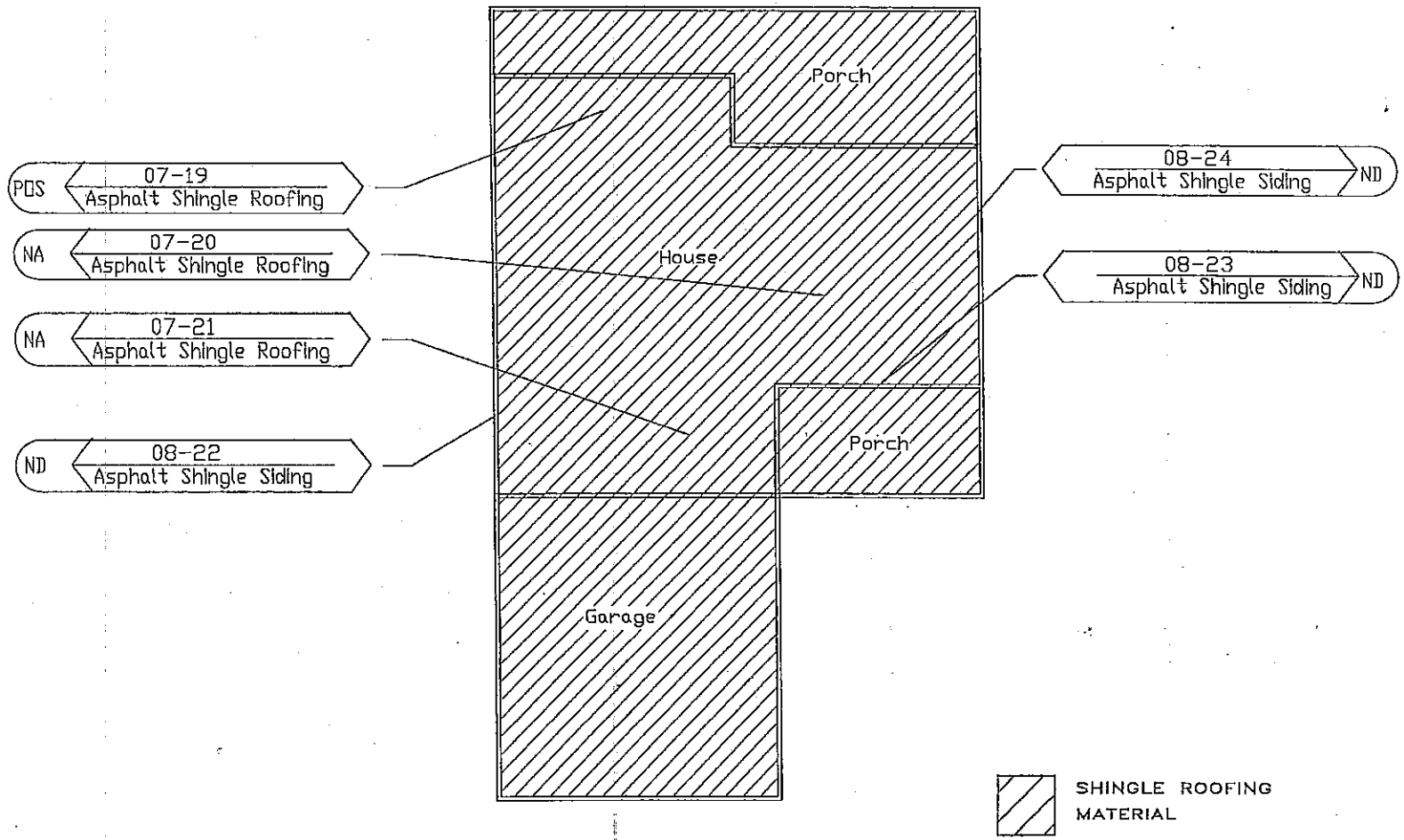
DRAWN	CHECKED	DATE	FIG.
S.V.	A.M.	08/01/03	3

EDI PROJECT NO. 1173.011.33

SCALE: NTS

\\SERVER1\INDUSTRIAL_HY.ASBESTOS_2003\IDOT_1173_011\1173_011_33\BASEMENT

FAP 337 Illinois 22 (Half Day Road)
Section: 20R-5
Lake County
Contract 60881



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51

EDI ENVIRONMENTAL DESIGN INTERNATIONAL Inc. 200 S. MICHIGAN AVENUE, SUITE 700 CHICAGO, IL 60604 PHONE: (312)-356-5400	ASBESTOS SAMPLE GROUP SAMPLE LEGEND LEAD SAMPLE NUMBER B1-53AV Floor Tile/Mastic N/TR MATERIAL DESCRIPTION / SAMPLE RESULT NA=NOT ANALYZED N or ND = NONE DETECTED P or POS = POSITIVE TR = TRACE FILE SAMPLE NUMBER Pb-1 Neg. SAMPLE RESULT NEG = NEGATIVE POS = POSITIVE	22825 W. PRAIRIE BUFFALO GROVE, ILLINOIS PARCEL NO. 1DH0107	DRAWN S.V.	CHECKED A.M.	DATE 08/01/03
		ILLINOIS DEPARTMENT OF TRANSPORTATION 2300 SOUTH DIRKSEN PARKWAY SPRINGFIELD, ILLINOIS 62704	EDI PROJECT NO. 1173.011.33	SCALE: NTS	4

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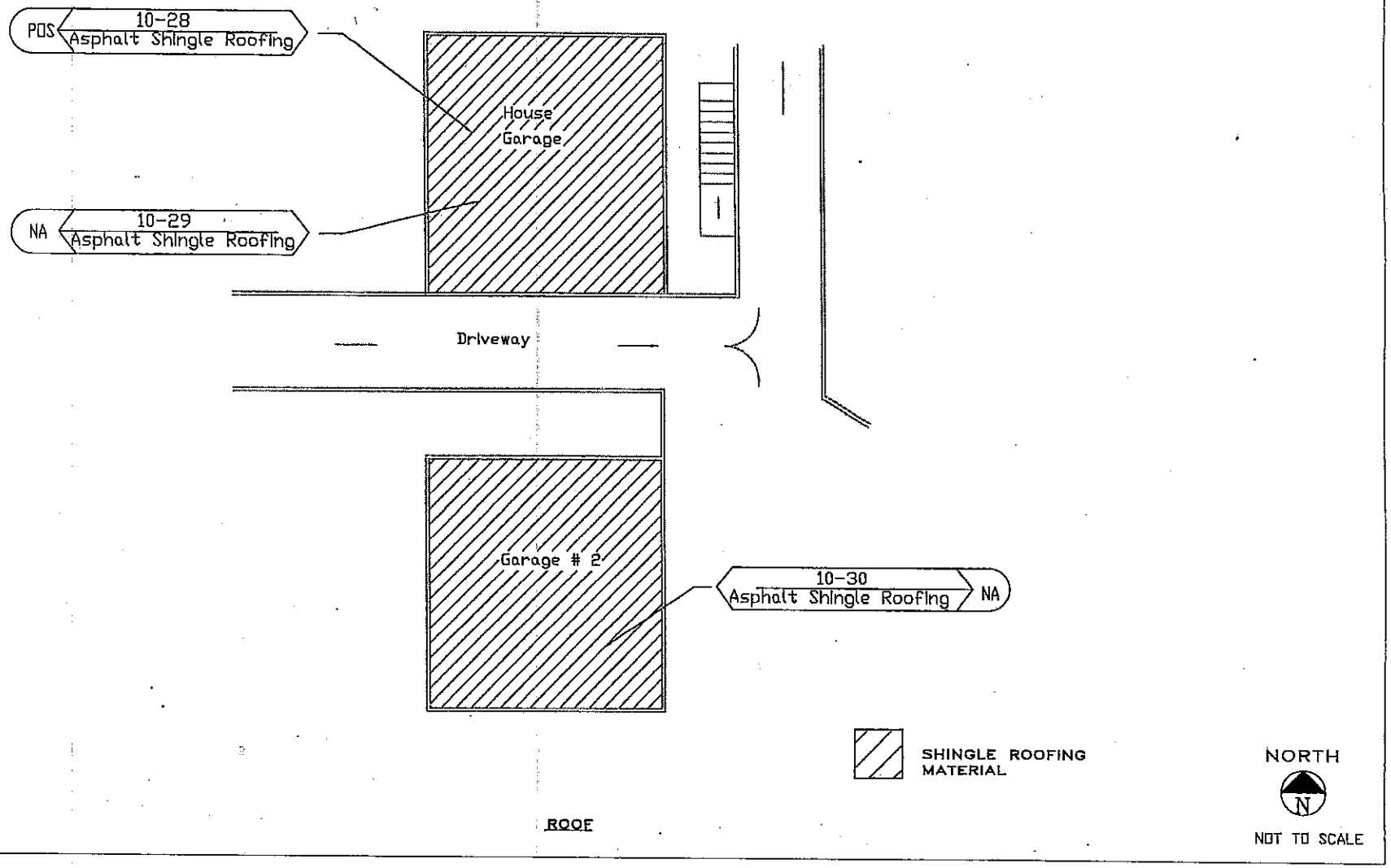
FAP 337 Illinois 22 (Half Day Road)
Section: 20R-5
Lake County
Contract 60881



EDI

ENVIRONMENTAL DESIGN INTERNATIONAL Inc.
200 S. MICHIGAN AVENUE, SUITE 700
CHICAGO, IL 60604 PHONE (312)-922-6400

ASBESTOS SAMPLE GROUP

SAMPLE LEGEND

SAMPLE NUMBER: B1-53AV
MATERIAL DESCRIPTION: Floor Tile/Mastic
SAMPLE RESULT: N/TR

NA=NOT ANALYZED
N or ND = NONE DETECTED
P or POS = POSITIVE
TR = TRACE

LEAD

SAMPLE NUMBER: Pb-1
SAMPLE RESULT: Neg.

NEG = NEGATIVE
POS = POSITIVE

FILE

22825 W. PRAIRIE
BUFFALO GROVE, ILLINOIS
PARCEL NO. 1DH0107

DRAWN	CHECKED	DATE	FIG.
S.V.	A.M.	08/01/03	5

ILLINOIS DEPARTMENT OF TRANSPORTATION
2300 SOUTH DIRKSEN PARKWAY
SPRINGFIELD, ILLINOIS 62704

EDI PROJECT NO. 1173.011.33

SCALE: NTS

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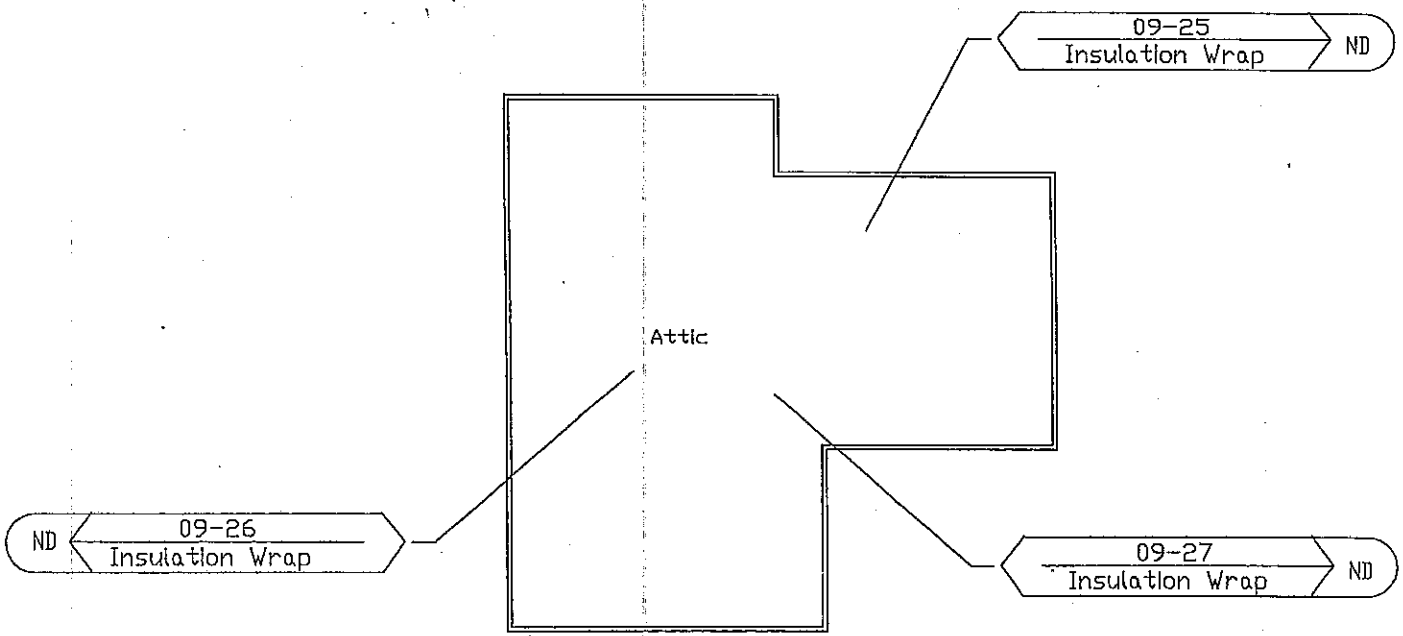

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ENVIRONMENTAL DESIGN INTERNATIONAL Inc.
200 S. MICHIGAN AVENUE, SUITE 700
CHICAGO, IL 60604 PHONE: (312)-356-5400

ASBESTOS
SAMPLE GROUP

SAMPLE LEGEND

LEAD

SAMPLE NUMBER
81-33AV
Floor Tile/Mastic
N/TR
MATERIAL DESCRIPTION
SAMPLE RESULT

NA=NOT ANALYZED
N or ND = NONE DETECTED
P or POS = POSITIVE
TR = TRACE

SAMPLE NUMBER
Pb-1
Neg.
SAMPLE RESULT

NEG = NEGATIVE
POS = POSITIVE

FILE

\\SERVER1\INDUSTRIAL_HY.ASBESTOS_2003\IDOT_1173_011\1173_011_33\BASEMENT

22825 W. PRAIRIE
BUFFALO GROVE, ILLINOIS
PARCEL NO. 1DH0107

ILLINOIS DEPARTMENT OF TRANSPORTATION
2300 SOUTH DIRKSEN PARKWAY
SPRINGFIELD, ILLINOIS 62704

DRAWN	CHECKED	DATE
S.V.	A.M.	08/01/03

EDI PROJECT NO. 1173.011.33

SCALE: NTS

6

FAP 337 Illinois 22 (Half Day Road)
Section: 20R-5
Lake County
Contract 60881

APPENDIX B

MATERIAL DESCRIPTION TABLE

Material Description	% And Type Of Asbestos	Location, Description, Sample Number (If Applicable)
I. 22825 N Prairie Road		
Floor tile, 9" x 9" Cream w/Red and mastic	1% –10% chrysotile	First floor, kitchen and pantry. Good condition Samples 01-01, 01-01M
Floor tile, 9" x 9" Cream w/Green and mastic	1% –10% chrysotile	Second floor, Bedrooms 1, 2 and 3. stairs and landing. Good condition Samples 02-04, 02-04M
Floor tile, 9" x 9" Maroon w/stone pattern and mastic	1% –10% chrysotile	First floor, Living room and Bedroom. landing and stairs. Good condition Samples 03-07, 03-07M
Duct Insulation	65% to 70% chrysotile	Basement area. Fair condition Sample 06-16
Asphalt Shingle Roofing House	5-10% chrysotile	North, East and South Roof Fair Condition. Sample 07-19
Asphalt Shingle Roofing Garages	5-10% chrysotile	Garage 1 and 2 Fair Condition Samples 10-28

APPENDIX C

MATERIAL QUANTITIES TABLE

The following are approximate quantities of ACM to be removed from the building indicated. These material quantities do not indicate the cleaning required to remove asbestos debris and resulting contamination from the work areas.

I. 22825 N Prairie Road

Material	Floor	Quantity Present	Friable	
Floor Tile - Red	1st Floor	305 S.F.	No	
Floor Tile - Green	2nd Floor	590 S.F.	No	
Floor Tile - Stone	1st Floor	376 S.F.	No	
Duct Insultation	Basement	160 S.F.	Yes	
Asphalt Shingle Roofing – House	Roof	1000 S.F.	No	
Asphalt Shingle Roofing	Roof	760 S.F. -	No	Garages

APPENDIX D
SHIPPING MANIFEST
Generator

1. Work Site Name and Mailing Address	Owner's Name		Owner's Telephone No.
2. Operator's Name and Address			Operator's. Telephone No
3. Waste Disposal Site (WDS) Name Mailing Address, and Physical Site Location			WDS Telephone No.
4. Name and Address of Responsible Agency			
5. Description of Materials			
6. Containers	No.	Type	
7. Total Quantity	M^3	(Yd^3)	
8. Special Handling Instructions and Additional Information			
9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.			
Printed/Typed Name & Title	Signature		Month Day Year

Transporter

10. Transporter 1 (Acknowledgement of Receipt of Materials)		
Printed/Typed Name & Title Address and Telephone No.	Signature	Month Day Year
11. Transporter 2 (Acknowledgement of Receipt of Materials)		
Printed/Typed Name & Title Address and Telephone No.	Signature	Month Day Year

Disposal Site

12. Discrepancy Indication Space		
13. Waste Disposal Site Owner or Operator: Certification of Receipt of Asbestos Materials Covered By This Manifest Except As Noted in Item 12		
Printed/Typed Name & Title	Signature	Month Day Year

APPENDIX D

INSTRUCTIONS

Waste Generator Section (Items 1-9)

1. Enter the name of the facility at which asbestos waste is generated and the address where the facility is located. In the appropriate spaces, also enter the name of the owner of the facility and the owner's phone number.

2. If a demolition or renovation, enter the name and address of the Company and authorized agent responsible for performing the asbestos removal. In the appropriate spaces, also enter the phone number of the operator.

3. Enter the name, address, and physical site location of the waste disposal site (WDS) that will be receiving the asbestos materials. In the appropriate spaces, also enter the phone number of the WDS. Enter "on-site" if the waste will be disposed of on the generator's property.

4. Provide the name and address of the local, State, or EPA Regional Office responsible for administering the asbestos NESHAP program.

5. Indicate the types of asbestos waste materials generated. If from a demolition or renovation, indicate the amount of asbestos that is

   - Friable asbestos material
   - Nonfriable asbestos material

6. Enter the number of containers used to transport the asbestos materials listed in Item 5. Also enter one of the following container codes used in transporting each type of asbestos material (specify any other type of container used if not listed below):

   DM - Metal drums, barrels
   DP - Plastic drums, barrels
   BA - 6 mil plastic bags or wrapping

7. Enter the quantities of each type of asbestos material removed in units of cubic meters (cubic yards).

8. Use this space to indicate special transportation, treatment, storage or disposal or Bill of Lading information. If an alternate waste disposal site is designated, note it here. Emergency response telephone numbers or similar information may be included here.

9. The authorized agent of the waste generator shall read and then sign and date this certification. The date is the date of receipt by transporter.

NOTE: The waste generator shall retain a copy of this form.

APPENDIX D

INSTRUCTIONS

Transporter Section (Items 10 & 11)

10. & 11. Enter name, address, and telephone number of each transporter used, if applicable. Print or type the full name and title of person accepting responsibility and acknowledging receipt of materials as listed on this waste shipment record for transport.

NOTE: The transporter shall retain a copy of this form.

Disposal Site Section (Items 12 & 13)

12. The authorized representative of the WDS shall note in this space any discrepancy between waste described on this mainfest and waste actually received as well as any improperly enclosed or contained waste. Any rejected materials should be listed and destination of those materials provided. A site that converts asbestos-containing waste material to nonasbestos material is considered a WDS.

13. The signature (by hand) of the authorized WDS agent indicates acceptance and agreement with statements on this manifest except as noted in Item 12. The date is the date of signature and receipt of shipment.

NOTE: The WDS shall retain a completed copy of this form. The WDS shall also send a completed copy to the operator listed in Item 2.

APPENDIX E

Bldg. No.	Parcel No.	Location	Description
1	1DH-0107	22825 N Prairie Buffalo Grove	2 story 1448 sf. Wood, full basement, attached garage and detached garage

Chain Link Gates, 3.0m x 3.0m, Double

This work shall be performed in accordance with Section 664 of the Standard Specifications except as herein modified.

The chain link fabric material shall be in accordance with Article 1006.27 (a), (1), d., Type IV Class B (polyvinyl chloride (PVC)-coated steel) only. The posts, fence framework, gates, tension wire, fabric ties, and fittings shall be vinyl-coated according to the same requirements as the coating of the fabric. All non-aluminum material shall be galvanized prior to vinyl coating.

The color of the vinyl coating shall be hunter (dark) green. A sample of the coated fabric and/or posts shall be submitted to the Resident Engineer for approval by the Village prior to ordering and/or installing material.

Basis of Payment: This work shall be paid for at the contract unit price, per each for CHAIN LINK GATES, 3.0M X 3.0M, DOUBLE.

Locks for Gates

Description: This work shall consist of purchasing, installing, delivering and maintaining locks that are keyed alike on gates within the limits of this improvement. The locks shall be come property of the Illinois Department of Transportation at the completion of the contract.

Materials: The locks shall be new, keyed-alike, solid brass models that adhere to the following requirements:

- The lock shall be American made.
- The lock shall be made to handle harsh outdoor environments and be designed for commercial/industrial security use.
- The blade tumbler cylinder should provide trouble fee operation and resist jamming under extreme conditions and be made of solid brass.
- The locking mechanism shall be of a stainless steel double ball type.
- The cylinder type shall be 10-blade.
- The body size shall be no less than 1-3/4 inches by 3/4 inch.
- The shackle diameter shall be no less than 5/16 inch and the shackle height no less than 1-1/8 inch.
- The shackle material shall be composed of boron alloy hardened steel.

All locks shall meet the approval of the District One Maintenance Equipment Manager prior to purchase.

General: The Contractor is responsible for installing and maintaining the locks on the gates to access areas of work during construction. During construction, one key shall be provided to the Resident Engineer and one key to the Illinois Department of Transportation Grayslake Maintenance Yard.

Each lock shall be final delivered with two keys. In addition to the keys supplied with the locks, two additional spare keys shall also be provided for use by the Village of Long Grove, included with the cost of the locks and keys.

Spare locks and keys shall be delivered to the Illinois Department of Transportation Grayslake Maintenance Yard between 9:00 AM and 3:00 PM on weekdays excluding holidays observed by the Illinois Department of Transportation.

The final delivery of all keys and spare locks shall be after the last scheduled work item of the contract is completed.

Method of Payment: The locks for the gates will be measured for payment as each. No payment will be made to the Contractor until the Illinois Department of Transportation Grayslake Maintenance Yard Technician has inspected and accepted the locks and keys and all the additional locks and keys have been delivered. Each lock measured for payment must include a least two keys.

Basis of Payment: This work will be paid for at the contract unit price, each for LOCKS FOR GATES which price shall include furnishing, installing, maintaining and delivering as specified.

Type A Final Finish of Portland Cement Concrete Pavement for Variably Spaced Tining

Revise the third paragraph of Article 420.11 (e)(1) to read as follows:

The metal comb shall consist of a single line of tempered spring steel tines variably spaced between 11/16 inch (17 mm) and 2-1/8 inches (54 mm) as shown in the table below, securely mounted in a suitable head. The tines shall be flat and of a size and stiffness sufficient to produce a groove of the specified dimensions in the plastic concrete without tearing of the pavement edge or surface. The Contractor shall modify the equipment or operations if an acceptable pavement or surface is not produced. The mechanically operated metal comb shall be attached to an exclusive piece of equipment, which is mechanically self-propelled and capable of traversing the entire pavement width being placed in a single pass. The artificial turf carpet drag may be attached to this piece of equipment provided a surface texture is produced satisfactory to the Engineer. The tining device shall be operated so as to produce a pattern of grooves 1/8 inch to 3/16 inch (3 to 5 mm) deep and 1/10 to 1/8 inch (2.5 to 3.2 mm) wide across the pavement. The tining device shall be operated at a 1:6 skew across the pavement for facilities with a posted speed limit of 55 mph (89 kph) or greater. No other operation will be permitted with this equipment. Separate passes will be required for the turf dragging operation and the tining operation.

Metal Comb Tine Spacing (English, Center to Center of Tines, in):

1 5/16	1 7/16	1 7/8	2 1/8	1 7/8	1 11/16	1 1/4	1 1/4	1 1/16
1 7/16	1 1/8	1 13/16	13/16	1 11/16	7/8	1 5/8	2 1/16	15/16
11/16	1 1/8	1 9/16	1 5/16	1 1/16	1	1	1 1/16	13/16
1 7/16	1 1/2	2 1/16	2	1 ¾	1 7/16	1 11/16	2 1/16	1 1/16
1 7/16	1 5/8	1 5/8	1 1/8	1 11/16	1 3/4	1 3/4	1 3/16	1 7/16
1 5/16	1 9/16	1 1/8	1 1/4	1 15/16	1 5/16	1 3/4	13/16	1 3/4
1 15/16	2 1/16	2	1 1/8	1	11/16	2 1/16	11/16	1 1/2
2	1 9/16	11/16	1 15/16	1 15/16	1 9/16	2	1 7/16	1 7/16
1 1/2	1 13/16	1 1/8	1 1/2	1 15/16	15/16	1 5/16		

Metal Comb Tine Spacing (Metric, Center to Center of Tines, mm):

34	36	47	54	48	43	32	31	27	36	29	46
21	43	23	42	52	24	18	28	40	34	27	26
25	27	20	37	38	52	51	45	37	43	53	27
37	42	41	29	43	45	44	30	37	33	40	28
31	50	34	45	20	45	50	53	51	29	25	18
53	18	38	51	40	17	49	50	39	51	36	36
38	46	29	38	50	24	33					

SPECIAL PROVISIONS

WATERMAIN CONSTRUCTION

VILLAGE OF LINCOLNSHIRE

PREPARED BY PATRICK ENGINEERING.

WATER MAIN GRANULAR BEDDING

Description. This work shall consist of furnishing coarse aggregate pipe bedding material and placing the material under the water main pipe, fittings and appurtenances.

This work also includes the disposal of the surplus excavated material which is replaced by the granular bedding. Such disposal shall be made according to Article 202.03.

Materials. Granular bedding materials shall be IDOT gradation CA11 and shall meet the requirements of the following Article of Section 1000 – Materials:

Item	Article / Section
Coarse Aggregate	1004.01

CONSTRUCTION REQUIREMENTS

General. Water main pipes shall be placed on a granular bedding with a minimum thickness equal to ¼ of the outside diameter of the pipe, but not less that 100 millimeters nor more than 200 millimeters in thickness under the pipe. The granular bedding material shall be furnished to the full width of the trench, and be placed to the centerline of pipe.

Method of Measurement.

Contract Quantities. The requirement for the use of Contract Quantities shall conform to Article 202.07(a).
Measured Quantities. Granular bedding shall be furnished for backfilling as described in the General Requirements above. It will be measured in tons in place.

Any material meeting the requirements of Article 1003.04 which has been excavated from the trenches shall be used for backfilling the trenches. However, no compensation will be allowed as granular bedding material for the portion of the trench backfilled with excavated material.

Basis of Payment. This work will be paid for at the contract unit price per ton for WATER MAIN GRANULAR BEDDING, which price shall include the disposal of excavated materials replaced by the granular materials.

FIRE HYDRANT COMPLETE

Description. This work shall consist of installing fire hydrants and their service pipe (150mm) connections to water main pipe.

Materials. Fire hydrants shall be as specified on the Water Main Plans, sheets WM-5 and WM-6. Thrust blocking shall be either precast concrete blocks or cast-in-place concrete. Granular backfill material shall be IDOT gradation CA7. These materials shall meet the requirements of the following Article of Section 1000 – Materials:

Item	Article / Section
Portland Cement Concrete	1020
Coarse Aggregate	1004.01

CONSTRUCTION REQUIREMENTS

General. Fire hydrants complete with auxiliary valve, necessary fittings and appurtenances and connecting service pipe to main (3M maximum length) shall be installed as specified on the Water Main Plans, sheets WM-5 and WM-6.

Fire hydrants shall be set on a firm foundation. Thrust blocks shall be installed according to the Water Main Plans and as directed by the Engineer. Thrust blocks shall be set so as to not block or obstruct the hydrant drain, and in such a manner that the pipe, fittings and joints shall be accessible for future repair.

The work shall be performed in a manner approved by the Village of Lincolnshire Water Department.

Fire hydrants shall be tested and disinfected as specified in Articles 561.04 and 561.05.

Basis of Payment. This work will be paid for at the contract unit price each for FIRE HYDRANT COMPLETE, which price shall include the hydrant, gate valve, valve box, spool pieces, 150mm connecting pipe, thrust blocks, concrete bases, granular backfill, filter fabric, testing and disinfection and all excavation, except excavation in rock.

Excavation in rock will be paid for as specified in IDOT Article 502.15 for Rock Excavation for Structures.

Trench backfill will be measured for payment as specified in Article 208.03.

FIRE HYDRANTS TO BE REMOVED

Description. Existing fire hydrants that interfere with the construction of the proposed improvement shall be removed as indicated on the Water Main Plans or required by the Engineer.

Materials. Pipe sealing materials shall be Portland Cement Concrete (IDOT Class SI) or a cast iron cap. Backfill materials shall be IDOT gradation FA6. These materials shall meet the requirements of the following Article of Section 1000 – Materials:

Item	Article / Section
Portland Cement Concrete	1020
Fine Aggregate	1003.04

CONSTRUCTION REQUIREMENTS

General. Existing hydrants and their related valves, pipes, pipe joints, valve boxes, and thrust blocks shall be removed where indicated on the Water Main Plans, sheets WM-1 through WM-4.

Water shall be drained from abandoned water main pipes before capping. Exposed pipe ends shall be plugged water tight with concrete or a cast iron cap. After sealing the pipes, the excavation caused by the removal of the hydrant assembly shall be backfilled with fine aggregate, placed, and compacted to the satisfaction of the Engineer.

No additional compensation will be allowed the Contractor due to any delays or inconvenience resulting from these requirements, nor on account of any special construction methods required in prosecuting the Contractors work.

If the Contractor damages any underground structure or utility that is not to be removed, the Contractor shall replace or repair it as required by the Engineer, and no additional compensation will be allowed.

Basis of Payment. This work will be paid for at the contract unit price per each FIRE HYDRANT TO BE REMOVED, which price shall include the cutting and capping water main pipes; draining existing water main pipes, backfilling with fine aggregate, excavation and disposal of surplus materials.

WATER MAIN VALVE BOX

Description. This work shall consist of installing valve boxes of the required specified type and size on new water main valves. This work does not include valve boxes for fire hydrant auxiliary valves.

Materials. Valve boxes shall be cast iron, adjustable two-piece Buffalo Type with a 5¼-inch shaft. The word “WATER” shall be imprinted on the lid. Granular materials shall be IDOT gradation CA7. Materials shall meet the requirements of the following Article of Section 1000 – Materials:

Item	Article / Section
Coarse Aggregate	1004.01

CONSTRUCTION REQUIREMENTS

General. The valve box shall be set over the operating nut of the water main valve. The bottom of the valve shall be set on precast concrete blocks to provide full support of the bottom section of the box. The valve shall be backfilled with granular material compacted in place to support the precast blocks.

Basis of Payment. This work will be paid for at the contract unit price each WATER MAIN VALVE BOX, which price shall include granular backfill around the valve and precast concrete support blocks.

Valve boxes for fire hydrant valves will be paid for as specified in the Special Provisions for FIRE HYDRANT COMPLETE.

WATER MAIN: PUSH-ON JOINT

Description. This work shall consist of constructing push-on joint type ductile iron water main of the specified diameters.

Materials. Materials shall be as shown on the contract.

CONSTRUCTION REQUIREMENTS

General. Installation methods shall conform to IDOT Section 561.

Hydrostatic Tests. Hydrostatic tests shall conform to IDOT Section 561.04.

Disinfection of Water Main. Disinfection shall conform to IDOT Section 561.05.

Method of Measurement. Measurement shall conform to IDOT Section 561.06.

Basis of Payment. This work will be paid for at the contract unit price per meter for WATER MAIN: PUSH-ON JOINT, of the diameter specified, which price shall include all pipe fittings (mechanical joint type), joint materials, the hydrostatic tests, disinfection of the water main and all excavation, except excavation in rock.

Trench backfill will be paid for as specified in Article 208.04.

Excavation in rock will be paid for as specified in IDOT Article 502.14 for Rock Excavation for Structures.

WATER MAIN: MECHANICAL JOINT

Description. This work shall consist of constructing mechanical joint type ductile iron water main of the specified diameters.

Materials. Materials shall be as shown on the contract.

CONSTRUCTION REQUIREMENTS

General. Installation methods shall conform to IDOT Section 561.

Hydrostatic Tests. Hydrostatic tests shall conform to IDOT Section 561.04.

Disinfection of Water Main. Disinfection shall conform to IDOT Section 561.05.

Method of Measurement. Measurement shall conform to IDOT Section 561.06.

Basis of Payment. This work will be paid for at the contract unit price per meter for WATER MAIN: MECHANICAL JOINT, of the diameter specified, which price shall include all pipe fittings, joint materials, the hydrostatic tests, disinfection of the water main and all excavation, except excavation in rock.

Trench backfill will be paid for as specified in Article 208.04.

Excavation in rock will be paid for as specified in IDOT Article 502.14 for Rock Excavation for Structures.

CONNECT TO EXISTING WATER MAIN

Description. This work shall consist of connecting new water mains to existing water mains with additional water main pipe and fittings of the required material and inside diameter.

Note: This excludes connections that are a result of an existing water main alignment adjustment. (See Special Provision for Adjust Existing Water Main under Storm Sewer)

Materials. Materials shall be as shown in the Water Main Plans (Sheets WM-1 through WM-6) and Special Provisions.

CONSTRUCTION REQUIREMENTS

General. Installation methods shall conform to IDOT Section 561 and with the following requirements:

Water Main Shutdown and Reopening. Procedures and schedules for shutting down and draining sections of existing water main (for connection or reconstruction purposes) and for opening the water main sections for use again shall be as required by the Village of Lincolnshire. The Contractor is responsible for contacting the Village and for making all necessary arrangements.

Connect new water main to existing water main at locations indicated in the Water Main Plans (Sheets WM-1 through WM-4) after the Village of Lincolnshire approves the new water main for use.

Provide suitable restraint-type coupling when connecting to existing asbestos cement water main. Install per manufacturer’s recommendations.

When the contract includes information concerning the number and locations of water mains to connected to existing water mains, such information represents the best knowledge of the Engineer and is included for the convenience of the bidder. It shall be the Contractor's responsibility to determine the exact locations of existing water mains and all such installations in the field. The work shall conform to the Standard Specifications for Water and Sewer Main Construction in Illinois. No additional compensation will be allowed the Contractor due to any delays or inconvenience resulting from these requirements, nor on account of any special construction methods required in prosecuting the Contractors work.

Basis of Payment. This work will be paid for at the contract unit price each for CONNECTION TO EXISTING WATER MAIN, which price shall include new water main pipe and all pipe fittings and joint materials; trench backfill; thrust blocking and all excavation, except excavation in rock.

Excavation in rock will be paid for as specified in IDOT Article 502.15 for Rock Excavation for Structures.

Trench backfill will be measured for payment as specified in Article 208.03.

WATER MAIN IN CASING PIPE

Description. This work shall consist of constructing water main (per IDOT Section 561) within casing pipes of the specified material and diameter.

Materials. Water main and casing pipe shall be as shown in the Water Main Plans (Sheets WM-1 through WM-6) and Special Provisions.

Water Main Pipe – Ductile Iron Pipe, Class 52 (AWWA-C151) with bituminous seal coating and cement mortar lining (AWWA-C104) and rubber gasket, push-on joints (AWWA-C111)

Water Main Fittings – Ductile Iron Fittings (AWWA-C110 or C153) with mechanical joint connections.

Casing Pipe – Steel pipe (minimum yield strength 33,000 psi) with minimum wall thickness of 0.375 inches and welded joints and with inside and outside surfaces coated with a rust resistant paint.

Casing Spacers – Stainless steel shell with ribbed PVC lining, stainless steel bolts and high molecular weight polymer runner (Cascade Waterworks Mfg. Co. Model CCS or equivalent)

Casing End Seal – Rubber cone section with stainless steel connection bands (Cascade Waterworks Mfg. Co. Model CCESS or equivalent)

CONSTRUCTION REQUIREMENTS

General. Installation methods shall conform to IDOT Section 561 and with the following requirements:

Casing Spacers. Provide casing spacers at 3-meters (or less) on-center within casing pipe. Install per manufacturer's recommendations.

End Seals. Provide rubber end seals secured in place with stainless steel bands at each casing pipe end. Install per manufacturer's recommendations.
Trench backfill. Provide non-granular (cohesive) soil backfill material compacted in place, from the casing pipe invert to the invert of the proposed storm sewer crossing above the water main.

Method of Measurement. Water main in casing pipe will be measured for payment in meters, measured from end to end of each casing pipe.

Basis of Payment. This work will be paid for at the contract unit price per meter for WATERMAIN IN CASING PIPE of the pipe size and casing size specified, which price shall include all water main pipe, casing pipe, casing spacers, rubber end seals, stainless steel bands, cohesive soil backfill, the hydrostatic tests and disinfecting of the water main and all excavation, except excavation in rock.

Trench backfill will be measured for payment as specified in Article 208.03.

Excavation in rock will be paid for as specified in IDOT Article 502.15 for Rock Excavation for Structures.

WATER MAIN POLYETHYLENE ENCASEMENT

Description. This work shall consist of incasing ductile iron water main pipe and appurtenances in a loose wrapping of polyethylene film.

Materials and Installation. Materials and installation shall be as shown in the Water Main Plans, Sheet WM-6, and per AWWA Standard 105-99.

CONSTRUCTION REQUIREMENTS

General. All ductile iron pipe and fittings, and other appurtenances in contact with soils, shall be encased in a loose wrapping of 8-mil thick polyethylene film.

Method of Measurement. Polyethylene Encasement will be measured for payment in feet, measured in place.

Basis of Payment. This work will be paid for at the contract unit price per meter of pipe and appurtenances for POLYETHYLENE ENCASEMENT, which price shall include the polyethylene film and related materials.

WATER MAIN TRACER WIRE

Description. This work shall consist of installing tracer wire along new water main pipe.

Materials and Installation. Tracer wire shall be 12 gauge copper wire per ASTM B-1, B-3, or B-8.

CONSTRUCTION REQUIREMENTS

General. Begin and terminate tracer wire at all connections to existing water mains. Install wire continuously along the lower quadrant of new water main pipe, outside of the polyethylene encasement. Attach wire to pipe at midpoint of each pipe length; use 50-mil wide, 10-mil thickness polyethylene pressure tape.

Method of Measurement. Water main tracer wire will be measured for payment in meters, measured in place.

Basis of Payment. This work will be paid for at the contract unit price per meter for WATER MAIN TRACER WIRE, which price shall include the tracer wire and related materials.

WATER MAIN VALVES

Description. This work shall consist of installing water valves of the required type and inside diameter on new and existing water mains. This work does not include hydrant auxiliary valves.

Materials. “Standard” water main valves shall be Resilient Seated Gate Valves manufactured to meet all requirements of AWWA-C509 and shall have a non-rising stem (open – turn left), 2-inch square operating nut and two o-ring packing seals. Bonding or rubber sealing surfaces to cast iron wedge shall meet ASTM D429. Valve ends shall be mechanical joints.

Valves used for pressure connections to existing water mains shall be “Tapping” Gate Valves specifically manufactured for this purpose. Tapping valves shall have one flange end and one mechanical joint end and shall be furnished complete with a two-section mechanical joint “tapping” sleeve.

Valves installed on existing water lines (other than pressure connections) shall be “Cutting-In” Gate Valves specifically manufactured for this purpose. Cutting-in valves shall be furnished complete with a cutting-in sleeve. Valve ends and one end of the sleeve shall be of mechanical joint construction designed so that with one gasket it can be assembled on either sand cast or centrifugally cast iron pipe.

CONSTRUCTION REQUIREMENTS

General. Valve installation shall conform with the manufacturer’s recommendations and the following requirements:

Water Main Shutdown and Reopening. Procedures and schedules for shutting down and draining sections of existing water main (for connection or reconstruction purposes) and for opening the water main sections for use again shall be as required by the Village of Lincolnshire Water Department. The Contractor is responsible for contacting the Village Water Department and for making all necessary arrangements.

Basis of Payment. This work will be paid for at the contract unit price per each WATER MAN VALVE of the type (STANDARD, TAPPING, CUTTING-IN) which price shall include related pipe fittings, joint materials, and connection sleeves.

Auxiliary valves for hydrants will be paid for as specified in the Special Provisions for FIRE HYDRANT COMPLETE.

WATER SERVICE CONNECTION

Description. This work shall consist of constructing water service connections to new water mains and connecting existing water services to new water services.

Materials. Corporation stop shall be Mueller H-15000. Curb stop shall be Mueller H-15150. Service box shall be Mueller H-10302 with the word “WATER” on the cover. Additional materials shall be as shown in the Water Main Plans (Sheets WM-1 through WM-6) and Special Provisions.

Note: Water service line material shall be seamless Copper Water Tube, Type K, soft temper.

CONSTRUCTION REQUIREMENTS

General. Installation methods shall conform to IDOT Article 562.03 (WATER SERVICE LINE) and with the following requirements:

Connections to water main shall be at least 1-meter from pipe joints. Where two or more connections are made, they shall be at least 0.5-meters apart.
Place service box at the property (ROW) line.
Water Main Shutdown and Reopening. Procedures and schedules for shutting down and draining sections of existing water services (for connection or reconstruction purposes) and for opening the water service sections for use again shall be as required by the Village of Lincolnshire. The Contractor is responsible for contacting the Village and for making all necessary arrangements.
Connect new water service to existing water service at locations specified in the Water Main Plans (Sheets WM-1 through WM-4) after the Village of Lincolnshire approves the new water main for use.
Provide suitable restraint-type coupling when connecting to existing water service. Install per manufacturer’s recommendations.

When the contract includes information concerning the number and locations of water services to be connected to new water mains, such information represents the best knowledge of the Engineer and is included for the convenience of the bidder. Contractor shall contact Village Water Department to have water service locations marked in field. The work shall conform to the Standard Specifications for Water and Sewer Main Construction in Illinois. No additional compensation will be allowed the Contractor due to any delays or inconvenience resulting from these requirements, nor on account of any special construction methods required in prosecuting the Contractors work.

Basis of Payment. This work will be paid for at the contract unit price each for WATER SERVICE CONNECTION of the size specified, which price shall include new corporation stop, curb stop, and service box; couplings required to connect the new water service pipe to the existing pipe; and all excavation, except excavation in rock.

Water service piping will be paid for at the contract unit price as specified in IDOT Section 562 for WATER SERVICE LINE.

Excavation in rock will be paid for as specified in IDOT Article 502.15 for Rock Excavation for Structures.

VALVE VAULTS TO BE ABANDONED

Description. This work shall consist of abandoning existing water valve vaults in place.

Materials. Water main sealing materials shall be Portland Cement Concrete (IDOT Class SI) or a cast iron cap. Granular materials shall be IDOT gradation CA7. Materials shall meet the requirements of the following Article of Section 1000 – Materials:

Item	Article / Section
Portland Cement Concrete	1020
Coarse Aggregate	1004.01

CONSTRUCTION REQUIREMENTS

General. Valves, cone sections, adjustment rings, frames and castings shall be removed from existing valve vaults indicated to be abandoned on the Water Main Plans (Sheets WM-1 through WM-4). The remaining top of each valve vault shall be removed to an elevation of at least 75 millimeters below the earth subgrade of the proposed improvement.

Water shall be drained from the abandoned water main pipe and vault before capping. Exposed pipe ends shall be plugged water tight with concrete or cast iron cap. After capping the pipes, the existing vault shall be filled with granular material, placed, and compacted to the satisfaction of the Engineer.

No additional compensation will be allowed the Contractor due to any delays or inconvenience resulting from these requirements, nor on account of any special construction methods required in prosecuting the Contractors work.

If the Contractor damages any underground structure or utility that is not to be abandoned, the Contractor shall replace or repair it as required by the Engineer, and no additional compensation will be allowed.

Basis of Payment. The work of abandoning existing valve vaults will be paid for at the contract unit price each for VALVE VAULTS TO BE ABANDONED, which price shall include the cutting and capping water main pipes; draining existing water main pipes and vaults, backfilling the vault with granular material, and disposal of surplus materials.

ADJUST EXISTING WATER MAIN UNDER STORM SEWER

Description. This work shall consist of adjusting the alignment of existing water main pipes where required by the construction of new storm sewer pipes.

Materials.
Water Main Pipe – Ductile Iron Pipe, Class 52 (AWWA-C151) with bituminous seal coating and cement mortar lining (AWWA-C104) and rubber gasket, push-on joints (AWWA-C111)

Water Main Fittings – Ductile Iron Fittings (AWWA-C110 or C153) with mechanical joint connections.

Fitting Restraint Devices – as required by the Village of Lincolnshire

Connection Couplings – as required by the Village of Lincolnshire

Casing Pipe – Steel pipe (minimum yield strength 33,000 psi) with minimum wall thickness of 0.375 inches and welded joints and with inside and outside surfaces coated with a rust resistant paint.

Casing Spacers – Stainless steel shell with ribbed PVC lining, stainless steel bolts and high molecular weight polymer runner (Cascade Waterworks Mfg. Co. Model CCS or equivalent)

Casing End Seal – Rubber cone section with stainless steel connection bands (Cascade Waterworks Mfg. Co. Model CCESS or equivalent)

CONSTRUCTION REQUIREMENTS

General. The work includes providing and installing a steel casing pipe, ductile iron water main pipe, ductile iron fittings, casing/pipe spacers, casing end seal, restraint devices, connection couplings, and backfill material as indicated on sheet WM-5, Detail 8, included in the Water Main Plans and as necessary to connect the realigned water main to the existing water main. Installation methods shall conform to IDOT Section 561 and with the following requirements:

Casing Spacers. Provide casing spacers at 3-meters (or less) on-center within casing pipe. Install per manufacturer's recommendations.

End Seals. Provide rubber end seals secured in place with stainless steel bands at each casing pipe end. Install per manufacturer's recommendations.

Trench backfill. Provide non-granular (cohesive) soil backfill material compacted in place, from the casing pipe invert to the invert of the proposed storm sewer crossing above the water main.

Water Main Shutdown and Reopening. Procedures and schedules for shutting down and draining sections of existing water main (for connection or reconstruction purposes) and for opening the water main sections for use again shall be as required by the Village of Lincolnshire. The Contractor is responsible for contacting the Village and for making all necessary arrangements.

Connect new water main to existing water main at locations specified in the Water Main Plans (Sheets WM-1 through WM-4) after the Village of Lincolnshire approves the proposed water main for use.

Provide suitable restraint-type coupling when connecting to existing asbestos cement water main. Install per manufacturer's recommendations.

When the contract includes information concerning the number and locations of water mains to be adjusted, such information represents the best knowledge of the Engineer and is included for the convenience of the bidder. It shall be the Contractor's responsibility to determine the exact locations of all such installations in the field. The work shall conform to the Standard Specifications for Water and Sewer Main Construction in Illinois and IEPA regulations. No additional compensation will be allowed the Contractor due to any delays or inconvenience resulting from these requirements, nor on account of any special construction methods required in prosecuting the Contractors work.

If the Contractor damages any water main not requiring adjustment, or any other underground structure or utility, the Contractor shall replace or repair it as required by the Engineer, and no additional compensation will be allowed.

Basis of Payment. This work will be paid for at the contract unit price each for ADJUST EXISTING WATERMAIN UNDER STORM SEWER of the pipe diameter specified, which price shall include the new water main pipe and all pipe fittings; sheeting and shoring; casing spacers; rubber end seals and stainless steel bands; joint materials; the casing pipe; restraint couplings; cohesive soil backfill; making connections to existing water mains; disposal of surplus materials; the hydrostatic tests and disinfecting of the water main and all excavation, except excavation in rock.

Trench backfill will be measured for payment as specified in Article 208.03.

Excavation in rock will be paid for as specified in IDOT Article 502.15 for Rock Excavation for Structures.

WATER VALVE BOXES TO BE ABANDONED

Description. This work shall consist of abandoning existing water valve boxes.

Materials. Backfill aggregate materials shall be IDOT gradation CA7. These materials shall meet the requirements of the following Articles of Section 1000 – Materials:

Item	Article / Section
Coarse Aggregate……..	1004.01

CONSTRUCTION REQUIREMENTS

General. Abandon existing valve boxes as indicated to on the Water Main Plans (Sheets WM-1 through WM-4). The top of the valve box shall be removed to an elevation of at least 75

millimeters below the earth subgrade of the proposed improvement. The existing valve box shall be filled with granular material, placed, and compacted to the satisfaction of the Engineer.

No additional compensation will be allowed the Contractor due to any delays or inconvenience resulting from these requirements, nor on account of any special construction methods required in prosecuting the Contractors work.

If the Contractor damages any underground structure or utility that is not to be abandoned, the Contractor shall replace or repair it as required by the Engineer, and no additional compensation will be allowed.

Basis of Payment. The work of abandoning existing valve boxes will be paid for at the contract unit price each for WATER VALVE BOX TO BE ABANDONED, which price shall include backfilling box with granular material, excavation and disposal of surplus materials.

WATER MAIN REMOVAL AND SEALING

Description. This work shall consist of abandoning existing water main pipes.

Materials. Cap materials shall be Portland Cement Concrete (IDOT Class SI) or a cast iron cap. Materials shall conform to the following Article of Section 1000 – Materials:

Item	Article / Section
Portland Cement Concrete……	…..1020

CONSTRUCTION REQUIREMENTS

General. This work shall consist of the removal and sealing, as necessary or as indicated, of existing sewers and culverts and the off-site disposal of excavated pipe and structure materials.

All pipes and structures that are in the excavated portions of the work shall be removed and disposed of in a legal manner at off-site locations. The remaining portions of the existing water main pipe to be abandoned in place shall be sealed water tight with concrete or cast iron caps. Water main pipe removal is not noted on the plans, except in some instances for clarification. Any indicated sealing locations are approximate and may change in the field depending on the actual water main locations.

Water shall be drained from abandoned water main pipes before sealing. Exposed pipe ends shall be plugged water tight with concrete or cast iron cap.

This work shall be incidental to the various items of the contract work for the installation of sewers and water mains and will not be paid separately.

SPECIAL PROVISIONS

STREET LIGHTING CONSTRUCTION

VILLAGE OF BUFFALO GROVE

PREPARED BY BURNS AND McDONNELL ENGINEERING CO.

Light Pole

Description

This item shall consist of furnishing and installing the light poles as specified herein and shown on the contract drawings. This item shall include all of the internal wiring, fusing, breakaway couplings, base covers, anchor bolts, mast arm and the hardware required for final attachment to the foundation as shown in the drawings. Single Mast Arm and Twin Mast Arm (mounted at 90-degrees) poles shall be provided as detailed on the plans. Comply with Section 830 of IDOT Standard Specifications except as directed below.

Materials

The pole shall be square tapered steel as detailed on the contract drawings.

The pole shall come complete with a 1.8m (6'-0") mast arm. Both the pole and the mast arm shall be weathering steel. The pole shaft shall be 7-gauge corten. The pole shall include an internal vibration damper. The pole shaft shall be square in cross section having flat sides, radiused corners and a uniform taper of approximately 9.2mm per meter (0.11 inches per foot) of length. A handhole shall be provided 450mm (1'-6") above the base.

The pole shall come complete with frangible couplings and a full height base cover. The couplings shall be Transpo Pole-Safe Model 4000 Series (or approved equal). The base covers shall be extra deep enough to cover anchor bolts and frangible couplings. Base covers shall be made of Corten Steel and shall be provided by the pole manufacturer. The base covers shall be as detailed on the plans.

The poles shall be internally painted up to 4'-0" above the base plate with a rust inhibitor. In addition to the internal paint, the pole shall also be externally painted up to a point where the base cover covers the external paint. This information shall be clearly stated in the shop drawings.

The entire pole assembly shall be in compliance with the Village of Buffalo Grove Standard Light Pole, Type D, Exhibit Number 601, in the Village of Buffalo Grove Development Ordinance and shall be as detailed on the plans and as specified herein. The Ordinance can be obtained by calling the Village of Buffalo Grove at (847)459-2500. Light pole assembly including base covers shall be as manufactured by Funk Linko.

The pole and luminaire arm shall fit together to make a final luminaire mounting height of 10.5m (35'-0") or 12.2m (40'-0") as detailed in the plans.

A grounding nut and stud shall be provided in the base of each pole at the handhole for lug attachment. The handhole shall be gasketed to meet U.L requirements.

The pole shall meet the 1985 version of the AASHTO Specification. Minimum requirements shall be that the pole shall be able to withstand 100mph winds with a 1.3 gust factor.

Shipment

The poles shall be carefully inspected at the factory prior to shipment to assure that the poles are complete and free of defects.

When poles are stacked together, they shall be supported with suitable spacers or shall otherwise be protected from dents and other potential shipping damage. The spacing and protective materials shall be suitable for and usable in the storage of the poles.

Installation

The light pole shall be set plumb on the foundation without the use of shims, grout or any other leveling devices under the pole base. The mast arm shall be set at right angles to the centerline of the pavement. (The leveling area of the luminaire shall be set in a plane parallel to the roadway taking into consideration the upgrade or downgrade and the super-elevation of the roadway.)

This item shall be coordinated with the applicable luminaire (with pole wire and fusing), foundation, anchor bolts and breakaway devices.

Poles shall not be installed until luminaires are available for installation at the same time the poles are installed. Poles shall not be installed and left standing without a coordinated installation of the mast arm and luminaire. POLES SHALL NOT BE PAID UNLESS THE COORDINATED ASSEMBLY, INCLUDING MAST ARM(S), AND LUMINAIRE, IS COMPLETE.

Basis of Payment

This item will be paid for at the contract unit price each for LIGHT POLE, STEEL, 10.5m M.H., 1.8m MAST ARM; LIGHT POLE, STEEL, 10.5m M.H., 2-1.8m MAST ARMS; LIGHT POLE, STEEL, 12.2m M.H., 2-1.8m MAST ARMS, which shall be payment in full for furnishing, installing and performing the work described herein and as shown on the plans.

Luminaire

Description

This item shall consist of furnishing and installing a pole mounted luminaire as specified herein and shown on the contract drawings, including furnishing and installing the pole wiring, fuse holders and fusing as specified. See attached luminaire performance table for design parameters used.

Materials

(a) Luminaire, General: The luminaire shall meet the physical and photometric requirements specified herein. It shall be optically sealed, mechanically strong and easy to maintain.

All luminaires and equipment shall be new. Luminaire shall be Quality Lighting # SD-1-1327-FX2, Buffalo Grove Standard Style 4. Luminaires shall be 250W-HPS and 400W-HPS as detailed in the plans.

Luminaires and component equipment shall be the products of established manufacturers, and shall be suitable for the service required. Luminaires or component equipment items, which are similar or identical, shall be the product of the same manufacturer. The cost of submittals, certifications, any required samples, calculations and similar costs shall not be paid for extra but shall be included in this pay item bid price.

Luminaires shall bear the UL label: "HID Fixture, Suitable for Wet Locations".

(b) Housing: The housing shall be made of heavy gauge welded aluminum and ground smooth with one-piece construction providing exceptional strength and rigidity. There shall be no visible fasteners. The reflector with a lamp socket shall be mounted on a separate compartment. The ballast compartment wiring shall be isolated from the lamp section. Access to the ballast compartment shall be through a hinged door cover, secured by a ¼ turn fastener. The ballast compartment shall serve as the luminaries splice box. The luminaire shall be painted #313 Duronodic Bronze. All latches shall be aircraft type quarter turn latches with leaf spring retainers.

(c) Gasketing: When closed for operation, the optical assembly shall be sealed with a gasket against the entry of moisture, dirt, and insects. The gasket shall be a silicone-impregnated Dacron type.

(d) Reflector: The reflector shall be made of aluminum sheet and shall have a specular finish as detailed on the plans.

(e) Lens: The optically flat clear tempered glass shall be heat and impact resistant. The lens doors shall be welded extruded aluminum ground smooth and powder coated same as the fixture housing. A concealed hinge shall be mounted to the main housing.

(f) Ballast: The ballast shall be a high power factor (90% minimum). All ballasts shall provide reliable lamp starting to –20 degrees Fahrenheit. All ballast components, core and coil, capacitors and starter, shall be mounted to the main support brace.

Installation

Comply with articles 821.03 and 821.04 of the IDOT Standard Specifications.

Basis of Payment

This item will be paid for at the contract unit price each for LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 250 WATT or LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT,

400 WATT, which shall be payment in full for the material and work described herein and as shown on the plans.

Lighting Controller

Description

This item shall consist of furnishing and installing Lighting Control Cabinets complete with foundations, photocell controls, and wiring for control of street lighting as specified herein, shown on the Contract Drawings and directed by the Engineer. Two (2) Lighting Control Cabinets (#4 and #5) shall be provided as detailed in the drawings.

General Requirements

The cabinets with all electrical components and parts shall be assembled in a neat orderly fashion. All of the electrical cables shall be installed in a trim, neat, professional manner. The cables shall be trained in straight horizontal and vertical directions and be parallel, next to, and adjacent to other cables whenever possible. Each completed controller shall be UL Listed as an Industrial Control Panel under UL 508.

Cabinet

The cabinets shall be of the dimensions shown on the Plans and shall be fabricated from 3.175-mm (0.125-inch) thick aluminum alloy No. 3003-H14. The cabinets shall comply with ANSI C33.71 and UL 50. Cabinets shall be reinforced with aluminum angles. The compartment doors shall have stainless steel hinges. The door handles shall be stainless steel and shall have a minimum diameter of 12.7-mm (0.5 inches) and have a padlock provision. The cabinet doors shall have stainless steel nameplates.

The doors shall be gasketed to exclude the entry of moisture, dirt, and insects.

The equipment-mounting panels shall be made of 6.35-mm (1/4-inch) minimum non-asbestos, inorganic non-conducting and shall be drilled and tapped for front mounting of the equipment. The panels shall be easily installed and removed from the front of the cabinet. Metal mounting panels, as detailed on the drawings will be acceptable in lieu of the non-conducting panels. All cable and connections shall be in front of the panels.

All wiring and bus bars shall be of a size to handle the rated current of the connected equipment. Exposed bus bars shall be insulated, except for ground and neutral bus bars.

A linkage-arm system, of simple construction, shall be attached to the cabinet doors to secure them in a wide-open position to insure safety during field operations.

The interior compartment shall be insulated on the inside of the sides, back, top, bottom, and inside of the doors with one-inch thick polyisocyanurate rigid foam insulation board. The foam board shall have foil facers on each side. The side facing the interior of the cabinets shall have a white tinted foil facer with a satin finish. The insulation shall have a minimum aged thermal

resistance (R-value) of 8 at a 4.44° C (40° F) mean temperature. The insulation shall comply with Federal Specification HH-I-1972/1, Class 2.

Finish: The cabinets shall be cleaned before painting inside and outside with oxalic acid for 5 to 10 minutes, or as otherwise recommended by the paint manufacturer and approved by the Engineer, to etch the metal surfaces.

The cabinets shall then receive two (2) sprayed coats of white polyamide epoxy primer with a corrosion inhibitor applied inside and outside to all surfaces. The primer shall have a solids content, by volume of not less than 65% +3% and each coat shall be applied to a thickness of 0.076 mm to 0.127 mm (3-5 mils).

The interior and exterior, (all surfaces), shall then receive one (1) final coat of silicone alkyd enamel paint. The finish paint shall have a solids content, by volume, of not less than 53% +3%, and shall be applied to a thickness of 0.0038 mm to 0.064 mm (1.5 - 2.5 mils).

The color of the finish paint shall be as specified by the Owner and Engineer.

The finish shall be applied in accordance with the paint manufacturer's recommendations and the manufacturer shall certify, in writing, that the finish has been applied properly.

Submittal data submitted for approval shall address the requirement for the paint manufacturer's certification and shall include a standard, single source paint warranty by the paint manufacturer or the controller manufacturer to the Owner.

(b) Ground & Neutral Bus Bars: Separate ground and neutral bus bars shall be provided. The ground bus bar shall be copper, mounted on the equipment panel, fitted with 22 connectors of the type as shown on the plans, as a minimum. The neutral bar shall be similar. The heads of connector screws shall be painted white for neutral bar connectors and green for ground bar connectors.

(c) Circuit Breakers: All feeders, branch circuits, and auxiliary and control circuits shall have overcurrent protection. Unless otherwise indicated, the overcurrent protection shall be by means of circuit breakers.

Unless otherwise indicated, circuit breakers shall be standard UL-listed molded case, thermal-magnetic bolt-on type circuit breakers with trip-free indicating handles.

Unless otherwise indicated, circuit breakers shall have a UL-listed interrupting rating of not less than 10,000 rms symmetrical amperes at rated circuit voltage for which the breaker is applied.

The number of branch circuit breakers shall be as indicated on the Control Cabinet detail drawing or as indicated in the lighting system wiring diagram which ever is greater plus two (2) spare circuit breakers.

(d) Contactors: Unless otherwise indicated, contactors shall be electrically operated, mechanically held, with the number of poles required for the service and with operating coil voltage as indicated or otherwise required. Ampere rating of contactors shall be not less than that required for the duty shown and shall otherwise be rated as indicated.

Contactors shall be complete with a non-conducting inorganic, non-asbestos sub-panel for mounting.

Contactors shall be mechanically held and shall be complete with coil-clearing contacts to interrupt current through the coil once the contactor is held in position.

The main contactor contacts shall be the double break, silver to silver type. They shall be spring-loaded and provide a wiping action when opening and closing. The contacts shall be renewable from the front panel, self-aligning, and protected by auxiliary arcing contacts.

The line and load terminals shall be pressure type terminals of copper construction and of the proper size for the ampere rating of the contactor.

A lever for manual operation shall be incorporated in the contactor. Protection from accidental contact with current-carrying parts when operating the contactor manually shall be provided.

Unless otherwise indicated, the contactor-operating coil shall operate at 120 volts, single phase.

Unless otherwise indicated, contactors furnished under this specification shall be two-pole devices with continuous rating for 100 amperes per pole at 240 Volts AC.

Open and closed positions shall be clearly indicated and labeled in a permanent manner as approved by the Engineer.

(e) Auto/Manual Control: Unless otherwise indicated, the cabinet shall be equipped with automatic and manual operating controls via two single pole double throw switches, one being a maintained-contact manual-automatic selector switch and one being a momentary-contact manual on-off switch with a center rest position. Both switches shall be premium specification grade, rated for the applied duty but not less than 20 amperes at 240 volts and each shall be mounted in a 101.6 mm (4-inch) square box with cover.

The control circuit shall have overcurrent protection as indicated and as required by NEC requirements.

(f) Interior Lighting and Receptacle: The cabinets shall have an auxiliary device circuit at 120 volts single phase to supply a convenience receptacle and cabinet light. The auxiliary circuit shall have overcurrent protection in accordance with NEC requirements.

The cabinets shall be equipped with an interior, 60-watt incandescent lighting fixture of the enclosed-and-gasketed type, switched from a single pole, single throw, 20-ampere switch. The switch shall be premium specification grade in a suitable 101.6-mm (4-inch) box with a cover.

The cabinets shall be equipped with a 20-ampere duplex ground fault-interrupting receptacle, premium specification grade in a 101.6-mm (4-inch) square box with a cover, for 120 volt auxiliary use.

(g) Surge Arrester: The controller cabinets shall be equipped with surge arresters as detailed on the drawings. The surge arrester shall be UL-listed and be designed for main service protection.

(h) Photocell: Photocell shall be equipped with standard 3-prong NEMA locking-type plug connection suitable for mounting on luminaires with locking-type receptacle.

120V ac operation with 1000VA ballast load rating

Built-in delayed response (2 minutes min.) for preventing false switching

Photocell shall be in full compliance with ANSI C-136.1 standards and be UL listed.

Weatherproof housing fabricated from polypropylene for high impact strength.

(i) Wiring and Identification: Unless otherwise indicated, power wiring within the cabinet shall be of the size specified for the corresponding service conductors and branch circuits and shall be rated RHH/RHW, 600 volts.

Unless otherwise indicated, control and auxiliary circuit wiring shall be rated RHH/RHW or MTW with jacket, 600 volts.

Unless otherwise indicated, all power and control wiring shall be tagged with self-sticking cable markers and shall be stranded copper. If the contract drawings do not specifically indicate assigned wire designations, the manufacturer shall assign wire designations and indicate them on the shop drawings.

All switches, controls and the like shall be identified both as to function and position (as applicable) by means of engraved 2-color nameplates attached with screws, or where nameplates are not possible in the judgement of the Engineer, by the use of cloth-backed adhesive labels as approved by the Engineer.

(j) Testing of the Assembled Cabinets: Prior to shipment of the completed control cabinets, the control cabinets shall be tested for load, short circuits and complete operation of the cabinets as specified herein and shown on the plans. The test shall be made at the manufacturer's shop, by the manufacturer and shall be witnessed by the Engineer. The contractor shall arrange the test date with the Engineer and so allow not less than sever (7) days advance notice. The cabinets shall not be delivered to the job site until inspected, tested and approved for delivery by the Engineer.

(k) Foundation: The foundations shall be furnished and installed in place to the dimensions shown on the Plans, including extra pad in front of the cabinet. The top of the foundation shall extend 304.8 mm (12-inches) from the surrounding finished grade. The anchor bolts shall comply with ASTM A576. The top 152.4-mm (6-inches) of the anchor bolts shall be hot dipped galvanized steel according to ASTM 153. The nuts and lock washers and flat washers shall be galvanized also. The foundation shall include raceways of rigid plastic or as noted on the Plans.

Basis of Payment

This work will be paid for at the contract unit price each for LIGHTING CONTROLLER SPECIAL, which shall be payment in full for the controller work, complete, as specified herein.

ELECTRIC SERVICE INSTALLATION

Description

It shall be the responsibility of the Contractor to make any necessary arrangements with the utility for the installation of the service entrance cabling, transformer, metering, etc., not specifically detailed on the plans or in the special provisions.

The Contractor shall provide 120/240 VAC, 1-phase, 100 Amp service as detailed on the plans and specified herein. This item shall include furnishing of the enclosure for the metering device. The Contractor shall coordinate the installation of the meter enclosure with the cabinet manufacturer and the meter enclosure shall be painted to match with the control cabinet.

The meter shall be provided by the serving utility, Commonwealth Edison. It is the contractor's responsibility to coordinate all the installation with the utility company. Contractor shall provide all necessary conduits and cables for service connections as specified on the plans. Contractor shall coil up sufficient length of cable near the transformer for connection by utility. Contractor shall also provide the enclosure for utility meter as detailed on the plans.

Measurement and Payment

This work will be paid for at the contract unit price per each, which shall be payment in full, for the work specified herein and detailed on the plans. Payment will be made under item ELECTRIC SERVICE INSTALLATION.

ELECTRIC UTILITY SERVICE CONNECTION

Description

This item shall consist of payment for work performed by the Electric Utility Company in providing or modifying electric service as indicated. THIS MAY INVOLVE WORK AT MORE THAN ONE ELECTRIC SERVICE.

Construction Requirements

It shall be the Contractor's responsibility to contact the utility. The Contractor shall coordinate his work fully with the electric utility 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.

The Contractor should make particular note of the need for the earliest attention to arrangements with the utility for service. In the event of delay by the utility, 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 of the Contract.

Method of Payment

The Contractor will be reimbursed to the exact amount of money as billed by the Electric Utility Company 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 $12,000.00.

Basis of Payment

This work will be paid for at the contract lump sum price for ELECTRIC UTILITY SERVICE CONNECTION which shall be reimbursement in full for electric utility service charges.

LIGHT POLE BASE COVER

Description

This item shall consist of the furnishing and installation of the light pole base covers for the relocated light poles.

Proposed bolt covers shall cover the entire anchor bolt and breakaway coupling assembly. It shall be the contractor's responsibility to verify the exact size required. The bolt covers shall be Corten Steel and shall be as manufactured by Funk Linko. The base covers shall be as detailed on the plans. Existing functional bolt covers being removed shall remain the property of the Village. The Contractor shall wrap each cover individually, box and deliver to the Village as directed by the Resident Engineer. Existing damaged bolt covers shall be disposed off site.

Measurement and Payment

This work shall be paid for at the contract unit price under the item:
BASE COVER, LIGHT POLE

This price shall include all of the labor, materials and incidents necessary for the complete removal and installation of the proposed base covers.

GROUND ROD

Description

This item shall consist of furnishing and installing of the ground rod at each light pole foundation, at the 3-point ground field and in each single handhole as shown on the plans and described herein.

The ground rod shall be 19-mm diameter, 3.0 m long copper clad, complying with IDOT Standard Specification 1087.01(b).

The ground rod shall be installed as detailed on the plans. All connections to the ground rod shall be made using exothermic type connectors. See plans for exact installation and wiring requirements.

Measurement and Payment

This work shall be paid for at the contract unit price for GROUND ROD, 19MM DIA., X 3.0M which price shall include all of the labor, materials and incidents. Ground rods installed at the light pole foundations, at the ground field and at the handholes shall be paid for under this item.

UNIT DUCT

Description

This item shall consist of the furnishing and installation of Unit Duct as shown on the plans and as specified in IDOT Standard Specification Section 816.

Coilable Nonmetallic Conduit shall be 50mm (2") minimum in trade size.

Installation

Prior to splicing or terminating of the wiring within light poles, handholes or at the lighting controllers, it shall be the contractors responsibility to demonstrate to the owner and engineer that the cable/duct assembly is not damaged or kinked in any areas by pulling the cable back and forth within the Unit Duct. Once the owner and engineer have witnessed this demonstration, contractor may proceed with all splicing and terminations. Any wiring spliced or terminated prior to approval by the owner or engineer will be required to be disconnected, demonstrated to be free from damage and then spliced or terminated by the contractor at no cost to the project. Any cable/duct assembly found to be damaged or kinked in any area shall be repaired or replaced to the satisfaction of the owner and engineer at no cost to the project.

Basis of Payment

This work shall be paid for at the contract unit price per meter installed for:

UNIT DUCT, WITH 2-1/C #4 AND 1/C #8 GROUND, 600V (XLP – TYPE USE), 50mm DIA., POLYETHYLENE
UNIT DUCT, WITH 4-1/C #4 AND 2-1/C #8 GROUND, 600V (XLP – TYPE USE), 50mm DIA., POLYETHYLENE
UNIT DUCT, WITH 8-1/C #4 AND 4-1/C #8 GROUND, 600V (XLP-TYPE USE), 50mm DIA., POLYETHYLENE
UNIT DUCT, WITH 2-1/C #4, 2-1/C #8 AND 2-1/C #8 GROUND, 600V (XLP – TYPE USE), 50mm DIA., POLYETHYLENE
UNIT DUCT, WITH 2-1/C #8 AND 1/C #8 GROUND, 600V (XLP – TYPE USE), 50mm DIA., POLYETHYLENE

RESTORATION

Description

The contractor shall exercise care at all times so as to avoid damaging any existing sidewalk, driveways, curb and gutter, street pavement, yards, trees, shrubbery, signs, buildings, etc. Those items damaged by the contractor shall be repaired or replaced by the contractor (as directed by the Engineer) at no cost to the State or the Village.

Existing grass lawns shall be restored with 4 inches of topsoil and sod. All natural appurtenances shall be restored as nearly as possible to their original condition.

All rubbish and surplus material shall be disposed of promptly upon completion of each day's work. The general area shall be left in a neat and workmanlike condition. The contractor shall be responsible for maintaining all disturbed areas until final acceptance.

Measurement and Payment

The cost of restoration shall be included in the respective items in the contract and will not be paid for separately.

BREAKAWAY DEVICE

Description

This item shall consist of the furnishing and installation of the light pole breakaway device for relocated lighting units as shown on the plans and as specified in IDOT Standard Specification Section 838.

The couplings shall be Transpo Pole-Safe Model 4000 Series (or approved equal). It shall be the contractor's responsibility to verify the exact size required. Existing functional breakaway devices being removed shall be turned over to the Village as required. Existing damaged breakaway devices shall be disposed off site.

Basis of Payment

This work shall be paid for at the contract unit price under the item:
BREAKAWAY DEVICE

This price shall include all of the labor, materials and incidents necessary for the complete removal and installation of the proposed breakaway devices.

MAINTENANCE OF LIGHTING

Description

This item shall consist of work performed by the Contractor in maintaining the existing lighting levels and structural integrity of the existing lighting system.

Construction Requirements

These requirements shall serve as an addition to the IDOT Standard Specification Article 801.12. The Contractor shall ensure that existing lighting positions shall be functional at the end of the day for nighttime lighting. The lighting system is to be checked daily for proper operations before leaving the work site. The intersection of Buffalo Grove Road and Route 22 shall have four (4), dual mast arm poles with all luminaires lit during all night time lighting hours.

An initial inspection of the system shall be performed the first day of construction. Any equipment affected by the work which may be broken, missing, defective or malfunctioning shall be noted and reviewed with the Village and submitted for the record. Without a record, the system transferred to the Contractor shall be returned to the Village in complete operating condition. It is the Contractor's responsibility to visit the site to confirm the equipment and system to be maintained. The Contractor must schedule a formal transfer of maintenance from the Village, however failure to do so does not relieve the Contractor of the maintenance responsibility specified, and such failure obligates the Contractor to correct all deficiencies in the existing system at his own expense. If no inspection is performed, the transfer shall be considered to have taken place when the Contractor first begins work at the job site. At the conclusion of construction, the Contractor shall contact the Village for an inspection. Upon the Village's approval of the work, the maintenance of lighting shall be transferred back to the Village.

The Contractor shall locate and protect all existing wiring to remain. If any cable is damaged, the Contractor is to record the damage to insure that the proper repairs are made. The Contractor also must maintain the structural integrity of any foundations disturbed during this contract. It shall be the Contractor's responsibility to repair/repaint any poles that are damaged by the Contractor's fault or neglect. Repair shall be at the Contractor's own cost.

The Contractor shall respond to damage calls for all system components under the Contractor's maintenance, existing and proposed, including, but not limited to pole knockdowns, circuit outages and controller outages using immediate corrective action. The Contractor shall provide the Village with all accident and damage reports from any incidents. The contract drawings may indicate the general extent of any existing lighting, but whether indicated or not, it remains the Contractor's responsibility to ascertain the extent of effort required for compliance with these specifications and failure to do so will not be justification for extra payment or reduced responsibilities.

The Contractor shall insure that the installation is left in a safe condition, with no exposed or accessible wiring, open boxes or handholes, etc.

Measurement and Payment

This work shall be paid for at the contract lump sum price under the item:
MAINTENANCE OF LIGHTING SYSTEM

This price shall include all of the labor, materials and incidents necessary for the complete lighting system protection.

FULL-ACTUATED CONTROLLER AND CABINET (SPECIAL)
Effective: January 1, 2002

This work shall consist of furnishing and installing a(n) "Econolite" brand traffic actuated solid state digital controller in the controller cabinet of the type specified, meeting the requirements of the current District One Traffic Signal Special Provisions.

Basis of Payment. This work will be paid for at the contract unit price each for FULL-ACTUATED CONTROLLER AND CABINET (SPECIAL) of the type specified, which price shall be payment in full for furnishing and installing the controller complete including conflict monitor, load switches and flasher relays, with necessary connections for proper operation.

The type specified will indicate the type of cabinet. For example, FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL).

MASTER CONTROLLER (SPECIAL)
Effective: January 1, 2002

This work shall consist of furnishing and installing a(n) "Econolite" brand master controller, meeting the requirements of the Standard Specifications Section 860.

Basis of Payment. This work will be paid for at the contract unit price each for MASTER CONTROLLER (SPECIAL), which price shall be payment in full for furnishing and installing the master controller complete, with necessary connections for proper operation.

RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT
Effective: January 1, 2002

This item shall consist of relocating the existing emergency vehicle priority system, detector unit (single channel or dual channel) from its existing location to a new traffic signal post or mast arm assembly and pole, and connecting it to an emergency vehicle priority system, phasing unit. If the existing Emergency Vehicle Priority System, Detector Unit Assembly includes a Confirmation Beacon, the Confirmation Beacon shall also be relocated and connected to the Emergency Vehicle Priority System, Detector Unit.

The emergency vehicle system is not to be inoperative for more than 8 hours and the Contractor must notify the Municipality or Fire Protection District 72 hours prior to the disconnection of the equipment.

Basis of Payment. This item will be paid for at the contract unit price each for RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT, which price shall be payment in full for disconnecting the existing emergency vehicle priority system, detector unit and reinstalling it at a location shown on the plan or as directed by the Engineer along with

its connection to an emergency vehicle priority system, phasing unit. The relocation and connection of an existing Confirmation Beacon shall be incidental to this pay item.

TRAFFIC SIGNAL SPECIFICATIONS
Effective: January 1, 2002 Revised: May 22, 2002

These Traffic Signal Special Provisions and the "District 1 Standard Traffic Signal Design Details" supplement the requirements of the State of Illinois "Standard Specifications for Road and Bridge Construction." The intent of these Special Provisions is to prescribe the materials and construction methods commonly used for traffic signal installations. All material furnished shall be new. The locations and the details of all installations shall be as indicated on the Plans or as directed by the Engineer. The work to be done under this contract consists of furnishing and installing all traffic signal work as specified in the Plans and as specified herein in a manner acceptable and approved by the Engineer.

SECTION 720 SIGNING

MAST ARM SIGN PANELS.

Add the following to Section 720.02 of the Standard Specifications:

Signs attached to poles or posts (such as mast arm signs) shall have mounting brackets and sign channels which are equal to and completely interchangeable with those used by the District Sign Shops. Signfix Aluminum Channel Framing System is currently recommended, but other brands of mounting hardware are acceptable based upon the Department's approval.

SECTION 800 ELECTRICAL

INSPECTION OF ELECTRICAL SYSTEMS.

Add the following to Section 802.01 of the Standard Specifications:

All cabinets including temporary traffic signal cabinets shall be assembled by an approved equipment supplier in District One. The Department reserves the right to request any controller and cabinet to be tested at the equipment supplier facilities prior to field installation, at no extra cost to this contract. All railroad interconnected (including temporary railroad interconnect) controllers and cabinets shall be new, built, tested and approved by the controller equipment vendor, in the vendor's District One facility, prior to field installation. The vendor shall provide the technical equipment and assistance as required by the Engineer to fully test this equipment.

DAMAGE TO TRAFFIC SIGNAL SYSTEM.

Revise Section 802.02 of the Standard Specifications to read:

Any damaged equipment or equipment not operating properly from any cause whatsoever shall be repaired with new equipment provided by the Contractor at no additional cost to the Contract and or owner of the traffic signal system, all as approved by the Engineer. Final repairs or replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted. Cable splices outside the controller cabinet shall not be allowed.

RESTORATION OF WORK AREA.

Add to Section 802 of the Standard Specifications:

Restoration of the traffic signal work area shall be included in the related pay items such as foundation, conduit, handhole, trench and backfill, etc. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded. Restoration of the work area shall be incidental to the contract without any extra compensation allowed to the Contractor.

SUBMITTALS.

Revise Section 802.04 of the Standard Specifications to read:

The Contractor shall provide:

a. All material approval requests shall be submitted a minimum of seven (7) days prior to the delivery of equipment to the job site, or within 30 consecutive calendar days after the contract is awarded, or within 15 consecutive calendar days after the preconstruction meeting, whichever is first.
b. Seven (7) copies of a letter from the Traffic Signal Contractor listing the manufacturer's name and model numbers of the proposed equipment and stating that the proposed equipment meets all contract requirements. The letter will be reviewed by the Traffic Design Engineer to determine whether the equipment to be used is approvable. The letters will be stamped as approved or not approved accordingly and returned to the Contractor.
c. One (1) copy of material catalog cuts.
d. Seven (7) copies of mast arm poles and assemblies.
e. The contract number or permit number, project location/limits and corresponding pay code number must be on each sheet of the letter, material catalog cuts and mast arm poles and assemblies drawings as required in items b, c and d.
f. Exceptions, Deviations and Substitutions. In general, exceptions to and deviations from the requirements of the Contract Documents will not be allowed. It is the Contractor's responsibility to note any deviations from Contract requirements at the time of submittal and to make any requests for deviations in writing to the Engineer. In general, substitutions will not be acceptable. Requests for substitutions must demonstrate that the proposed substitution is superior to the material or equipment required by the Contract Documents. No exceptions, deviations or substitutions will be permitted without the approval of the Engineer.

MAINTENANCE AND RESPONSIBILITY.

Revise Section 802.07 of the Standard Specifications to read:

a) Existing traffic signal installations and/or any electrical facilities at all or various locations may be altered or reconstructed totally or partially as part of the work on this Contract. The Contractor is hereby advised that all traffic control equipment, presently installed at these locations, may be the property of the State of Illinois, Department of

Transportation, Division of Highways, County, Private Developer, or the Municipality in which they are located. Once the Contractor has begun any work on any portion of the project all traffic signals within the limits of this contract or those which have the item "Maintenance of Existing Traffic Signal Installation", “Temporary Traffic Signal Installation(s)” and/or “Maintenance of Existing Flashing Beacon Installation”, shall become the full responsibility of the Contractor. The Contractor shall supply the engineer and the Department’s Electrical Maintenance Contractor a 24-hour emergency contact name and telephone number.

b) When the project has a pay item for "Maintenance of Existing Traffic Signal Installation", “Temporary Traffic Signal Installation(s)” and/or “Maintenance of Existing Flashing Beacon Installation”, the Contractor must notify both the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4139 and the Department’s Electrical Maintenance Contractor, of their intent to begin any physical construction work on the Contract or any portion thereof. This notification must be made a minimum of seven (7) working days prior to the start of construction to allow sufficient time for inspection of the existing traffic signal installation(s) and transfer of maintenance to the Contractor. If work is started prior to an inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection. The Contractor will become responsible for repairing or replacing all equipment that is not operating properly or is damaged at no cost to the owner of the traffic signal. Final repairs or replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted.

c) Contracts such as pavement grinding or patching which result in the destruction of traffic signal loops do not require maintenance transfer, but require a notification of intent to work and an inspection. A minimum of seven (7) working days prior to the loop removal, the Contractor shall notify the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4139 and the Department’s Electrical Maintenance Contractor, at which time arrangements will be made to adjust the traffic controller timing to compensate for the absence of detection. See additional requirements in these specifications under Inductive Loop Detector.

d) The Contractor is advised that the existing and/or temporary traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shutdown the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.

e) The Contractor shall be fully responsible for the safe and efficient operation of the traffic signals. Any inquiry, complaint or request by the Department, the Department’s Electrical Maintenance Contractor or the public, shall be investigated and repairs begun within one hour. Failure to provide this service will result in liquidated damages of $500 per day per occurrence. In addition, the Department reserves the right to assign any work not completed within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these costs to the Electrical Maintenance Contractor within

one month after the incident will result in additional liquidated damages of $500 per month per occurrence. Unpaid bills will be deducted from the cost of the Contract. The District's Electrical Maintenance Contractor may inspect any signalizing device on the Department's highway system at any time without notification.

TRAFFIC SIGNAL INSPECTION (TURN-ON).

Revise Section 802.10 of the Standard Specifications to read:

It is the intent to have all electric work completed and equipment field tested by the vendor prior to the Department's "turn-on" field inspection. If in the event the Engineer determines work is not complete and the inspection will require more than two (2) hours to complete, the inspection shall be canceled and the Contractor will be required to reschedule at another date. The maintenance of the traffic signals will not be accepted until all punch list work is corrected and re-inspected.

When the road is open to traffic, except as otherwise provided in Section 850 of the Standard Specifications, the Contractor may request a turn-on and inspection of the completed traffic signal installation at each separate location. This request must be made to the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4139 a minimum of seven (7) working days prior to the time of the requested inspection. The Department will not grant a field inspection until notification is provided from the Contractor that the equipment has been field tested and the intersection is operating according to Contract requirements. The Department's facsimile number is (847) 705-4089.

The Contractor must have all traffic signal work completed and the electrical service installation connected by the utility company prior to requesting an inspection and turn-on of the traffic signal installation. The Contractor shall be responsible to provide a police officer to direct traffic at the time of testing.

The Contractor shall provide a representative from the control equipment vendor's office to attend the traffic signal inspection for both permanent and temporary traffic signal turn-ons. Upon demonstration that the signals are operating and all work is completed in accordance with the Contract and to the satisfaction of the Engineer, the Engineer will then allow the signals to be placed in continuous operation. The Agency that is responsible for the maintenance of each traffic signal installation will assume the maintenance upon successful completion of this inspection.

The District requires the following from the Contractor at traffic signal turn-ons.

1. One set of signal plans of record with field revisions marked in red ink.
2. Notification from the Contractor and the equipment vendor of satisfactory field testing.
3. A knowledgeable representative of the controller equipment supplier shall be required at the traffic signal turn-on. The representative shall be knowledgeable of the cabinet design and controller functions.
4. A copy of the approved material letter.
5. One (1) copy of the operation and service manuals of the signal controller and associated control equipment.

6. Five (5) copies (280 mm X 430 mm) 11” x 17" of the cabinet wiring diagrams.
7. The controller manufacturer shall provide a printer at the turn-on to supply a printed form, not to exceed (280 mm X 430 mm) 11” x 17” for recording the traffic signal controller’s timings; backup timings; coordination splits, offsets, and cycles; TBC Time of Day, Week and Year Programs; Traffic Responsive Program, Detector Phase Assignment, Type and Detector Switching; and any other functions programmable from the keyboard. The form shall include a location, date, manufacturer’s name, controller model and software version. The form shall be approved by the Engineer and a minimum of three (3) copies must be furnished at each turn-on. The manufacturer must provide all programming information used within the controller at the time of turn-on.

Acceptance of the traffic signal equipment by the Department shall be based upon inspection results at the traffic signal “turn on.” If approved, traffic signal acceptance shall be verbal at the “turn on” inspection followed by written correspondence from the Engineer. The Contractor shall be responsible for all traffic signal equipment and associated maintenance thereof until Departmental acceptance is granted.

All equipment and/or parts to keep the traffic signal installation operating shall be furnished by the Contractor. No spare traffic signal equipment is available from the Department.

All punch list work shall be completed within two (2) weeks after the final inspection. The Contractor shall notify the Electrical Maintenance Contractor to inspect all punch list work. Failure to meet these time constraints shall result in liquidated damage charges of $500 per month per incident.

All cost of work and materials required to comply with the above requirements shall be included in the pay item bid prices, under which the subject materials and signal equipment are paid, and no additional compensation will be allowed. Materials and signal equipment not complying with the above requirements shall be subject to removal and disposal at the Contractor's expense.

LOCATING UNDERGROUND FACILITIES.

Revise Section 803.00 to the Standard Specifications to read:

If this Contract requires the services of an Electrical Contractor, the Contractor shall be responsible at his/her own expense for locating existing IDOT electrical facilities prior to performing any work. If this Contract does not require the services of an Electrical Contractor, the Contractor may request one free locate for existing IDOT electrical facilities from the District 1 Electrical Maintenance Contractor prior to the start of any work. Additional requests may be at the expense of the Contractor. The location of underground traffic facilities does not relieve the Contractor of their responsibility to repair any facilities damaged during construction at their expense.

The exact location of all utilities shall be field verified by the Contractor before the installation of any components of the traffic signal system. For locations of utilities the local Counties or Municipalities may need to be contacted, in the City of Chicago contact D.I.G.G.E.R. at (312) 744-7000 and for all other locations contact J.U.L.I.E. at 1-800-892-0123.

ELECTRIC SERVICE INSTALLATION.

Revise Section 805.00 of the Standard Specifications to read:

Description. This work shall consist of all materials and labor required to install, modify, or extend the electric service installation. All installations shall meet the requirements of the details in the "District 1 Standard Traffic Signal Design Details" and applicable portions of the Specifications.

Materials.

a. General. The completed control panel shall be constructed in accordance with UL Std. 508, Industrial Control Panel, and carry the UL label. Wire terminations shall be UL listed.

b. Enclosures.

1. Pole Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 4X, unfinished single door design, fabricated from minimum 2.03 mm (0.080-inch) thick Type 5052 H-32 aluminum. Seams shall be continuous welded and ground smooth. Stainless steel screws and clamps shall secure the cover and assure a watertight seal. The cover shall be removable by pulling the continuous stainless steel hinge pin. The cabinet shall have an oil-resistant gasket and a lock kit shall be provided with an internal O-ring in the locking mechanism assuring a watertight and dust-tight seal. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 350 mm (14-inches) high, 225 mm (9-inches) wide and 200 mm (8-inches) in depth is required. The cabinet shall be channel mounted to a wooden utility pole using assemblies recommended by the manufacturer.

2. Ground Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 3R unfinished single door design with back panel. The cabinet shall be fabricated from Type 5052 H-32 aluminum with the frame and door 3.175 mm (0.125-inch) thick, the top 6.350 mm (0.250-inch) thick and the bottom 12.70 mm (0.500-inch) thick. Seams shall be continuous welded and ground smooth. The door and door opening shall be double flanged. The door shall be approximately 80% of the front surface, with a full length tamperproof stainless steel 1.91 mm (.075-inch) thick hinge bolted to the cabinet with stainless steel carriage bolts and nylocks nuts. The locking mechanism shall be slam-latch type with a keyhole cover. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 1000 mm (40-inches high), 400 mm (16-inches) wide and 375 mm (15-inches) in depth is required. The cabinet shall be mounted upon a square Type A concrete foundation as indicated on the plans. The foundation is paid for separately.

c. Surge Protector. Overvoltage protection, with LED indicator, shall be provided for the 120 volt load circuit by the means MOV and thermal fusing technology. The response time shall be <5n seconds and operate within a range of –40C to +85C. The surge protector shall be UL 1449 Listed.

d. Circuit Breakers. Circuit breakers shall be standard UL listed molded case, thermal-magnetic bolt-on type circuit breakers with trip free indicating handles. 120 volt circuit breakers shall have an interrupting rating of not less than 65,000 rms symmetrical amperes. Unless otherwise indicated, the main disconnect circuit breaker for the traffic signal controller shall be rated 60 amperes, otherwise noted on the plans, 120 V and the auxiliary circuit breakers shall be rated 10 amperes, 120 V.

e. Fuses, Fuseholders and Power Indicating Light. Fuses shall be small-dimensional cylindrical fuses of the dual element time-delay type. The fuses shall be rated for 600 V AC and shall have a UL listed interrupting rating of not less than 10,000 rms symmetrical amperes at rated voltage. The power indicating light shall be LED type with a green colored lens and shall be energized when electric utility power is present.

f. Ground and Neutral Bus Bars. A single copper ground and neutral bus bar, mounted on the equipment panel shall be provided. Ground and neutral conductors shall be separated on the bus bar. Compression lugs, plus 2 spare lugs, shall be sized to accommodate the cables with the heads of the connector screws painted green for ground connections and white for neutral connections.

g. Utility Services Connection. The Contractor shall notify the Utility Company marketing representative a minimum of 30 working days prior to the anticipated date of hook-up. This 30 day advance notification will begin only after the Utility Company marketing representative has received service charge payments from the Contractor. Prior to contacting the Utility Company marketing representative for service connection, the service installation controller cabinet and cable must be installed for inspection by the Utility Company.

h. Ground Rod. Ground rods shall be copper-clad steel, a minimum of 3.0 meters (10') in length, and 20mm (3/4") in diameter. Ground rod resistance measurements to ground shall be 25 ohms or less. If necessary additional rods shall be installed to meet resistance requirements at no additional cost to the contract.

Installation

a. General. The Contractor shall confirm the orientation of the traffic service installation and its door side with the engineer, prior to installation. All conduit entrances into the service installation shall be sealed with a pliable waterproof material.

b. Pole Mounted. Brackets designed for pole mounting shall be used. All mounting hardware shall be stainless steel. Mounting height shall be as noted on the plans or as directed by the Engineer.

c. Ground Mounted. The service installation shall be mounted plumb and level on the foundation and fastened to the anchor bolts with hot-dipped galvanized or stainless steel nuts and washers. The space between the bottom of the enclosure and the top of the foundation shall be caulked at the base with silicone.

Basis of Payment. The service installation shall be paid for at the contract unit price each for SERVICE INSTALLATION of the type specified which shall be payment in full for furnishing and installing the service installation complete. The type A foundation which includes the ground rod shall be paid for separately. SERVICE INSTALLATION, POLE MOUNTED shall include the 20mm (3/4") grounding conduit, ground rod, and pole mount assembly. Any changes by the utility companies shall be approved by the engineer and paid for as an addition to the contract according to Article 109.05 of the Standard Specifications.

GROUNDING OF TRAFFIC SIGNAL SYSTEMS.

Revise Section 807.00 of the Standard Specifications to read:

General. All traffic signal systems, equipment and appurtenances shall be properly grounded in strict conformance with the NEC. See IDOT District 1 Traffic Signal detail plan sheet for additional information.

The grounding electrode system shall include a ground rod installed with each traffic signal controller concrete foundation and all mast arm and post concrete foundations. An additional ground rod will be required at locations were measured resistance exceeds 25 ohms. Ground rods are included in the applicable foundation paid item and will not be paid for separately.

Testing shall be according to Section 801.11.

a) The grounded conductor (neutral conductor) shall be white color coded. This conductor shall be bonded to the equipment grounding conductor only at the Electric Service Installation. All power cables shall include one neutral conductor of the same size.

b) The equipment grounding conductor shall be green color coded. The following is in addition to Section 801.14 of the Standard Specifications.
   1) Equipment grounding conductors shall be XLP insulated No. 6, unless otherwise noted on the plans, and bonded to the grounded conductor (neutral conductor) only at the Electric Service Installation. The equipment grounding conductor is paid for separately and shall be continuous. The Earth shall not be used as the equipment grounding conductor.

   2) Equipment grounding conductor*s* shall be bonded, using a Listed grounding connector, to all traffic signal mast arm poles, traffic signal posts, pedestrian posts, pull boxes, handhole frames and covers and other metallic enclosures throughout the traffic signal wiring system, except where noted herein. A Listed electrical joint compound shall be applied to all conductors terminations, connector threads and contact points.

   3) All metallic and non-metallic raceways containing traffic signal circuit runs shall have a continuous equipment grounding conductor, except raceways containing only detector loop lead-in circuits, circuits under 50 volts and/or fiber optic cable will not be required to include an equipment grounding conductor.

c) The grounding electrode conductor shall be similar to the equipment grounding conductor in color coding (green) and size. The grounding electrode conductor is used to connect the ground rod to the equipment grounding conductor and is bonded to ground rods via exothermic welding, listed pressure connectors, listed clamps or other approved listed means.

HANDHOLES.

Add the following to Section 814.00 of the Standard Specifications:

All handholes shall be concrete, poured in place, with inside dimensions of 549 mm (21-1/2") minimum. Frames and lid openings shall match this dimension. The cover of the handhole frame shall be labeled “Traffic Signals" with legible raised letters.

For grounding purposes the handhole frame shall have provisions for a 15.875 mm (7/16”) diameter stainless bolt cast into the frame. The covers shall have a stainless steel threaded stint extended from the eye hook assembly for the purpose of attaching the grounding conductor to the handhole cover.

The minimum wall thickness for heavy duty hand holes shall be 300 mm (12 inches).

All conduits shall enter the handhole at a depth of (760 mm) 30" except for the conduits for detector loops when the handhole is less than (1.52 m) 5’ from the detector loop.

Steel cable hooks shall be coated with hot-dipped galvanization in accordance with AASHTO Specification M111. Hooks shall be a minimum of 9.525 mm (3/8”) diameter and extend into the handhole at least 150 mm (6 inches). Hooks shall be placed a minimum of 300 mm (12 inches) below the lid or lower if additional space is required.

FIBER OPTIC TRACER CABLE.

The cable shall meet the requirements of Section 817 of the "Standard Specifications," except for the following:

Add to Section 817.03 of the Standard Specifications:

In order to trace the fiber optic cable after installation, the tracer cable shall be installed in the same conduit as the fiber optic cable. The tracer cable shall be continuous, extended into the controller cabinet and terminated on a barrier type terminal strip mounted on the side wall of the controller cabinet. The barrier type terminal strip and tracer cable shall be clearly marked and identified. The tracer cable will be allowed to be spliced at the handholes only. All tracer cable splices shall be kept to a minimum and shall incorporate maximum lengths of cable supplied by the manufacturer. The tracer cable splice shall use a Western Union Splice soldered with resin core flux. All exposed surfaces of the solder shall be smooth. Splices shall be soldered using a soldering iron. Blow torches or other devices which oxidize copper cable shall not be allowed for soldering operations. The splice shall be covered with WCSMW 30/100 heat shrink tube, minimum length (100 mm) 4” and with a minimum (25 mm) 1” coverage over the XLP insulation, underwater grade.

Revise Section 817.05 of the Standard Specifications to read:

Basis of Payment: The tracer cable shall be paid for separately as ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C per (meter) foot, which price shall include all associated labor and material for installation.

GROUNDING CABLE.

The cable shall meet the requirements of Section 817 of the "Standard Specifications," except for the following:

Add to Section 817.02 (b) of the Standard Specifications:

Unless otherwise noted on the Plans, traffic signal grounding conductor shall be one conductor, #6 gauge copper, with a XLP jacket.

The traffic signal grounding conductor shall be bonded, using a Listed grounding connector (Burndy type KC/K2C, as applicable, or approved equal), to all proposed and existing traffic signal mast arm poles and traffic/pedestrian signal posts, including push button posts. The grounding conductor shall be bonded to all proposed and existing pull boxes, handhole frames and covers and other metallic enclosures throughout the traffic signal wiring system and noted herein and detailed on the plans. Bonding to existing handhole frames and covers shall be paid for separately.

Revise Section 817.05 of the Standard Specifications to read:

Basis of Payment. Grounding cable shall be measured in place for payment in (meter) foot. Payment shall be at the contract unit price for ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6, 1C, which price includes all associated labor and material including grounding clamps, splicing, exothermic welds/other Listed connectors and hardware.

RAILROAD INTERCONNECT CABLE.

The cable shall meet the requirements of Section 817 of the "Standard Specifications," except for the following:

Add to Section 817.02 of the Standard Specifications:

The cable shall be three conductor standard #14 copper cable in a clear polyester binder, shielded with #36 AWG tinned copper braid with 85% coverage, and insulated with .016” polyethylene (black, blue, red). The jacket shall be black 0.045 PVC or polyethylene.

Revise Section 817.05 of the Standard Specifications to read:

Basis of Payment. This work shall be paid for at the contract unit price per (meter) foot for ELECTRIC CABLE IN CONDUIT, RAILROAD, NO. 14 3C, which price shall be payment in full for furnishing, installing, and making all electrical connections in the traffic signal controller cabinet. Connections in the railroad controller cabinet shall be performed by railroad personnel.

MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION.

Revise Section 850.00 of the Standard Specifications to read:

The energy charges for the operation of the traffic signal installation shall be paid for by others. Full maintenance responsibility shall start as soon as the Contractor begins any physical work on the Contract or any portion thereof.

The Contractor shall have on staff electricians with IMSA Level II certification to provide signal maintenance.

This item shall include maintenance of all traffic signal equipment at the intersection, including emergency vehicle pre-emption equipment, master controllers, telephone service installations, communication cables and conduits to adjacent intersections.

The maintenance shall be according to District 1 revised Article 802.07 and the following contained herein.

The Contractor shall check all controllers every two (2) weeks, which will include visually inspecting all timing intervals, relays, detectors, and pre-emption equipment to ensure that they are functioning properly. This item includes, as routine maintenance, all portions of emergency vehicle pre-emption equipment. The Contractor shall maintain in stock at all times a sufficient amount of materials and equipment to provide effective temporary and permanent repairs.

The Contractor shall provide immediate corrective action when any part or parts of the system fail to function properly. Two far side heads facing each approach shall be considered the minimum acceptable signal operation pending permanent repairs. When repairs at a signalized intersection require that the controller be disconnected, and power is available, the Contractor shall place the traffic signal installation on flashing operation. The signals shall flash RED for all directions unless a different indication has been specified by the Engineer. The Contractor shall be required to place stop signs (R1-1-36) at each approach of the intersection as a temporary means of regulating traffic. At approaches where a yellow flashing indication is necessary, as directed by the Engineer, stop signs will not be required. The Contractor shall furnish and equip all their vehicles assigned to the maintenance of traffic signal installations with a sufficient number of stop signs as specified herein. The Contractor shall maintain a sufficient number of spare stop signs in stock at all times to replace stop signs which may be damaged or stolen.

The Contractor shall provide the Engineer with a 24 hour telephone number for the maintenance of the traffic signal installation and for emergency calls by the Engineer.

Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of these Specifications.

The Contractor shall respond to all emergency calls from the Department or others within one hour after notification and provide immediate corrective action. When equipment has been damaged or becomes faulty beyond repair, the Contractor shall replace it with new and identical equipment. The cost of furnishing and installing the replaced equipment shall be borne by the Contractor at no additional charge to the State. The Contractor may institute action to recover

damages from a responsible third party. If at any time the Contractor fails to perform all work as specified herein to keep the traffic signal installation in proper operating condition or if the Engineer cannot contact the Contractor's designated personnel, the Engineer shall have the State's Electrical Maintenance Contractor perform the maintenance work required. The State's

Electrical Maintenance Contractor shall bill the Contractor for the total cost of the work. The Contractor shall pay this bill within thirty (30) days of the date of receipt of the invoice or the cost of such work will be deducted from the amount due the Contractor. The Contractor shall allow the Electrical Maintenance Contractor to make reviews of the Existing Traffic Signal Installation that has been transferred to the Contractor for Maintenance.

Basis of Payment. This work shall be paid for at the contract unit price each for MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION.

TRAFFIC ACTUATED CONTROLLER.

Add the following to Section 857.00 of the Standard Specifications:

Controllers shall be NEMA TS2 Type 1, Econolite ASC/2S-1000 or Eagle M41 unless specified otherwise on the plans or elsewhere on these specifications. Only controllers supplied by one of the District 1 approved closed loop equipment manufacturers will be allowed. The controller shall be the most recent model and software version supplied by the manufacturer at the time of the approval. The traffic signal controller shall provide features to inhibit simultaneous display of a circular yellow ball and a yellow arrow display. Individual load switches shall be provided for each vehicle, pedestrian, and right turn over lap phase.

By December 31, 2002, the controller shall provide a background timer which will prevent phases from being skipped during program changes.

MASTER CONTROLLER.

Revise Sections 860.02 - Materials and 860.03 - Installation of the Standard Specifications to read:

Only controllers supplied by one of the District approved closed loop equipment manufacturers will be allowed. Only NEMA TS 2 Type 1 Eagle and Econolite closed loop systems shall be supplied. The latest model and software version of master controller shall be supplied.

Functional requirements in addition to those in section 863 of the Standard Specification include:

The system commands shall consist of, as a minimum, six (6) cycle lengths, five (5) offsets, three (3) splits, and four (4) special functions. The system commands shall also include commands for free or coordinated operation.

Traffic Responsive operation shall consist of the real time acquisition of system detector data, data validation, and the scaling of acquired volumes and occupancies in a deterministic fashion so as to cause the selection and implementation of the most suitable traffic plan.

Full duplex communication between the master and its local controllers is recommended, but at this time not required. The data rate shall be 1200 baud minimum.

The cabinet shall be provided with a Siecor CAC 3000, or equivalent, Outdoor Network Interface for termination of the telephone service. It shall be mounted to the inside of the cabinet in a location suitable to provide access for termination of the telephone service at a later date. The CAC 3000 shall be equipped with a standard Three-Electrode Heavy Duty Gas Tube Surge Arrestor.

The cabinet shall provide a caller identification unit with 50 number memory.

The cabinet shall be equipped with a 9600 baud, auto dial/auto answer, modem. It shall be a US robotics 33.6K baud rate or equal.

Each master shall be delivered with up to three (3) complete sets of the latest edition of registered remote monitoring software with full manufacture's support. Each set shall consist of software on suitable media (CD, 3 1/2" or 5 1/4" floppy disks as requested by the Engineer), and a bound set of manuals containing loading and operating instruction. One copy of the software and support data shall be delivered to the Agency in charge of system operation, if other than IDOT. One of these two sets will be provided to the Agency Signal Maintenance Contractor for his use in monitoring the system.

The Contractor shall be required to setup graphic displays and all software parameters for every intersection to be interconnected under this Contract, including complete viewing and control capabilities from IDOT remote monitor.

The approved manufacturer of equipment shall loan the District one master controller and two intersection controllers of the most recent models and the newest software version to be used for instructional purposes in addition to the equipment to be supplied for the Contract.

The Contractor shall arrange to install a standard voice-grade dial-up telephone line to the master controller. This shall be accomplished through the following process utilizing District 1 staff.

As soon as practical or within one week after the contract has been awarded, the Contractor shall contact (via phone) the Administrative Support Manager in the District 1 Business Services Section at (847) 705-4011 to request a phone line installation.

A follow-up fax transmittal to the Administrative Support Manager (847-705-4712) with all required information pertaining to the phone installation is required from the Contractor as soon as possible or within one week after the initial request has been made. A copy of this fax transmittal must also be faxed by the Contractor to the Traffic Signal Systems Engineer at (847) 705-4089. The required information to be supplied on the fax shall include (but not limited to): A street address for the new traffic signal controller (or nearby address); a nearby existing telephone number; what type of telephone service is needed; the name and number of the Contractor's employee for the telephone company to contact regarding site work and questions.

The usual time frame for the activation of the phone line is 4-6 weeks after the Business Services Section has received the Contractor supplied fax. It is, therefore, imperative that the phone line conduit and pull-string be installed by the Contractor in anticipation of this time frame. On jobs which include roadway widening in which the conduit cannot be installed until this widening is completed, the Contractor will be allowed to delay the phone line installation request to the Business Services Section until a point in time that is 4-6 weeks prior to the anticipated completion of the traffic signal work. The contractor shall provide the Administrative Support Manager with an expected installation date considering the 4-6 week processing time.

The telephone line shall be installed and activated one month before the system final inspection.

All costs associated with the telephone line installation and activation (not including the Contract specified conduit installation between the point of telephone service and the traffic signal controller cabinet) shall be paid for by the District One Business Services Section (i.e., this will be an IDOT phone number not a Contractor phone number).

FIBER OPTIC CABLE.

Revise Section 871.00 of the Standard Specifications to read:

This work shall consist of furnishing and installing Fiber Optical cable in conduit with all accessories and connectors according to Section 871 of the Standard Specifications. The cable shall be of the type, size, and the number of fiber specified.

The control cabinet distribution enclosure shall be 3M Model 8173 or an approved equivalent. The fiber optic cable shall provide six fibers per tube for the amount of fibers called for in the Fiber Optic Cable pay item in the Contract. A minimum of six multimode fibers from each cable shall be terminated with approved mechanical connectors at the distribution enclosure. Fibers not being used shall be labeled “spare." Fibers not attached to the distribution enclosure shall be capped and sealed. A minimum of (4m) 13.0’ of slack cable shall be provided for the controller cabinet. The controller cabinet slack cable shall be stored as directed by the Engineer.

Fiber Optic cable may be gel filled or an approved water blocking tape.

Basis of Payment. The work shall be paid for at the contract unit price for FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F, per (meter) foot for the cable in place, including distribution enclosure and all connectors.

CONCRETE FOUNDATIONS.

Add the following to Section 878.03 of the Standard Specifications:

All anchor bolts shall be according to Section 1006.09, except all anchor bolts shall be hot dipped galvanized the full length of the anchor bolt including the hook.

Concrete Foundations, Type "A" for Traffic Signal Posts shall provide anchor bolts with the bolt pattern specified within the "District 1 Standard Traffic Signal Design Details." All Type “A" foundations shall be a minimum depth of 1.22 m (48”).

Concrete Foundations, Type “D" for Traffic Signal Cabinets shall be a minimum of 1.22 m (48”) long and 790 mm (31”) wide. All Type "D” foundations shall be a minimum depth of 1.22 m (48”). The concrete apron shall be 910 mm X 1220 mm X 130 mm (36”x48”x5”). Anchor bolts shall provide bolt spacing as required by the manufacturer.
Concrete Foundations, Type "E" for Mast Arm and Combination Mast Arm Poles shall meet the following requirements:

DESIGN TABLE FOR 750 mm (30-INCH) DIAMETER FOUNDATION
FOR ALL MAST ARMS 4.26M (14 FEET) TO 16.76M (55 FEET)
AND ALL COMBINATION POLES (DESIGN DEPTH IS 4.57 m [15 FEET])

	TYPE OF SOIL DESCRIPTION	DESIGN DEPTH OF FOUNDATION		TYPE OF SOIL DESCRIPTION	DESIGN DEPTH OF FOUNDATION
1.	SOFT CLAY	5.33 m(17’ – 6”)	*4.	LOOSE SAND	3.05 m(10’ – 0”)
2.	MEDIUM CLAY	3.81 m(12' – 6”)	*5.	MEDIUM SAND	2.74 m(9' – 0”)
3.	STIFF CLAY	2.59 m(8’ – 6”)	*6.	DENSE SAND	2.44 m(8' – 0”)

* WATER TABLE ASSUMED BELOW DEPTHS SPECIFIED

No foundation is to be poured until the Resident Engineer gives his/her approval as to the depth of the foundation. Foundations used for Roadway Lighting shall provide an extra 65 mm (2-1/2 inch) duct.

DETECTOR LOOP.

Revise Section 886 of the Standard Specifications to read:

A minimum of seven (7) working days prior to the Contractor cutting loops, the Contractor shall have the proposed loop locations marked and contact the Area Traffic Signal Maintenance and Operations Engineer (847) 705-4139 to inspect and approve the layout. When preformed detector loops are installed, the Contractor shall have them inspected and approved prior to the pouring of the portland cement concrete surface, using the same notification process as above.

Loop detectors shall be installed according to the requirements of the “District 1 Standard Traffic Signal Design Details”. Saw-cuts (homeruns on preformed detector loops) from the loop to the edge of pavement shall be made perpendicular to the edge of pavement when possible in order to minimize the length of the saw-cut (homerun on preformed detector loops) unless directed otherwise by the Engineer or as shown on the plan.

The detector loop cable insulation shall be labeled with the cable specifications.

Each loop detector lead-in wire shall be labeled in the handhole using a Panduit 250W175C water proof tag, or an approved equal, secured to each wire with nylon ties.

Resistance to ground shall be a minimum of 100 mega-ohms under any conditions of weather or moisture. Inductance shall be more than 50 and less than 700 microhenries. Quality readings shall be more than 5.

(a) Type I. All loops installed in new asphalt pavement shall be installed in the binder course and not in the surface course. The edge of pavement, curb and handhole shall be cut with a 6.3 mm (1/4") deep x 100 mm (4") saw cut to mark location of each loop lead-in.

Loop sealant shall be a two-component thixotropic chemically cured polyurethane either Chemque Q-Seal 295, Percol Elastic Cement A/C Grade or an approved equal. The sealant shall be installed 3 mm (1/8") below the pavement surface, if installed above the surface the overlap shall be removed immediately.

Detector loop measurements shall include the saw cut and the length of the loop lead-in to the edge of pavement. The lead-in wire, including all necessary connections for proper operations, from the edge of pavement to the handhole, shall be incidental to the price of the detector loop. Unit duct, trench and backfill, and drilling of pavement or handholes shall be incidental to detector loop quantities.

(b) Preformed. This work shall consist of furnishing and installing a rubberized heat resistant preformed traffic signal loop in accordance with the Standard Specifications, except for the following:

Preformed detector loops shall be installed in new pavement constructed of portland cement concrete using mounting chairs or tied to re-bar or the preformed detector loops may be placed in the sub-base. Loop lead-ins shall be protected to the satisfaction of the Engineer.

Handholes shall be placed next to the shoulder or back of curb when preformed detector loops enter the handhole.

Preformed detector loops shall be factory assembled. Homeruns and interconnects shall be pre-wired and shall be an integral part of the loop assembly. The loop configurations and homerun lengths shall be assembled for the specific application. The loop and homerun shall be constructed using 17.2 mm (11/16") outside diameter (minimum), 9.5 mm (3/8") inside diameter (minimum) Class A oil resistant synthetic cord reinforced hydraulic hose with 1,720 kPa (250 psi) internal pressure rating. Hose for the loop and homerun assembly shall be one continuous piece. No joints or splices shall be allowed in the hose except where necessary to connect homeruns or interconnects to the loops. This will provide maximum wire protection and loop system strength. Hose tee connections shall be heavy duty high temperature synthetic rubber. The tee shall be of proper size to attach directly to the hose, minimizing glue joints. The tee shall have the same flexible properties as the hose to insure that the whole assembly can conform to pavement movement and shifting without cracking or breaking. The wire used shall be #16 THWN stranded copper. The number of turns in the loop shall be application specific. Homerun wire pairs shall be twisted a minimum of four turns per foot. No wire splices will be allowed in the preformed loop assembly. The loop and homeruns shall be filled and sealed with a flexible sealant to insure complete moisture blockage and further protect the wire.

Basis of Payment. This work shall be paid for at the contract unit price per meter (foot) for DETECTOR LOOP, TYPE I or PREFORMED DETECTOR LOOP as specified in the plans, which price shall be payment in full for furnishing and installing the detector loop and all related connections for proper operation.

EMERGENCY VEHICLE PRIORITY SYSTEM.

Revise Section 887.00 of the Standard Specifications to read:

It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle pre-emption equipment to be installed prior to the contract bidding. The equipment must be completely compatible with all components of the equipment currently in use by the Agency.

All new installations shall be equipped with Confirmation Beacons as shown on the "District 1 Standard Traffic Signal Design Details." The Confirmation Beacon shall consist of a 150 watt Par 38 flood lamp for each direction of pre-emption. The lamp shall have an adjustable mount with a weatherproof enclosure for cable splicing. All hardware shall be cast aluminum or stainless steel. Holes drilled into signal poles, mast arms, or posts shall require rubber grommets. In order to maintain uniformity between communities, the confirmation beacons shall indicate when the control equipment receives the pre-emption signal. The pre-emption movement shall be signalized by a flashing indication at the rate specified by Section 4E-5 of the "Manual On Uniform Traffic Control Devices." The stopped pre-empted movements shall be signalized by a continuous indication.

All light operated systems shall operate at a uniform rate of 14.035 Hz ±0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the District.

Basis of Payment. The work shall be paid for at the contract unit price each for furnishing and installing LIGHT DETECTOR and LIGHT DETECTOR AMPLIFIER. Furnishing and installing the confirmation beacon shall be incidental to the cost of the Light Detector. The preemption detector amplifier shall be paid for on a basis of (1) one each per intersection controller and shall provide operation for all movements required in the pre-emption phase sequence.

TEMPORARY TRAFFIC SIGNAL INSTALLATION.

Revise Section 890.00 of the Standard Specifications to read:

Only an approved equipment vendor will be allowed to assemble the temporary traffic signal cabinet. Also, an approved equipment vendor shall assemble and test a temporary railroad traffic signal cabinet. (Refer to the "Inspection of Controller and Cabinet" specification). A representative of the approved control equipment vendor shall be present at the temporary traffic signal turn-on inspection.

Only controllers supplied by one of the District approved closed loop equipment manufacturers will be approved for use at temporary signal locations. All controllers used for temporary traffic

signals shall be fully actuated NEMA microprocessor based with RS232 data entry ports compatible with existing monitoring software approved by IDOT District 1, installed in NEMA TS1 or TS2 cabinets with 8 phase back panels, capable of supplying 255 seconds of cycle length and individual phase length settings up to 99 seconds. On projects with one lane open and two way traffic flow, such as bridge deck repairs, the temporary signal controller shall be capable of providing an adjustable all red clearance setting of up to 30 seconds in length. All controllers used for temporary traffic signals shall meet or exceed the requirements of Section 857 of the Standard Specifications with regards to internal time base coordination and preemption.

All temporary traffic signal cabinets shall have a closed bottom made of aluminum alloy. The bottom shall be sealed along the entire perimeter of the cabinet base to ensure a water, dust and insect-proof seal. The bottom shall provide a minimum of two (2) 100 mm (4 inch) diameter holes to run the electric cables through. The 100 mm (4 inch) diameter holes shall have a bushing installed to protect the electric cables and shall be sealed after the electric cables are installed.

Grounding shall be provided for the temporary traffic signal cabinet meeting or exceeding the applicable portions of the National Electrical Code, Section 807 of the Standard Specifications and shall meet the requirements of the District 1 Traffic Signal Specifications for “Grounding of Traffic Signal Systems”.

All traffic signal sections and pedestrian signal sections shall be 300 mm (12 inches). The temporary traffic signal heads shall be placed as indicated on the temporary traffic signal plan or as directed by the Engineer. The Contractor shall furnish enough cable slack to relocate heads to any position on the span wire or at locations illustrated on the plans for construction staging. The temporary traffic signal shall remain in operation during all signal head relocations. Each temporary traffic signal head shall have its own cable from the controller cabinet to the signal head.

The existing system interconnect is to be maintained as part of the Temporary Traffic Signal Installation specified for on the plan. The interconnect shall be installed into the temporary controller cabinet as per the notes or details on the plans. All labor and equipment required to install and maintain the existing interconnect as part of the Temporary Traffic Signal Installation shall be incidental to the item Temporary Traffic Signal Installation.

All emergency vehicle preemption equipment (light detectors, light detector amplifiers, confirmation beacons, etc.) as shown on the temporary traffic signal plans shall be provided by the Contractor. It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle preemption equipment to be installed prior to the contract bidding. The equipment must be completely compatible with all components of the equipment currently in use by the Agency. All light operated systems shall operate at a uniform rate of 14.035 hz ±0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the District. All labor and material required to install and maintain the Emergency Vehicle Preemption installation shall be incidental to the item Temporary Traffic Signal Installation.

All temporary traffic signal installations shall have vehicular detection installed as shown on the plans or as directed by the Engineer. Pedestrian push buttons shall be provided for all

pedestrian signal heads/phases as shown on the plans or as directed by the Engineer. Minor cross streets shall have vehicular detection provided by Microwave Vehicle Sensors or Video Vehicle Detection System as shown on the plans or as directed by the Engineer. The microwave vehicle sensor or video vehicle detection system shall be approved by IDOT before furnishing and installing. The Contractor shall install, wire, and adjust the alignment of the microwave vehicle sensor or video vehicle detection system in accordance to the manufacturer's recommendations and requirements. The Contractor shall be responsible for adjusting the alignment of the microwave vehicle sensor or video vehicle detection system for all construction staging changes and for maintaining proper alignment throughout the project. A representative of the approved control equipment vendor shall be present and assist the contractor in setting up and maintaining the microwave vehicle sensor or video vehicle detection system.

All existing street name and intersection regulatory signs shall be removed from existing poles and relocated to the temporary signal span wire. If new mast arm assembly and pole(s) and posts are specified for the permanent signals, the signs shall be relocated to the new equipment at no extra cost.

The energy charges for the operation of the traffic signal installation shall be paid for by others if the installation replaces an existing signal. Otherwise charges shall be paid for under 109.05 of the Standard Specifications.

All control equipment for the temporary traffic signal(s) shall be furnished by the Contractor unless otherwise stated in the plans. On projects with multiple temporary traffic signal installations, all controllers shall be the same manufacturer brand and model number with current software installed.

Maintenance shall meet the requirements of the Traffic Specifications and District Specifications for "Maintenance of Existing Traffic Signal Installation." Maintenance of temporary signals and of the existing signals shall be incidental to the cost of this item. When temporary traffic signals are to be installed at locations where existing signals are presently operating, the Contractor shall be fully responsible for the maintenance of the existing signal installation as soon as he begins any physical work on the Contract or any portion thereof. Maintenance responsibility of the existing signals shall be incidental to the item Temporary Traffic Signal Installation(s). In addition, a minimum of seven (7) days prior to assuming maintenance of the existing traffic signal installation(s) under this Contract, the Contractor shall request that the Resident Engineer contact the Bureau of Traffic (847) 705-4139 for an inspection of the installation(s).

Temporary Traffic Signals for bridge projects shall follow the State Standards, Standard Specifications, District 1 Traffic Signal Specifications and any plans for Bridge Temporary Traffic Signals included in the plans. The installation shall meet the above requirements for "Temporary Traffic Signal Installation". In addition all electric cable shall be aerially suspended, at a minimum height of 5.5m (18 feet), on temporary wood poles (Class 5 or better) of 13.7 m (45 feet), minimum height. The signal heads shall be span wire mounted or bracket mounted to the wood pole or as directed by the Engineer. The Controller cabinet shall be mounted to the wood pole or as directed by the Engineer. Microwave vehicle sensors or video vehicle detection may be used in place of the detector loops as approved by the Engineer.

Basis of Payment: This work shall be paid for at the contract unit price each for TEMPORARY TRAFFIC SIGNAL INSTALLATION. The price of which shall include all costs for the modifications required for traffic staging, changes in signal phasing as required in the Contract plans, microwave vehicle sensors, video vehicle detection system, any maintenance or adjustment to the microwave vehicle sensors/video vehicle detection system, all material required, the installation and complete removal of the temporary traffic signal.

REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT.

Add the following to Section 895.05 of the Standard Specifications:

The traffic signal equipment which is to be removed and is to become the property of the Contractor shall be disposed of by them outside the right-of-way at their expense.

All equipment to be returned to the State shall be delivered by the Contractor to the State's Traffic Signal Maintenance Contractor's main facility. The Contractor shall contact the State's Electrical Maintenance Contractor to schedule an appointment to deliver the equipment. No equipment will be accepted without a prior appointment. All equipment shall be delivered within 30 days of removing it from the traffic signal installation. The Contractor shall provide 5 copies of a list of equipment that is to remain the property of the State, including model and serial numbers, where applicable. He shall also provide a copy of the Contract plan or special provision showing the quantities and type of equipment. Controllers and peripheral equipment from the same location shall be boxed together (equipment from different locations may not be mixed) and all boxes and controller cabinets shall be clearly marked or labeled with the location from which they were removed. If equipment is not returned with these requirements, it will be rejected by the State's Electrical Maintenance Contractor. The Contractor shall be responsible for the condition of the traffic signal equipment from the time he takes maintenance of the signal installation until the acceptance of a receipt drawn by the State's Electrical Maintenance Contractor indicating the items have been returned in good condition.

The Contractor shall safely store and arrange for pick up of all equipment to be returned to agencies other than the State. The Contractor shall package the equipment and provide all necessary documentation as stated above.

Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of these Specifications.

SECTION 1000 MATERIALS

PEDESTRIAN PUSH-BUTTON.

Add the following to Section 1074.02 (b) and (d) of the Standard Specifications to read:

(b) Push-button assemblies shall be a cast aluminum alloy Pelco Push-button station, or an approved equivalent.
(d) The assembly shall provide ADA push-buttons with one of the following signs: SF-1017, 1018 or 1020 - 5" x 7¾" (127 mm x 197 mm).

CONTROLLER CABINET AND PERIPHERAL EQUIPMENT.

Revise Section 1074.03 of the Standard Specifications to read:

Cabinets shall be designed for NEMA TS2 Type 1 operation. All cabinets shall be pre-wired for a minimum of eight (8) phases of vehicular, four (4) phases of pedestrian and four (4) phases of overlap operation.

- Cabinets – Provide 1/8" (3.2 mm) thick unpainted aluminum alloy 5052-H32. The surface shall be smooth, free of marks and scratches. All external hardware shall be stainless steel.
- Controller Harness – Provide a TS2 Type 2 “A” wired harness in addition to the TS2 Type 1 harness.
- BIU – Containment screw required.
- Transfer Relays – Solid state or mechanical flash relays are acceptable.
- Switch Guards – All switches shall be guarded.
- Heating – Two (2) porcelain light receptacles with cage protection controlled by both a wall switch and a thermostat.
- Plan & Wiring Diagrams – 12” x 16” (3.05mm x 4.06mm) moisture sealed container attached to door.
- Detector Racks – Fully wired and labeled for four (4) channels of emergency vehicle pre-emption and sixteen channel (16) of vehicular operation.
- Field Wiring Labels – All field wiring shall be labeled.
- Field Wiring Termination – Approved channel lugs required.
- Power Panel – Provide a nonconductive shield.
- Circuit Breaker – The circuit breaker shall be sized for the proposed load but shall not be rated less than 30 amps.
- Police Door – Provide wiring and termination for plug in manual phase advance switch.
- Railroad Pre-Emption Test Switch – Eaton 8830K13 SHA 1250 or equivalent.

ELECTRIC CABLE.

Delete “or stranded, and No. 12 or” from the last sentence of Section 1076.04 (a) of the Standard Specifications.

MAST ARM ASSEMBLY AND POLE.

Add the following to Section 1077.03 (a) of the Standard Specifications:

Traffic signal mast arms shall be one piece construction, unless otherwise approved by the Engineer. All poles shall be galvanized. If the Department approves painting, powder coating by the manufacturer will be required over the galvanization.

This work shall consist of furnishing and installing a galvanized steel or extruded aluminum shroud for protection of the mast arm pole base plate similar to the dimensions detailed in the "District 1 Standard Traffic Signal Design Details." The shroud shall be of sufficient strength to deter pedestrian and vehicular damage. The shroud shall allow air to circulate throughout the mast arm but not allow manifestation of insects or critters. The shroud shall be constructed, installed and designed not to be hazardous to probing fingers and feet. All mounting hardware shall be stainless steel. The shroud shall not be paid for separately but shall be included in the cost of the mast arm assembly and pole.

TRAFFIC SIGNAL POST.

Add the following to Section 1077.03 (b) of the Standard Specifications:

All posts and bases shall be steel and hot dipped galvanized. If the Department approves painting, powder coating by the manufacturer will be required over the galvanization.

SIGNAL HEADS.

Add the following to Section 1078 of the Standard Specifications to read:

All signal and pedestrian heads shall provide 12” (300 mm) displays with glossy yellow or black polycarbonate housings. All head housings shall be the same color (yellow or black) at the intersection. For new signalized intersections and existing signalized intersections where all signal and/or pedestrian heads are being replaced, the proposed head housings shall be black. Where only selected heads are being replaced, the proposed head housing color (yellow or black) shall match existing head housings. Connecting hardware and mounting brackets shall be polycarbonate (black) or galvanized. A corrosive resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on. Post top mounting collars are required on all posts, and shall be constructed of the same material as the brackets.

Pedestrian signal heads shall be furnished with the international symbolic "Walking Person" and "Upraised Palm" lenses. Egg crate sun shields are not permitted.

Signal heads shall be positioned according to the “District 1 Standard Traffic Signal Design Details."

SIGNAL HEAD, BACKPLATE.

Delete 1st sentence of 1078.03 of the Standard Specifications and add “All backplates shall be aluminum and louvered”.

INDUCTIVE LOOP DETECTOR.

Add the following to Section 1079.01 of the Standard Specifications:

Contracts requiring new cabinets shall provide for card mounted detector amplifiers. Loop amplifiers shall provide LCD displays with loop frequency, inductance, and change of inductance readings.

ILLUMINATED SIGN, LIGHT EMITTING DIODE.

Description. This work shall consist of furnishing and installing an illuminated sign with light emitting diodes.

General. The light emitting diode (LED) blank out signs shall be manufactured by National Sign & Signal Company, or an approved equal and consist of a weatherproof housing and door, LEDs and transformers.

Display. The LED blank out sign shall provide the correct symbol and color for “NO LEFT TURN" OR “NO RIGHT TURN" indicated in accordance with the requirements of the "Manual on Uniform Traffic Control Devices". The message shall be formed by rows of LEDs.

The message shall be clearly legible. The message shall be highly visible, anywhere and under any lighting conditions, within a 15 degree cone centered about the optic axis.
The sign face shall be 24 inches (600 mm) by 24 inches (600 mm). The sign face shall be completely illegible when not illuminated. No symbol shall be seen under any ambient light condition when not illuminated.

All LEDs shall be T-1 ¾ (5mm) and have an expected lamplife of 100,000 hours. Operating wavelengths will be Red-626nm, Amber-590nm, and Bluish/Green-505nm. Transformers shall be rated for the line voltage with Class A insulation and weatherproofing. The sign shall be designed for operation over a range of temperatures from –35F to +165 F (-37C to +75C).

The LED module shall include the message plate, high intensity LEDs and LED drive electronics. Door panels shall be flat black and electrical connections shall be made via barrier-type terminal strip. All fasteners and hardware shall be corrosion resistant stainless steel.

Housing. The housing shall be constructed of extruded aluminum. All corners and seams shall be heli-arc welded to provide a weatherproof seal around the entire case. Hinges shall be continuous full-length stainless steel. Signs shall have stainless steel hardware and provide tool free access to the interior of the sign. Doors shall be 0.125-inch thick extruded aluminum with a 3/16-inch x 1-inch neoprene gasket and sun hood. The sign face shall have a polycarbonate, matte clear, lexan face plate. Drainage shall be provided by four drain holes at the corners of the housing. The finish on the sign housing shall include two coats of exterior enamel applied after the surface is acid-etched and primed with zinc-chromate primer.

Mounting hardware shall be black polycarbonate or galvanized steel and similar to mounting Signal Head hardware and brackets specified herein.

Basis of Payment. This work shall be paid for at the unit price each for ILLUMINATED SIGN, L.E.D.

GROUNDING EXISTING HANDHOLE FRAME AND COVER.

Description. This work shall consist of all materials and labor required to bond the equipment grounding conductor to the existing handhole frame and handhole cover. All installations shall meet the requirements of the details in the "District 1 Standard Traffic Signal Design Details" and applicable portions of the Specifications.

The equipment grounding conductor shall be bonded to the handhole frame and to the handhole cover. Two (2) ½-inch diameter x 1 ¼-inch long hex-head stainless steel bolts, spaced 1.75-inches apart center-to-center shall be fully welded to the frame and to the cover to accommodate a heavy duty Listed grounding compression terminal (Burndy type YGHA or approved equal). The grounding compression terminal shall be secured to the bolts with stainless steel split-lock washers and nylon-insert locknuts.

Welding preparation for the stainless steel bolt hex-head to the frame and to the cover shall include thoroughly cleaning the contact and weldment area of all rust, dirt and contaminates. The Contractor shall assure a solid strong weld. The welds shall be smooth and thoroughly cleaned of flux and spatter. The grounding installation shall not affect the proper seating of the cover when closed.

The grounding cable shall be paid for separately.

Method of Measurement. Units measured for payment will be counted on a per handhole basis, regardless of the type of handhole and its location.

Basis of Payment. This work shall be paid for at the contract unit price each for GROUNDING EXISTING HANDHOLE FRAME AND COVER which shall be payment in full for grounding the handhole complete.

RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM

This work shall consist of providing a revised Signal Coordination and Timing (SCAT) Report and implementing optimized timings to an existing previously optimized closed loop traffic signal system. This work is required due to the addition of a signalized intersection to an existing system or a modification of an existing signalized intersection which affects the quality of an existing system's operation. MAINTENANCE OF THE SUBJECT INTERSECTION SHALL NOT BE ACCEPTED BY THE DEPARTMENT UNTIL THIS WORK IS COMPLETED.

After the new signalized intersection is added or the existing signal is modified, the traffic signal system shall be re-optimized by an approved Consultant who has previous experience in optimizing Closed Loop Traffic Signal Systems for District 1 of the Illinois Department of Transportation. The Contractor shall contact the Area Traffic Signal Operations Engineer at (708) 705-4139 for a listing of approved Consultants.

A listing of existing signal equipment, interconnect information and existing phasing/timing patterns may be obtained from the Department if available and as appropriate. The existing SCAT Report is available for review at the District One office and if the Consultant provides blank floppy disks, copies containing software runs for the existing optimized system and a timing database that includes intersection displays will be made for the Consultant. The Consultant shall consult with the Area Traffic Signal Operations Engineer prior to optimizing the system to determine if any extraordinary conditions exist that would affect traffic flows in the vicinity of the system; in which case, the Consultant may be instructed to wait until the conditions return to normal or to follow specific instructions regarding the re-optimization.

Traffic counts shall be taken at the subject intersection a minimum of 30 days after the traffic signals are approved for operation by the Area Traffic signal Operations Engineer. Seven day/twenty-four hour automatic traffic recorder counts will be required and manual turning movement counts shall be conducted from 6:30 a.m. to 9:30 a.m., 11:00 a.m. to 1:00 p.m. and 3:30 p.m. to 6:30 p.m. on typical weekday from midday Monday to midday Friday, and if necessary, on the weekend. Additional manual turning movement counts may be necessary if heavy traffic flows exist during off peak hours. The turning movement counts shall identify cars, heavy vehicles, buses, and pedestrian movements.

A Capacity Analysis shall be conducted at the subject intersection to determine its level of service and degree of saturation. Appropriate signal timings shall be developed for the subject intersection and existing timings shall be utilized for the rest of the intersections in the system with minor adjustments if necessary. Changes to the cycle lengths and offsets for the entire system may be required due to the addition/modification of the subject intersection. Both volume and occupancy shall be considered when developing the re-optimized timing program. Signal system optimization analyses shall be conducted utilizing SYNCHRO, PASSER II, TRANSYT 7F, SIGNAL 2000 or other appropriate approved computer software.

If the system is being re-optimized due to the addition of a signalized intersection, all the intersections shall be re-addressed according to the current standard of District One. The proposed signal timing plan shall be forwarded to IDOT for review prior to implementation. The timing plan shall include a traffic responsive program and a time-of-day program which may be used as a back-up system. After downloading the system timings, the Consultant shall make fine tuning adjustments to the timing in the field to alleviate observed adverse operating conditions and to enhance operations.

The Consultant shall furnish to IDOT an original and two copies of the revised SCAT Report for the re-optimized system. The report shall contain the following: turning movement and automatic traffic recorder counts, capacity analyses for each count period, computer optimization analysis for each count period, proposed implementation plans and summaries including system description, analysis methodology, method of effectiveness comparison results and special recommendations and/or observations. The new report shall follow the format of the old report and shall incorporate all data from the old report which remains unchanged. Copies of the entire database including intersection displays and any other displays which the system software allows shall be furnished to IDOT and to IDOT's Traffic Signal Maintenance Contractor.

Basis of Payment. This work shall be paid for at the contract unit price per lump sum for RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM, which price shall be payment in full for performing all work described herein.

UNIT DUCT

All installations of Unit Duct shall be incidental to the contract and not paid for separately. Polyethylene unit duct shall be used for detector loop raceways to the handholes. On temporary traffic signal installations with detector loops, polyethylene unit duct shall be used for detector loop raceways from the saw-cut to (3 m) 10' up the wood pole, unless otherwise shown on the plans. Unit duct shall meet the requirements of NEC Article 343.

SIGNAL HEAD, LIGHT EMITTING DIODE.

a) General:

1) Signal Head, Light Emitting Diode (LED), 1 Face, (All Section Quantities), (All Mounting Types) shall meet the requirements of Sections 880 and 881 and Articles 1078.01 and 1078.02 of the "Standard Specifications for Road and Bridge Construction", adopted January 1, 2002, with the following modifications:

2) All signal and pedestrian heads shall be 300 mm (12") glossy black polycarbonate. Connecting hardware and mounting brackets shall be polycarbonate (black) or galvanized. A corrosive resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on. Post top mounting collars are required on all posts, and shall be constructed of the same material as the brackets.

3) The optical unit of all traffic signal and pedestrian head sections shall be light emitting diodes (LEDs) instead of incandescent bulbs. Each signal head shall conform fully to the "Interim Purchase Specification of the Institute of Transportation Engineers (ITE) for LED Vehicle Traffic Signal Modules" published July, 1998, or applicable successor ITE specification.

4) The lens of each signal indication shall be tinted with a wavelength-matched color to reduce sun phantom effect and enhance on/off contrast. The tinting shall be uniform across the lens face. Polymeric lens shall provide a surface coating applied to provide abrasion resistance.

5) Each pedestrian signal LED module shall provide the ability to actuate the outlined upraised hand and the outlined walking person on one 12-inch (300mm) section. Two (2) sections shall be installed. The top section shall be wired to illuminate only the upraised hand and the bottom section shall be the walking man. “Egg Crate” type sun shields are not permitted. All figures must be a minimum of 9 inches (225mm) in height and easily identified from a distance of 120-feet (36.6m).

6) The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or set on a non-dimming operation.

7) In the event of a power outage, light output from the LED modules shall cease instantaneously.

8) In addition to conforming with the requirements for circular LED signal modules, LED arrow indication modules shall meet existing specifications stated in the ITE Standard: “Vehicle Traffic Control Signal Heads,” section 9.01. The LEDs arrow indication shall be a solid display with a minimum of three (3) outlining rows of LEDs and at least one (1) fill row of LEDs. The LEDs shall be spread evenly across the illuminated portion of the arrow area.

9) The LED signal modules shall be replaced or repaired if an LED signal module fails to function as intended due to workmanship or material defects within the first 60 months from the date of delivery. LED signal modules which exhibit luminous intensities less than the minimum values specified in Section 4.1.1 of the Interim Purchase Specification of the ITE for LED Vehicle Traffic Signal Modules within the first 60 months of the date of delivery shall be replaced or repaired. The manufacturer's written warranty for the LED signal modules shall be dated, signed by an Officer of the company and included in the product submittal to the State.

10) Each module shall consist of an assembly that utilizes LEDs as the light source in lieu of an incandescent lamp for use in traffic signal sections.

11) The LEDs utilized in the modules shall be AlInGaP technology for red, yellow, Portland orange (pedestrian) and white (pedestrian) indications, and GaN for green indications, and shall be the ultra bright type rated for 100,000 hours of continuous operation from -40°C to +74°C.

12) The individual LEDs shall be wired such that a catastrophic loss or the failure of one or more LED will not result in the loss of the entire module.

b) Electrical

1) Maximum power consumption for LED modules is per Table 1.

2) LED modules will have EPA Energy Star compliance ratings, if applicable to that shape, size and color.

3) The modules shall operate from a 60 HZ ±3 HZ AC line over a voltage ranging from 95 volts to 135 volts. The fluctuations of line voltage shall have no visible effect on the luminous intensity of the indications.

4) Operating voltage of the modules shall be 120 VAC. All parameters shall be measured at this voltage.

5) The LED signal module shall have a power factor of 0.90 or greater.

6) Total harmonic distortion (current and voltage) induced into an AC power line by a LED signal module shall not exceed 20 percent.

7) The signal module on-board circuitry shall include voltage surge protection to withstand high-repetition noise transients as stated in Section 2.1.6 of NEMA Standard TS-2, 1992.

8) The LED circuitry shall prevent perceptible flicker to the unaided eye over the voltage range specified above.

9) All wiring and terminal blocks shall meet the requirements of Section 13.02 of the ITE Publication: Equipment and Material Standards, Chapter 2 (Vehicle Traffic Control Signal Heads).

10) The modules shall be operationally compatible with currently used controller assemblies (solid state load switches, flashers, and conflict monitors).

11) When a current of 20 mA AC (or less) is applied to the unit, the voltage read across the two leads shall be 15 VAC or less.

12) The modules and associated on-board circuitry must meet Class A emission limits referred in Federal Communications Commission (FCC) Title 47, SubPart B, Section 15 regulations concerning the emission of electronic noise.

c) Photometric Requirements

1) The minimum initial luminous intensity values for the modules shall be as stated in Table 2 and/or Table 4 at 25°C.

2) The modules shall meet or exceed the illumination values as shown in Table 3 and/or Table 4, throughout the useful life based on normal use in a traffic signal operation over the operating temperature range.

3) The measured chromaticity coordinates of the modules shall conform to the chromaticity requirements of Table 5, throughout the useful life over the operating temperature range.

d) Environmental Requirements

1) The LED signal module shall be rated for use in the operating temperature range of -40°C (-40°F) to +74°C (+165°F). The modules shall meet all specifications throughout this range.

2) The LED signal module shall be protected against dust and moisture intrusion per the requirements of NEMA Standard 250-1991 for Type 4 enclosures to protect all internal components.

e) Construction

1) The LED signal module shall be a single, self-contained device, not requiring on-site assembly for installation. The power supply for the module shall be integral to the unit.

2) The circuit board and power supply shall be contained inside the module.

3) The assembly and manufacturing process for the LED signal assembly shall be designed to assure all internal components are adequately supported to withstand mechanical shock and vibration from high winds and other sources.

f) Materials

1) Material used for the lens and signal module construction shall conform to ASTM specifications for the materials.

2) Enclosures containing either the power supply or electronic components of the signal module shall be made of UL94VO flame retardant materials. The lens of the signal module is excluded from this requirement.

g) Traffic Signal and Pedestrian LED Module Identification

1) Each module shall have the manufacturer's name, trademark, model number, serial number, date of manufacture (month-year), and lot number as identification permanently marked on the back of the module.

2) The following operating characteristics shall be permanently marked on the back of the module: rated voltage and rated power in Watts and Volt-Ampere.

3) Each module shall have a symbol of the type of module (i.e. circle, arrow, etc.) in the color of the module. The symbol shall be 25.4 mm (one inch) in diameter. Additionally, the color shall be written out in 12.7mm (½ in) letters next to the symbol.

4) If a specific mounting orientation is required, each module shall have prominent and permanent marking(s) for correct indexing and orientation within a signal housing. The markings shall consist of an up arrow, or the word "UP" or "TOP".

h) Traffic Signal LED Module

1) Modules can be manufactured under this specification for the following faces:

a 300 mm (12-inch) circular, multi-section
b 300 mm (12-inch) arrow, multi-section
c 300 mm (12-inch) pedestrian, 2 sections

2) The maximum weight of a module shall be 1.8 kg (4 lbs.).

3) Each module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.

i) Retrofit Traffic Signal Module

1) The following specification requirements apply to the Retrofit module only. All general specifications apply unless specifically superceded in this section.

2) Retrofit modules can be manufactured under this specification for the following faces:

a 300 mm (12-inch) circular, multi-section
b 300 mm (12-inch) arrow, multi-section
c 300 mm (12-inch) pedestrian, 2 sections

3) The module shall fit into existing traffic signal section housings built to the specifications detailed in ITE Publication: Equipment and Material Standards, Chapter (Vehicle Traffic Control Signal Heads).

4) Each Retrofit module shall be designed to be installed in the doorframe of a standard traffic signal housing. The Retrofit module shall be sealed in the doorframe with a one-piece EPDM (ethylene propylene rubber) gasket.

5) The maximum weight of a Retrofit module shall be 1.8 kg (4 lbs.).

6) Each Retrofit module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.

7) The lens of the Retrofit module shall be integral to the unit, shall be convex with a smooth outer surface and made of plastic or of glass.

j) Two secured, color coded, 600 V, 20 AWG minimum, jacketed wires, conforming to the National Electric Code, rated for service at +105°C, are to be provided for electrical connection for each LED signal module. Conductors for modules, including Retrofit modules, shall be 39.4-inches (1m) in length, with quick disconnect terminals attached.

k) Lens

1) The lens of the module shall be tinted and integral to the unit, convex with a smooth outer surface and made of plastic.

2) The use of tinting or other materials to enhance ON/OFF contrasts shall not affect chromaticity and shall be uniform across the face of the lens.

3) The LED signal module lens shall be UV stabilized and shall be capable of withstanding ultraviolet (direct sunlight) exposure for a minimum period of 60 months without exhibiting evidence of deterioration.

4) The polymeric lens shall have a surface coating or chemical surface treatment to provide front surface abrasion resistance.

l) The following specification requirements apply to the 12-inch (300 mm) arrow module only. All general specifications apply unless specifically superceded in this section.

1) The arrow module shall meet specifications stated in Section 9.01 of the ITE Publication: Equipment and Material Standards, Chapter 2 (Vehicle Traffic Control Signal Heads) for arrow indications.

2) The LEDs shall be spread evenly across the illuminated portion of the arrow area.

m) The following specification requirements apply to the 12-inch (300 mm) PV module only. All general specifications apply unless specifically superceded in this section.

1) The module shall be a module designed and constructed to be installed in a programmed visibility (PV) signal housing without modification to the housing.

2) The LEDs shall be spread evenly across the module.

Basis of Payment. This item shall be paid for at the contract unit price each for SIGNAL HEAD, LED, of the type specified, which price shall be payment in full for furnishing the equipment described above including signal head, LED(s) modules, all mounting hardware, and installing them in satisfactory operating condition.

The type specified will indicate the number of signal faces, the number of signal sections, and the method of mounting.

Pedestrian head(s) shall be paid for at the contract unit price each for PEDESTRIAN SIGNAL HEAD, LED, of the type specified and of the particular kind of material when specified.

The type specified will indicate the number of faces and the method of mounting.

When installed in an existing signal head, this item shall be paid for at the contract unit price each for SIGNAL HEAD, LED of the type specified, RETROFIT, which price shall be payment in full for furnishing the equipment described above including LED(s) modules, all mounting hardware, and installing them in satisfactory operating condition.

The type specified will indicate the number of signal faces, the number of signal sections, and the method of mounting.

When installed in an existing signal head, this item shall be paid for at the contract unit price each for PEDESTRIAN SIGNAL HEAD, LED, of the type specified, RETROFIT, which price shall be payment in full for furnishing the equipment described above including LED(s) modules, all mounting hardware, and installing them in satisfactory operating condition.

The type specified will indicate the number of faces and the method of mounting.

TABLES

Table 1 Maximum Power Consumption (in Watts)

	Red		Yellow		Green	
Temperature	25°C	74°C	25°C	74°C	25°C	74°C
300 mm (12-inch) circular	11	17	22	25	15	15
300 mm (12-inch)arrow	9	12	10	12	11	11
	Hand–Portland Orange		Person-White			
Pedestrian Indication	6.2		6.3			

Table 2 Minimum Initial Intensities for Circular Indications (in cd)

	300 mm (12-inch)		
Angle(v,h)	Red	Yellow	Green
2.5, ±2.5	399	798	798
2.5, ±7.5	295	589	589
2.5, ±12.5	166	333	333
2.5, ±17.5	90	181	181
7.5, ±2.5	266	532	532
7.5, ±7.5	238	475	475
7.5, ±12.5	171	342	342
7.5, ±17.	105	209	209
7.5, ±22.5	45	90	90
7.5, ±27.5	19	38	38
12.5, ±2.5	59	119	119
12.5, ±7.5	57	114	114
12.5, ±12.5	52	105	105
12.5, ±17.5	40	81	81
12.5, ±22.5	26	52	52
12.5, ±27.5	19	38	38
17.5, ±2.5	26	52	52
17.5, ±7.5	26	52	52
17.5, ±12.5	26	52	52
17.5, ±17.5	26	52	52
17.5, ±22.5	24	48	48
17.5, ±27.5	19	38	38

Table 3 Maintained Minimum Intensities for Circular Indications (in cd)

	300 mm (12-inch)		
Angle(v,h)	Red	Yellow	Green
2.5, ±2.5	339	678	678
2.5, ±7.5	251	501	501
2.5, ±12.5	141	283	283
2.5, ±17.5	77	154	154
7.5, ±2.5	226	452	452
7.5, ±7.5	202	404	404
7.5, ±12.5	145	291	291
7.5, ±17.	89	178	178
7.5, ±22.5	38	77	77
7.5, ±27.5	16	32	32
12.5, ±2.5	50	101	101
12.5, ±7.5	48	97	97
12.5, ±12.5	44	89	89
12.5, ±17.5	34	69	69
12.5, ±22.5	22	44	44
12.5, ±27.5	16	32	32
17.5, ±2.5	22	44	44
17.5, ±7.5	22	44	44
17.5, ±12.5	22	44	44
17.5, ±17.5	22	44	44
17.5, ±22.5	20	41	41
17.5, ±27.5	16	32	32

Table 4 Minimum Initial & Maintained Intensities for Arrow and Pedestrian Indications (in cd/m2)

	Red	Yellow	Green
Arrow Indication	5,500	11,000	11,000

Table 5 Chromaticity Standards (CIE Chart) Section 8.04 of

Red	Y: not greater than 0.308, or less than 0.998 – x
Yellow	Y: not less than 0.411, nor less than 0.995 - x,
Green	Y: Not less than 0.506 -.519x, nor less than 0.150 + 1.068x, nor more than 0.730 - x

AUTHORITY OF RAILROAD ENGINEER (BDE)
Effective: July 1, 2004

Revise Article 105.02 of the Standard Specifications to read:

"**105.02 Authority of Railroad Engineer.** Whenever the safety of railroad traffic is concerned, the Railroad Engineer will have jurisdiction over safety measures to be taken and his/her decision as to the methods, procedures, and measures used shall be final, and any and all Contractors performing work near or about the railroad shall be governed by such decision. Instructions to the Contractor by the Railroad Engineer will be given through the Engineer. Work ordered as specified herein will be classified and paid for according to Article 104.02. Work performed for the Contractor's convenience will not be paid for separately but shall be considered as included in the contract."

bituminous base course / widening superpave
Effective: April 1, 2002 Revised: April 1, 2004

Description. This work shall consist of constructing bituminous base course Superpave and bituminous concrete base course widening Superpave according to Sections 355 and 356 respectively, of the Standard Specifications and the special provision, "Quality Control/Quality Assurance of Bituminous Concrete Mixtures" except as modified herein.

Revise Article 355.02(d) of the Standard Specifications to read:

" (d) RAP Material (Note3)"

Revise Note 2 of Article 355.02 of the Standard Specifications to read:

" Note 2. Unless otherwise specified on the plans, the bituminous material shall be performance graded (PG) asphalt cement (AC) , PG58-22. When more than 15 percent RAP is used, a softer PG binder may be required as determined by the Engineer. When the pavement has a structural number (D_t) of 3.00 or less, the low temperature grade of the asphalt cement shall be lowered one grade (i.e. PG58-28 replaces PG58-22)."

Add the following to the end Article 355.02 of the Standard Specifications:

" Note 3. RAP shall meet the requirements of the special provision "RAP for Use in Bituminous Concrete Mixtures"."

Revise Article 355.05 of the Standard Specifications to read:

"**355.05 Mixture Design.** The Contractor shall submit mix designs for approval, for each required mixture. Mix designs shall be developed by Level III personnel who have completed the course, "Superpave Mix Design Upgrade". The mixtures shall be designed according to the respective Illinois Modified AASHTO references listed below:

AASHTO MP 2 Standard Specification for Superpave Volumetric Mix Design

AASHTO R 30 Standard Practice for Mixture Conditioning of Hot-Mix Asphalt (HMA)

AASHTO PP 28 Standard Practice for Designing Superpave HMA

AASHTO T 209 Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures

AASHTO T 312 Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor

AASHTO T 308 Determining the Asphalt Content of Hot Mix Asphalt (HMA) by the Ignition Method

(a) Job Mix Formula (JMF). The JMF shall be according to the following limits:

Ingredient	Percent by Dry Weight
Aggregate	93.0 to 96.0
Asphalt Cement	4.0 to 7.0
Dust/AC Ratio	1.4

When RAP material is being used, the JMF shall be according to the following limits:

Ingredient	Percent by Dry Weight
Virgin Aggregate(s)	46.0 to 96.0
RAP Material(s) (Note 1)	0 to 50
Mineral Filler (if required)	0 to 5.0
Asphalt Cement	4.0 to 7.0
Dust/AC Ratio	1.4

Note 1. If specified on the plans, the maximum percentage of RAP shall be as specified therein.

It is recommended that the selected combined aggregate gradation not pass through the restricted zones specified in Illinois Modified AASHTO MP 2.

Bituminous concrete binder course Superpave mixture IL-25.0 or IL-19.0 meeting the requirements of the special provision, “Superpave Bituminous Concrete Mixtures" may also be used. The minimum compacted lift thickness specified therein shall apply.

(b) Volumetric Requirements.

Design Compactive Effort	**Design Air Voids Target (%)**
N_{DES} =50	2.0

(c) Determination of Need for Anti-Stripping Additive. The mixture designer shall determine if an additive is needed in the mix to prevent stripping. The determination will be made on the basis of tests performed according to Illinois Modified AASHTO T 283 using 4 in. Marshall bricks. To be considered acceptable by the Engineer as a mixture not susceptible to stripping, the ratio of conditioned to unconditioned split tensile strengths (TSR) shall be equal to or greater than 0.75. Mixtures, either with or without an additive, with TSR values less than 0.75 will be considered unacceptable.

If it is determined that an additive is required, the additive may be hydrated lime, slaked quicklime, or a liquid additive, at the Contractor's option. The liquid additive shall be selected from the Department's list of approved additives and may be limited to those which have exhibited satisfactory performance in similar mixes.

Dry hydrated lime shall be added at a rate of 1.0 to 1.5 percent by weight of total dry aggregate. Slurry shall be added in such quantity as to provide the required amount of hydrated lime solids by weight of total dry aggregate. The exact rate of application for all anti-stripping additives will be determined by the Engineer. The method of application shall be according to Article 406.12 of the Standard Specifications."

Revise Article 355.06 of the Standard Specifications to read:

"**355.06 Mixture Production.** The asphalt cement shall be transferred to the asphalt tanks and heated to a temperature of 120 °C (250 °F) to 175 °C (350 °F). If the loading temperature exceeds 175 °C (350 °F), the asphalt shall not be used until it has cooled to 175 °C (350 °F). Wide variations in temperature which affect the amount of asphalt delivered will not be permitted.

When a hot-mix plant conforming to Article 1102.01 is used, the aggregate shall be dried and heated in the revolving dryer to a temperature of 120 °C (250 °F) to 175 °C (350 °F).

The aggregate and bituminous material used in the bituminous aggregate mixture shall be measured separately and accurately by weight or by volume. When the aggregate is in the mixer, the bituminous material shall be added and mixing continued for a minimum of 30 seconds and until a homogeneous mixture is produced in which all particles of the aggregate are coated. The mixing period, size of the batch and the production rate shall be approved by the Engineer.

The ingredients shall be heated and combined in such a manner as to produce a mixture which, when discharged from the mixer, shall be workable and vary not more 10 °C (20 °F) from the temperature set by the Engineer.

When RAP material(s) is used in the bituminous aggregate mixture, the virgin aggregate(s) shall be dried and heated in the dryer to a temperature that will produce the specified resultant mix temperature when combined with the RAP material.

The heated virgin aggregates and mineral filler shall be combined with RAP material in such a manner as to produce a bituminous mixture which when discharged from the mixer shall not vary more than 15 °C (30 °F) from the temperature set by the Engineer. The combined

ingredients shall be mixed for a minimum of 35 seconds and until a homogeneous mixture as to composition and temperature is obtained. The total mixing time shall be a minimum of 45 seconds consisting of dry and wet mixing. Variation in wet and dry mixing times may be permitted, depending on the moisture content and amount of salvaged material used. The mix temperature shall not exceed 175 °C (350 °F). Wide variations in the mixture temperature will be cause for rejection of the mix.

(a) Personnel. The QC Manager and Level I Technician shall have successfully completed the Department's "Superpave Field Control Course".

(b) Required Tests. Testing shall be conducted to control the production of the bituminous mixture using the test methods identified and performed at a frequency not less than indicated in the following table.

Parameter	Frequency of Tests Non-Class I Mixtures	Test Method
Aggregate Gradation Hot bins for batch and continuous plants. Individual cold-feeds or combined belt-feed for drier-drum plants. (% passing seives: 12.5 mm (1/2 In.), 4.75 mm (No. 4), 75 µm (No. 200))	1 gradation per day of production. The first day of production shall be washed ignition oven test on the mix. Thereafter, the testing shall alternate between dry gradation and washed ignition oven test on the mix. The dry gradation and the washed ignition oven test results shall be plotted on the same control chart.	Illinois Procedure (See Manual of Test Procedures for Materials).
Asphalt Content by ignition oven (Note 1.)	1 per day	Illinois-Modified AASHTO T 308
Air Voids Bulk Specific Gravity of Gyratory Sample Maximum Specific Gravity of Mixture	 1 per day 1 per day	 Illinois-Modified AASHTO T 312 Illinois-Modified AASHTO T 209

Note 1. The Engineer may waive the ignition oven requirement for AC content if the aggregates to be used are known to have ignition AC content calibration factors which exceed 1.5 percent. If the ignition oven requirement is waived, other Department approved methods shall be used to determine AC content.

During production, the ratio of minus 75 µm (#200) sieve material to total asphalt cement shall be not less than 0.6 nor more than 1.6, and the moisture content of the mixture at discharge

from the mixer shall not exceed 0.5 percent. If at any time the ratio of minus 75 µm (#200) material to asphalt or moisture content of the mixture falls outside the stated limits, production of the mix shall cease. The cause shall be determined and corrective action satisfactory to the Engineer shall be initiated prior to resumption of production.

During production, mixture containing an anti-stripping additive will be tested by the Engineer for stripping according to Illinois Modified AASHTO T 283. If the mixture fails to meet the TSR criteria for acceptance, no further mixture will be accepted until the Contractor takes such action as is necessary to furnish a mixture meeting the criteria.

(c) Control Charts/Limits. Control charts/limits shall be according to QC/QA requirements for Non-Class I Mixtures, except air voids shall be plotted on the control charts within the following control limits:

Air Void Control Limits	
Mixture	Individual Test
Shoulders	± 1.2 %
Others	± 1.2 %"

Revise Article 355.08 of the Standard Specifications to read:

" **355.08 Placing.** The bituminous mixture shall be placed with a spreading and finishing machine. The minimum compacted thickness of each lift shall be according to the following table:

Nominal Maximum Aggregate Size of Mixture	Minimum Compacted Lift Thickness
CA 10 - 19 mm (3/4 in.)	57 mm (2 1/4 in.)
CA 6 – 25 mm (1 in.)	76 mm (3 in.)

The maximum compacted thickness of each lift shall be 100 mm (4 in.). If the Contractor elects to substitute an approved vibratory roller for one of the required rollers, the maximum compacted thickness of the each lift, excluding the top lift, may be increased to 150 mm (6 in.) provided the required density is obtained.

The surface of each lift shall be clean and dry before succeeding lifts are placed."

Revise Article 355.13 of the Standard Specifications to read:

" **355.13 Basis of Payment**. This work will be paid for at the contract unit price per square meter (square yard) for BITUMINOUS BASE COURSE SUPERPAVE of the thickness specified."

Revise Article 356.02 of the Standard Specifications to read:

" **356.02 Materials.** The materials for the bituminous concrete mixture shall meet the requirements of Article 355.02, be designed according to Article 355.05 and produced according to Article 355.06. Bituminous concrete binder course Superpave mixture IL-25.0 or

IL-19.0 meeting the requirements of the special provision, “Superpave Bituminous Concrete Mixtures" may also be used. The minimum compacted lift thickness specified therein shall apply."

Revise the first paragraph of Article 356.06 of the Standard Specifications to read:

" **356.06 Base Course Widening.** The bituminous concrete mixture shall be transported according to Article 406.14."

Revise the second sentence of the fifth paragraph of Article 356.06 of the Standard Specifications to read:

“ The minimum compacted thickness of each lift shall be according to the table shown in Article 355.08.”

Revise the first paragraph of Article 356.11 of the Standard Specifications to read:

" **356.11 Basis of Payment**. Where the Department requires that bituminous concrete be used, this work will be paid for at the contract unit price per square meter (square yard) for BITUMINOUS CONCRETE BASE COURSE WIDENING SUPERPAVE of the thickness specified."

BITUMINOUS CONCRETE SURFACE COURSE (BDE)

Effective: April 1, 2001 Revised: April 1, 2003

Replace the fourth paragraph of Article 406.23(b) of the Standard Specifications with the following:

“Mixture for cracks, joints, flangeways, leveling binder (machine method), leveling binder (hand method) and binder course in excess of 103 percent of the quantity specified by the Engineer will not be measured for payment.

Surface course mixture in excess of 103 percent of adjusted plan quantity will not be measured for payment. The adjusted plan quantity for surface course mixtures will be calculated as follows:

Adjusted Plan Quantity = C x quantity shown on the plans or as specified by the Engineer.

where C = metric: $C = \frac{G_{mb} \times 24.99}{U}$ English: $C = \frac{G_{mb} \times 46.8}{U}$

and where:

G_{mb} = average bulk specific gravity from approved mix design.
U = Unit weight of surface course shown on the plans in kg/sq m/25 mm (lb/sq yd/in.), used to estimate plan quantity.

24.99 = metric constant.
46.8 = English constant.

If project circumstances warrant a new surface course mix design, the above equations shall be used to calculate the adjusted plan quantity for each mix design using its respective average bulk specific gravity."

CHAIR SUPPORTS (BDE)
Effective: November 1, 2002 Revised: November 2, 2002

Revise the fourth and fifth paragraphs of Article 421.06(a) to read:

"Pavement reinforcement shall be supported on steel chair supports at the depth below the pavement surface as indicated on the plans. The Contractor shall submit prints of shop drawings showing details of chair supports and their spacing to the Engineer and obtain the Engineer's approval before any fabrication is begun.

The chair supports shall possess the necessary rigidity and be spaced at intervals close enough to hold the reinforcement at the proper depth and position. However, the spacing of the chair supports shall not exceed 900 mm (3 ft) transversely or 1.2 m (4 ft) longitudinally. The chair supports shall be fabricated with sand plates."

COARSE AGGREGATE FOR TRENCH BACKFILL, BACKFILL AND BEDDING (BDE)
Effective: April 1, 2001 Revised: November 1, 2003

Revise Article 208.02 of the Standard Specifications to read:

"**208.02 Materials.** Materials shall be according to the following Articles of Section 1000 – Materials:

(a) Fine Aggregate (Note 1) 1003.04
(b) Coarse Aggregate (Note 2) 1004.06

Note 1. The fine aggregate shall be moist to the satisfaction of the Engineer.

Note 2. The coarse aggregate shall be wet to the satisfaction of the Engineer."

Revise the first sentence of the second paragraph of subparagraph (b) in Article 208.03 of the Standard Specifications to read:

"Any material meeting the requirements of Articles 1003.04 or 1004.06 which has been excavated from the trenches shall be used for backfilling the trenches."

Add the following to the end of Article 542.02 of the Standard Specifications:

"(bb) Fine Aggregate (Note 1) 1003.04
(cc) Coarse Aggregate (Note 2) 1004.06

Note 1. The fine aggregate shall be moist to the satisfaction of the Engineer.

Note 2. The coarse aggregate shall be wet to the satisfaction of the Engineer."

Revise the first and second sentences of the second paragraph of subparagraph (a) of Article 542.04 of the Standard Specifications to read:

"The unstable and unsuitable material shall be removed to a depth determined by the Engineer and for a width of one diameter (or equivalent diameter) of the pipe on each side of the pipe culvert, and replaced with aggregate. Rock shall be removed to an elevation 300 mm (1 ft) lower than the bottom of the pipe or to a depth equal to 40 mm/m (1/2 in./ft) of ultimate fill height over the top of the pipe culvert, whichever is the greater depth, and for a width as specified in (b) below, and replaced with aggregate."

Revise the second paragraph of subparagraph (c) of Article 542.04 of the Standard Specifications to read:

"Well compacted aggregate, at least 100 mm (4 in.) in depth below the pipe culvert, shall be placed the entire width of the trench and for the length of the pipe culvert, except well compacted impervious material shall be used for the outer 1 m (3 ft) at each end of the pipe. When the trench has been widened by the removal and replacement of unstable or unsuitable material, the foundation material shall be placed for a width not less than the above specified widths on each side of the pipe. The aggregate and impervious material shall be approved by the Engineer and shall be compacted to the Engineer's satisfaction by mechanical means."

Revise subparagraph (e) of Article 542.04 of the Standard Specifications to read:

"(e) Backfilling. As soon as the condition of the pipe culvert will permit, the entire width of the trench shall be backfilled with aggregate to a height of at least the elevation of the center of the pipe. The aggregate shall be placed longitudinally along the pipe culvert, except at the outer 1 m (3 ft) at each end of the culvert which shall be backfilled with impervious material. The elevation of the backfill material on each side of the pipe shall be the same. The space under the pipe shall be completely filled. The aggregate and impervious material shall be placed in 200 mm (8 in.) layers, loose measurement. When using PVC, PE, or corrugated metal pipe, the aggregate shall be continued to a height of at least 300 mm (1 ft) above the top of the pipe and compacted to a minimum of 85 percent of standard lab density by mechanical means. When reinforced concrete pipes are used and the trench is within 600 mm (2 ft) of the pavement structure, the backfill shall be compacted to a minimum of 85 percent of standard lab density by mechanical means.

When using PVC, PE, or corrugated metal pipe a minimum of 300 mm (1 ft) of cover from the top of the pipe to the top of the subgrade will be required.

The installed pipe and its embedment shall not be disturbed when using movable trench boxes and shields, sheet pile, or other trench protection.

The remainder of the trench shall be backfilled with select material, from excavation or borrow, free from large or frozen lumps, clods or rock, meeting the approval of the Engineer. The material shall be placed in layers not exceeding 200 mm (8 in.) in depth, loose measurement and compacted to 95 percent of the standard laboratory density. Compaction shall be obtained by use of mechanical tampers or with approved vibratory compactors. Before compacting, each layer shall be wetted or dried to bring the moisture content within the limits of 80 to 110 percent of optimum moisture content determined according to AASHTO T 99 (Method C). All backfill material shall be deposited in the trench or excavation in such a manner as not to damage the culvert. The filling of the trench shall be carried on simultaneously on both sides of the pipe. The Contractor may, at his/her expense, backfill the entire trench with aggregate in lieu of select material. The aggregate shall be compacted to the satisfaction of the Engineer by mechanical means.

The backfill material for all trenches and excavations made in the subgrade of the proposed improvement, and for all trenches outside of the subgrade where the inner edge of the trench is within 600 mm (2 ft) of the edge of the proposed pavement, curb, gutter, curb and gutter, stabilized shoulder, or sidewalk shall be according to Section 208. The trench backfill material shall be compacted to a minimum of 85 percent of standard lab density by mechanical means.

The Contractor may, at his/her expense, backfill the entire trench with controlled low strength material meeting the approval of the Engineer.

When the trench has been widened for the removal and replacement of unstable or unsuitable material, the backfilling with aggregate and impervious material, will be required for a width of at least the specified widths on each side of the pipe. The remaining width of each layer may be backfilled with select material. Each 200 mm (8 in.) layer for the entire trench width shall be completed before beginning the placement of the next layer."

Revise subparagraph (b) of Article 542.05 of the Standard Specifications to read:

"(b) Embankment. Embankment extending to an elevation of 300 mm (1 ft) over the top of the pipe shall be constructed according to Article 542.04(f), except the material up to the elevation of the center of the pipe and extending to a width of at least 450 mm (18 in.) on each side of the pipe, exclusive of the outer 1 m (3 ft) at each end of the pipe, shall consist of aggregate. At the outer 1 m (3 ft) at each end of the culvert, impervious material shall be used."

Add the following paragraph after the first paragraph of Article 542.10 of the Standard Specifications:

"Trench backfill will be measured for payment according to Article 208.03."

Add the following paragraph after the third paragraph of Article 542.11 of the Standard Specifications:

"Trench backfill will be paid for according to Article 208.04."

Add the following to of Article 550.02 of the Standard Specifications:

"(m) Fine Aggregate (Note 2) 1003.04
(n) Coarse Aggregate (Note 3) 1004.06

Note 2. The fine aggregate shall be moist to the satisfaction of the Engineer.

Note 3. The coarse aggregate shall be wet to the satisfaction of the Engineer."

Revise the first two sentences of the third paragraph of Article 550.04 of the Standard Specifications to read:

"Well compacted, aggregate bedding material at least 100 mm (4 in.) in depth below the pipe, shall be placed for the entire width of the trench and length of the pipe. The aggregate shall be compacted to the satisfaction of the Engineer by mechanical means."

Revise Article 550.07 of the Standard Specifications to read:

"**550.07 Backfilling.** As soon as the condition of the pipe will permit, the entire width of the trench shall be backfilled with aggregate to a height of at least the elevation of the center of the pipe. The aggregate shall be placed longitudinally along the pipe. The elevation of the backfill material on each side of the pipe shall be the same. The space under the pipe shall be completely filled. The aggregate backfill material shall be placed in 200 mm (8 in.) layers, loose measurement and compacted to the satisfaction of the Engineer by mechanical means. When using PVC pipe, the aggregate shall be continued to a height of at least 300 mm (12 in.) above the top of the pipe.

The installed pipe and its embedment shall not be disturbed when using movable trench boxes and shields, sheet pile, or other trench protection.

The remainder of the trench and excavation shall be backfilled to the natural line or finished surface as rapidly as the condition of the sewer will permit. The backfill material shall consist of suitable excavated material from the trench or of trench backfill as herein specified. All backfill material shall be deposited in the trench or excavation in such a manner as not to damage the sewer and shall be compacted to the satisfaction of the Engineer by mechanical means. The filling of the trench shall be carried on simultaneously on both sides of the pipe.

The backfill material for trenches and excavation made in the subgrade of the proposed improvement, and for all trenches outside of the subgrade where the inner edge of the trench is within 600 mm (2 ft) of the edge of the proposed pavement, curb, gutter, curb and gutter, stabilized shoulder or sidewalk shall be according to Section 208. The backfill material shall be compacted to 85 percent of standard lab density by mechanical means.

All backfill material up to a height of 300 mm (1 ft) above the pipe shall be deposited in uniform layers not exceeding 200 mm (8 in.) thick, loose measurement. The material in each layer shall be compacted to the satisfaction of the Engineer by mechanical means. The backfilling above this height shall be done according to Method 1, 2 or 3 as described below, with the following exceptions.

When trench backfill or excavated material meeting the requirements of Section 208 is required above the first 300 mm (1 ft) of the pipe, the layers shall not exceed 200 mm (8 in.). Gradations CA6 or CA10 shall not be used with Method 2 or Method 3.

Method 1. The material shall be deposited in uniform layers not exceeding 300 mm (1 ft) thick, loose measurement, and each layer shall be compacted to the satisfaction of the Engineer by mechanical means.

Method 2. The material shall be deposited in uniform layers not exceeding 300 mm (1 ft) thick, loose measurement, and each layer shall be either inundated or deposited in water.

Method 3. The trench shall be backfilled with loose material, and settlement secured by introducing water through holes jetted into the backfill to a point approximately 600 mm (2 ft) above the top of the pipe. The holes shall be spaced as directed by the Engineer but shall be no farther than 2 m (6 ft) apart.

The water shall be injected at a pressure just sufficient to sink the holes at a moderate rate of speed. The pressure shall be such that the water will not cut cavities in the backfill material nor overflow the surface. If water does overflow the surface, it shall be drained into the jetted holes by means of shallow trenches.

Water shall be injected as long as it will be absorbed by the backfill material and until samples taken from test holes in the trench show a satisfactory moisture content. The Contractor shall bore the test holes not more than 15 m (50 ft) apart and at such other locations in the trench designated by the Engineer. As soon as the watersoaking has been completed, all holes shall be filled with soil and compacted by ramming with a tool approved by the Engineer.

Backfill material which has been watersoaked shall be allowed to settle and dry for at least 10 days before any surface course or pavement is constructed on it. The length of time may be altered, if deemed desirable, by the Engineer. Where the inner edge of the trench is within 600 mm (2 ft) of the edge of the proposed pavement, curb, gutter, curb and gutter, stabilized shoulder or sidewalk, the provisions of this paragraph shall also apply.

At the end of the settling and drying period, the crusted top of the backfill material shall be scarified and, if necessary, sufficient backfill material added, as specified in Method 1, to complete the backfilling operations.

The method used for backfilling and compacting the backfill material shall be the choice of the Contractor. If the method used does not produce results satisfactory to the Engineer, the Contractor will be required to alter or change the method being used so the resultant backfill will be satisfactory to the Engineer. Should the Contractor be required to alter or change the method being used, no additional compensation will be allowed for altering or changing the method.

The Contractor may, at his/her expense, backfill the entire trench with controlled low strength material meeting the approval of the Engineer.

When sheeting and bracing have been used, sufficient bracing shall be left across the trench as the backfilling progresses to hold the sides firmly in place without caving or settlement. This bracing shall be removed as soon as practicable. Any depressions which may develop within the area involved in the construction operation due to settlement of the backfilling material shall be filled in a manner approved by the Engineer.

When the Contractor constructs the trench with sloped or benched sides according to Article 550.04, backfilling for the full width of the excavation shall be as specified, except no additional compensation will be allowed for trench backfill material required outside the vertical limits of the specified trench width.

Whenever excavation is made for installing sewer pipe across earth shoulders or private property, the topsoil disturbed by excavation operations shall be replaced as nearly as possible in its original position, and the whole area involved in the construction operations shall be left in a neat and presentable condition.

When using any PVC pipe, the pipe shall be backfilled with aggregate to 300 mm (1 ft) over the top of the pipe and compacted to a minimum of 85 percent of standard lab density by mechanical means.

When reinforced concrete pipes are used and the trench is within 600 mm (2 ft) of the pavement structure, the backfill shall be compacted to a minimum of 85 percent of standard lab density by mechanical means.

Deflection Testing for Storm Sewers. All PVC storm sewers will be tested for deflection not less than 30 days after the pipe is installed and the backfill compacted.

For PVC storm sewers with diameters 600 mm (24 in.) or smaller, a mandrel drag shall be used for deflection testing. For PVC storm sewers with diameters over 600 mm (24 in.), deflection measurements other than by a mandrel drag shall be used.

Where the mandrel is used, the mandrel shall be furnished by the Contractor and pulled by hand through the pipeline with a suitable rope or cable connected to each end. Winching or other means of forcing the deflection gauge through the pipeline will not be allowed.

The mandrel shall be of a shape similar to that of a true circle enabling the gauge to pass through a satisfactory pipeline with little or no resistance. The mandrel shall be of a design to prevent it from tipping from side to side and to prevent debris build-up from occurring between the channels of the adjacent fins or legs during operation. Each end of the core of the mandrel shall have fasteners to which the pulling cables can be attached. The mandrel shall have 9, various sized fins or legs of appropriate dimension for various diameter pipes. Each fin or leg shall have a permanent marking that states its designated pipe size and percent of deflection allowable.

The outside diameter of the mandrel shall be 95 percent of the base inside diameter, where the base inside diameter is:

For all PVC pipe (as defined using ASTM D 3034 methodology):

If the pipe is found to have a deflection greater than specified, that pipe section shall be removed, replaced, and retested."

Revise subparagraph (c) of Article 1003.04 of the Standard Specifications to read:

"(c) Gradation. The fine aggregate gradation shall be as follows:

Backfill, bedding and trench backfill for pipe culverts and storm sewers FA 1, FA 2, FA 6, or FA 21
Porous granular embankment and backfill, french drains, and sand backfill for underdrains FA 1, FA 2, or FA20 (Note 1)

Note 1: For FA 1, FA 2, and FA 20 the percent passing the 75 m (No. 200) sieve shall be 2 $\pm$ 2."

Revise the title of Article 1004.06 of the Standard Specifications to read:

"Coarse Aggregate for Blotter, Embankment, Backfill, Trench Backfill, French Drains, and Bedding."

Add the following to the end of subparagraph (c) of Article 1004.06 of the Standard Specifications:

"Backfill, bedding, and trench backfill for pipe culverts and storm sewers CA 6, CA 10, and CA 18"

CONCRETE ADMIXTURES (BDE)

Effective: January 1, 2003 Revised: July 1, 2004

Revise Article 1020.05(b) of the Standard Specifications to read:

"(b) Admixtures. Except as specified, the use of admixtures to increase the workability or to accelerate the hardening of the concrete will be permitted only when approved in writing by the Engineer. The Department will maintain an Approved List of Concrete Admixtures. When the Department permits the use of a calcium chloride accelerator, it shall be according to Article 442.02, Note 5.

When the atmosphere or concrete temperature is 18 °C (65 °F) or higher, a retarding admixture meeting the requirements of Article 1021.03 shall be used in the Class BD Concrete and portland cement concrete bridge deck overlays. The amount of retarding admixture to be used will be determined by the Engineer. The proportions of the ingredients of the concrete shall be the same as without the retarding admixture except that the amount of mixing water shall be reduced, as may be necessary, in order to maintain the consistency of the concrete as required. In addition, a high range water-reducing admixture shall be used in Class BD Concrete. The amount of high range water-reducing admixture will be determined by the Engineer. At the option of the Contractor, a water-reducing admixture may be used. Type I cement shall be used.

For Class PC and PS Concrete, a retarding admixture may be added to the concrete mixture when the concrete temperature is 18 °C (65 °F) or higher. Other admixtures may be used when approved by the Engineer, or if specified by the contract. If an accelerating admixture is permitted by the Engineer, it shall be the non-chloride type.

At the Contractor's option, admixtures in addition to an air-entraining admixture may be used for Class PP-1 concrete. The accelerator shall be the non-chloride type. If a water-reducing or retarding admixture is used, the cement factor may be reduced a maximum 18 kg/cu m (0.30 hundredweight/cu yd). If a high range water-reducing admixture is used, the cement factor may be reduced a maximum 36 kg/cu m (0.60 hundredweight/cu yd). Cement factor reductions shall not be cumulative when using multiple admixtures. An accelerator shall always be added prior to a high range water-reducing admixture, if both are used.

If Class C fly ash or ground granulated blast-furnace slag is used in Class PP-1 concrete, a water-reducing or high range water-reducing admixture shall be used. However, the cement factor shall not be reduced if a water-reducing, retarding, or high range water-reducing admixture is used. In addition, an accelerator shall not be used.

For Class PP-2 or PP-3 concrete, a non-chloride accelerator followed by a high range water-reducing admixture shall be used, in addition to the air-entraining admixture. For Class PP-3 concrete, the non-chloride accelerator shall be calcium nitrite.

For Class PP-2 or PP-3 concrete, the Contractor has the option to use a water-reducing admixture. A retarding admixture shall not be used unless approved by the Engineer. A water-reducing, retarding, or high range water-reducing admixture shall not be used to reduce the cement factor.

When the air temperature is less than 13 °C (55 °F) for Class PP-1 or PP-2 concrete, the non-chloride accelerator shall be calcium nitrite.

For Class PP-4 concrete, a high range water-reducing admixture shall be used in addition to the air-entraining admixture. The Contractor has the option to use a water-reducing admixture. An accelerator shall not be used. For stationary or truck mixed concrete, a retarding admixture shall be used to allow for haul time. The Contractor has the option to use a mobile portland cement concrete plant according to Article 1103.04,

but a retarding admixture shall not be used unless approved by the Engineer. A water-reducing, retarding, or high range water-reducing admixture shall not be used to reduce the cement factor.

If the Department specifies a calcium chloride accelerator for Class PP-1 concrete, the maximum chloride dosage shall be 1.0 L (1.0 quart) of solution per 45 kg (100 lb) of cement. The dosage may be increased to a maximum 2.0 L (2.0 quarts) per 45 kg (100 lb) of cement if approved by the Engineer. If the Department specifies a calcium chloride accelerator for Class PP-2 concrete, the maximum chloride dosage shall be 1.3 L (1.3 quarts) of solution per 45 kg (100 lb) of cement. The dosage may be increased to a maximum 2.6 L (2.6 quarts) per 45 kg (100 lb) of cement if approved by the Engineer.

For Class PV, MS, SI, RR, SC and SH concrete, at the option of the Contractor, or when specified by the Engineer, a water-reducing admixture or a retarding admixture may be used. The amount of water-reducing admixture or retarding admixture permitted will be determined by the Engineer. The air-entraining admixture and other admixtures shall be added to the concrete separately, and shall be permitted to intermingle only after they have separately entered the concrete batch. The sequence, method and equipment for adding the admixtures shall be approved by the Engineer. The water-reducing admixture shall not delay the initial set of the concrete by more than one hour. Type I cement shall be used.

When a water-reducing admixture is added, a cement factor reduction of up to 18 kg/cu m (0.30 hundredweight/cu yd), from the concrete designed for a specific slump without the admixture, will be permitted for Class PV, MS, SI, RR, SC and SH concrete. When an approved high range water-reducing admixture is used, a cement factor reduction of up to 36 kg/cu m (0.60 hundredweight/cu yd), from a specific water cement/ratio without the admixture, will be permitted based on a 14 percent minimum water reduction. This is applicable to Class PV, MS, SI, RR, SC and SH concrete. A cement factor below 320 kg/cu m (5.35 hundredweight/cu yd) will not be permitted for Class PV, MS, SI, RR, SC and SH concrete. A cement factor reduction will not be allowed for concrete placed underwater. Cement factor reductions shall not be cumulative when using multiple admixtures.

For use of admixtures to control concrete temperature, refer to Articles 1020.14(a) and 1020.14(b).

The maximum slumps given in Table 1 may be increased to 175 mm (7 in.) when a high range water-reducing admixture is used for all classes of concrete except Class PV and PP."

Revise Section 1021 of the Standard Specifications to read:

"SECTION 1021. CONCRETE ADMIXTURES"

1021.01 General. Admixtures shall be furnished in liquid form ready for use. The admixtures may be delivered in the manufacturer's original containers, bulk tank trucks or such

containers or tanks as are acceptable to the Engineer. Delivery shall be accompanied by a ticket which clearly identifies the manufacturer and trade name of the material. Containers shall be readily identifiable to the satisfaction of the Engineer as to manufacturer and trade name of the material they contain.

Prior to inclusion of a product on the Department's Approved List of Concrete Admixtures, the manufacturer shall submit a report prepared by an independent laboratory accredited by the AASHTO Accreditation Program. The report shall show the results of physical tests conducted no more than five years prior to the time of submittal, according to applicable specifications.

Tests shall be conducted using materials and methods specified on a "test" concrete and a "reference" concrete, together with a certification that no changes have been made in the formulation of the material since the performance of the tests. Per the manufacturer's option, the cement content for all required tests shall either be according to applicable specifications or 335 kg/cu m (5.65 cwt/cu yd). Compressive strength test results for six months and one year will not be required.

In addition to the report, the manufacturer shall submit AASHTO T 197 water content and set time test results on the standard cement used by the Department. The test and reference concrete mixture shall contain a cement content of 335 kg/cu m (5.65 cwt/cu yd). The manufacturer may select their lab or an independent lab to perform this testing. The laboratory is not required to be accredited by the AASHTO Accreditation Program.

Prior to the approval of an admixture, the Engineer may conduct all or part of the applicable tests on a sample that is representative of the material to be furnished. The test and reference concrete mixtures tested by the Engineer will contain a cement content of 335 kg/cu m (5.65 cwt/cu yd). For freeze-thaw testing, the Department will perform the test according to Illinois Modified AASHTO T 161, Procedure B.

The manufacturer shall include in the submittal the following information according to ASTM C 494; the average and manufacturing range of specific gravity, the average and manufacturing range of solids in the solution, and the average and manufacturing range of pH. The submittal shall also include an infrared spectrophotometer trace no more than five years old.

When test results are more than seven years old, the manufacturer shall re-submit the infrared spectrophotometer trace and the report prepared by an independent laboratory accredited by the AASHTO Accreditation Program.

All admixtures, except chloride-based accelerators, shall contain no more than 0.3 percent chloride by mass (weight).

1021.02 Air-Entraining Admixtures. Air-entraining admixtures shall conform to the requirements of AASHTO M 154.

If the manufacturer certifies that the air-entraining admixture is an aqueous solution of Vinsol resin that has been neutralized with sodium hydroxide (caustic soda), testing for compliance with the requirements may be waived by the Engineer. In the certification, the manufacturer shall show complete information with respect to the formulation of the solution,

including the number of parts of Vinsol resin to each part of sodium hydroxide. Before the approval of its use is granted, the Engineer will test the solution for its air-entraining quality in comparison with a solution prepared and kept for that purpose.

1021.03 Retarding and Water-Reducing Admixtures. The admixture shall comply with the following requirements:

(a) The retarding admixture shall comply with the requirements of AASHTO M 194, Type B (retarding) or Type D (water-reducing and retarding).

(b) The water-reducing admixture shall comply with the requirements of AASHTO M 194, Type A.

(c) The high range water-reducing admixture shall comply with the requirements of AASHTO M 194, Type F (high range water-reducing) or Type G (high range water-reducing and retarding).

When a Type F or Type G high range water-reducing admixture is used, water-cement ratios shall be a minimum of 0.32.

Type F or Type G admixtures may be used, subject to the following restrictions:

For Class MS, SI, RR, SC and SH concrete, the water-cement ratio shall be a maximum of 0.44.

The Type F or Type G admixture shall be added at the jobsite unless otherwise directed by the Engineer. The initial slump shall be a minimum of 40 mm (1 1/2 in.) prior to addition of the Type F or Type G admixture, except as approved by the Engineer.

When a Type F or Type G admixture is used, retempering with water or with a Type G admixture will not be allowed. An additional dosage of a Type F admixture, not to exceed 40 percent of the original dosage, may be used to retemper concrete once, provided set time is not unduly affected. A second retempering with a Type F admixture may be used for all classes of concrete except Class PP and SC, provided that the dosage does not exceed the dosage used for the first retempering, and provided that the set time is not unduly affected. No further retempering will be allowed.

Air tests shall be performed after the addition of the Type F or Type G admixture.

1021.04 Set Accelerating Admixtures. The admixture shall comply with the requirements of AASHTO M 194, Type C (accelerating) or Type E (water reducing and accelerating)"

Corrugated Metal Pipe Culverts (BDE)
Effective: August 1, 2003 Revised: July 1, 2004

Revise the fourth paragraph of Article 542.04(d) of the Standard Specifications to read:

"When corrugated steel or aluminum alloy culvert pipe (including bituminous coated steel or aluminum and pre-coated steel) is used, the pipe shall be placed such that the longitudinal lap is placed at the sides and separate sections of pipe shall be joined with a hugger-type band. When the pipes are fabricated with a smooth sleeve-type coupler, the gasket shall meet the requirements of Article 1006.01."

Add the following paragraph after the first paragraph of Article 1006.01 of the Standard Specifications:

"Round pipes 1200 mm (48 in.) in diameter and smaller may be fabricated with a smooth sleeve-type coupler. Gasket material on the smooth sleeve-type coupler shall be polyisoprene or equal with a durometer hardness of 45±5 (ASTM D 2240, Shore A). Pipe used with smooth sleeve-type couplers shall contain a homing mark that indicates when the joint is tight. The homing mark shall consist of a painted stripe around the circumference of the male end of the pipe."

Delete the last sentence of the first paragraph of Article 1006.01(a) of the Standard Specifications.

Add the following paragraph after the first paragraph of Article 1006.03 of the Standard Specifications:

"Round pipes 1200 mm (48 in.) in diameter and smaller may be fabricated with a smooth sleeve-type coupler. Gasket material on the smooth sleeve-type coupler shall be polyisoprene or equal with a durometer hardness of 45±5 (ASTM D 2240, Shore A). Pipe used with smooth sleeve-type couplers shall contain a homing mark that indicates when the joint is tight. The homing mark shall consist of a painted stripe around the circumference of the male end of the pipe."

CURB RAMPS for sidewalk (BDE)
Effective: January 1, 2004

Description. This work shall consist of constructing sidewalk curb ramps with detectable warnings in compliance with the Americans with Disabilities Act, Accessibility Guidelines (ADAAG). Work shall be according to Section 424 of the Standard Specifications except as modified herein.

The detectable warnings shall consist of an area of truncated domes that provide both visual and tactile cues to pedestrians who are about to enter into traffic. The warning area shall begin 150 mm (6 in.) from the back of the curb and continue 600 mm (2 ft) in the direction of pedestrian travel for the entire width of the walking surface.

The detectable warnings shall also present a contrast in color from the adjacent sidewalk. This shall be accomplished by constructing the warning area, plus the 150 mm (6 in.) area between the warning area and the back of curb, out of concrete that is integrally colored red. However if the sidewalk is brick or of some dark color, the contrast requirement shall be achieved with normal (grey), Class SI concrete.

Materials. Materials for the detectable warning area of the curb ramps shall meet the following requirements.

a) Integrally Colored Concrete. Integrally colored concrete shall be according to Section 1020 of the Standard Specification for Class SI concrete except as follows.

Article 1020.04	The allowable water/cement ratio range shall be 0.40 minimum to 0.44 maximum.
Article 1020.04	The allowable slump range shall be 75 mm (3 in.) minimum to 125 mm (5 in.) maximum.
Article 1020.04	The allowable coarse aggregate gradations shall be CA 11, CA 13, CA 14, and CA 16.
Article 1020.05(b)	A calcium chloride accelerating admixture shall not be used.
Article 1020.05(b)	The cement factor shall not be reduced if a water-reducing or high range water-reducing admixture is used.
Article 1020.05(c)	Fly ash shall not be used.
Article 1020.05(k)	Ground granulated blast-furnace slag shall not be used.
Article 1020.11	Pigment for integrally colored concrete shall be added to the concrete and mixed per the Manufacturer's recommendation.
Article 1020.13	The curing method shall be Type I membrane curing.
Article 1020.13.	The protection method shall be according to Article 1020.13(e)(1) and the protection period shall be 96 hours. No material, including the insulating material, shall be placed in direct contact with the concrete surface.

(b) Pigment for Integrally Colored Concrete. The pigment shall meet the requirements of ASTM C 979, match color number 30166 of Federal Standard 595, and be on the Department's Approved List of Pigments for Integrally Colored Concrete.

(c) Release Agent for Concrete Stamping Tools. The release agent shall be according to the stamping tool manufacturer's recommendations and the following: it shall be a clear liquid that will evaporate, it shall not harm the concrete, and it shall allow the application of Type I membrane curing.

Equipment. Equipment for the detectable warning area of the curb ramps shall meet the following requirements.

(a) Concrete Stamps. Sufficient numbers and sizes of stamps shall be furnished to cover the various widths of the curb ramps. The stamps shall have an air opening at the top

of each truncated dome recess; and shall be rigid enough to evenly distribute the force exerted during tamping.

(b) Tamper. The tamper shall be according to the concrete stamp manufacturer's recommendations.

CONSTRUCTION REQUIREMENTS

Stamping. The concrete shall be placed and finished according to Article 424.06 except the area to be stamped shall not be brushed. When the bleed water has been absorbed, stamping shall begin. The entire width of the curb ramp shall be stamped at the same time. A single stamp or a combination of stamps may be used.

Prior to placing the stamp on the concrete, the stamp shall be coated with the release agent. When recommended by the manufacturer, the release agent shall also be applied to the concrete surface. Once the stamp has been placed on the ramp, it shall remain down until the stamping is complete.

The entire area of the stamp shall be tamped with a short, slow, repetitive action such that the concrete is caused to move up and into the dome recesses of the stamp. Tamping shall continue until mortar has come through the air openings in the stamp. Stepping or walking on the stamp will not be allowed. The base elevation of the domes shall be even with the adjacent sidewalk surface; the stamp shall not be forced down into the concrete.

When stamping is complete, the stamp shall be removed and the concrete cured.

Upon completion of curing, or after cold weather protection if required, the protruding mortar tip on the top of each dome shall be removed and the dome rubbed or ground smooth.

Curing and protection of concrete construction (BDE)
Effective: January 1, 2004

Revise the second and third sentences of the eleventh paragraph of Article 503.06 of the Standard Specifications to read:

"Forms on substructure units shall remain in place at least 24 hours. The method of form removal shall not result in damage to the concrete."

Delete the twentieth paragraph of Article 503.22 of the Standard Specifications.

Revise the "Unit Price Adjustments" table of Article 503.22 of the Standard Specifications to read:

"UNIT PRICE ADJUSTMENTS	
Type of Construction	Percent Adjustment in Unit Price
For concrete in substructures, culverts (having a waterway opening of more than 1 sq m (10 sq ft)), pump houses, and retaining walls (except concrete pilings, footings and foundation seals):	
When protected by:	
Protection Method II	115%
Protection Method I	110%
For concrete in superstructures:	
When protected by:	
Protection Method II	123%
Protection Method I	115%
For concrete in footings:	
When protected by:	
Protection Method I, II or III	107%
For concrete in slope walls:	
When protected by:	
Protection Method I	107%"

Delete the fourth paragraph of Article 504.05(a) of the Standard Specifications.

Revise the second and third sentences of the fifth paragraph of Article 504.05(a) of the Standard Specifications to read:

"All test specimens shall be cured with the units according to Article 1020.13."

Revise the first paragraph of Article 504.06(c)(6) of the Standard Specifications to read:

"Curing and Low Air Temperature Protection. The curing and protection for precast, prestressed concrete members shall be according to Article 1020.13 and this Article."

Revise the first sentence of the second paragraph of Article 504.06(c)(6) of the Standard Specifications to read:

"For curing, air vents shall be in place, and shall be so arranged that no water can enter the void tubes during the curing of the members."

Revise the first sentence of the third paragraph of Article 504.06(c)(6) of the Standard Specifications to read:

"As soon as each member is finished, the concrete shall be covered with curing material according to Article 1020.13."

Revise the eighth paragraph of Article 504.06(c)(6) of the Standard Specifications to read:

"The prestressing force shall not be transferred to any member before the concrete has attained the compressive strength of 28,000 kPa (4000 psi) or other higher compressive release strength specified on the plans, as determined from tests of 150 mm (6 in.) by 300 mm (12 in.) cylinders cured with the member according to Article 1020.13. Members shall not be shipped until 28-day strengths have been attained and members have a yard age of at least 4 days."

Delete the third paragraph of Article 512.03(a) of the Standard Specifications.

Delete the last sentence of the second paragraph of Article 512.04(d) of the Standard Specifications.

Revise the "Index Table of Curing and Protection of Concrete Construction" table of Article 1020.13 of the Standard Specifications to read:

"INDEX TABLE OF CURING AND PROTECTION OF CONCRETE CONSTRUCTION			
TYPE OF CONSTRUCTION	CURING METHODS	CURING PERIOD DAYS	LOW AIR TEMPERATURE PROTECTION METHODS
Cast-in-Place Concrete: [11/]			
Pavement Shoulder	1020.13(a)(1)(2)(3)(4)(5)[3/ 5/]	3	1020.13(c)
Base Course Base Course Widening	1020.13(a)(1)(2)(3)(4)(5)[1/ 2/]	3	1020.13(c)
Driveway Median Curb Gutter Curb and Gutter Sidewalk Slope Wall	1020.13(a)(1)(2)(3)(4)(5)[4/ 5/]	3	1020.13(c)[16/]
Paved Ditch Catch Basin Manhole Inlet Valve Vault	1020.13(a)(1)(2)(3)(4)(5)[4/]	3	1020.13(c)
Pavement Patching	1020.13(a)(1)(2)(3)(4)(5)[2/]	3[12/]	1020.13(c)
Pavement Replacement	1020.13(a)(1)(2)(3)(4)(5)[1/ 2/]	3	442.06(h) and 1020.13(c)
Railroad Crossing	1020.13(a)(3)(5)	1	1020.13(c)
Piles	1020.13(a)(3)(5)	7	1020.13(e)(1)(2)(3)
Footings Foundation Seals	1020.13(a)(1)(2)(3)(4)(5)[4/6/]	7	1020.13(e)(1)(2)(3)
Substructure	1020.13(a)(1)(2)(3)(4)(5)[1/7/]	7	1020.13(e)(1)(2)(3)
Superstructure (except deck)	1020.13(a)(1)(2)(3)(5)[8/]	7	1020.13(e)(1)(2)
Deck	1020.13(a)(5)	7	1020.13(e)(1)(2)[17/]
Retaining Walls	1020.13(a)(1)(2)(3)(4)(5)[1/7/]	7	1020.13(e)(1)(2)
Pump Houses	1020.13(a)(1)(2)(3)(4)(5)[1/]	7	1020.13(e)(1)(2)
Culverts	1020.13(a)(1)(2)(3)(4)(5)[4/6/]	7	1020.13(e)(1)(2)[18/]
Other Incidental Concrete	1020.13(a)(1)(2)(3)(5)	3	1020.13(c)
Precast Concrete: [11/]			
Bridge Beams Piles Bridge Slabs Nelson Type Structural Member	1020.13(a)(3)(5)[9/10/]	As required.[13/]	504.06(c)(6), 1020.13(e)(2)[19/]
All Other Precast Items	1020.13(a)(3)(4)(5)[2/9/10/]	As required.[14/]	504.06(c)(6), 1020.13(e)(2)[19/]
Precast, Prestressed Concrete: [11/]			
All Items	1020.13(a)(3)(5)[9/10/]	Until strand tensioning is released.[15/]	504.06(c)(6), 1020.13(e)(2)[19/]

Notes-General:

1/ Type I, membrane curing only

2/ Type II, membrane curing only

3/ Type III, membrane curing only

4/ Type I, II and III membrane curing

5/ Membrane curing will not be permitted between November 1 and April 15.

6/ The use of water to inundate footings, foundation seals or the bottom slab of culverts is permissible when approved by the Engineer, provided the water temperature can be maintained at 7 °C (45 °F) or higher.

7/ Asphalt Emulsion for Waterproofing may be used in lieu of other curing methods when specified and permitted according to Article 503.18.

8/ On non-traffic surfaces which receive protective coat according to Article 503.19, a linseed oil emulsion curing compound may be used as a substitute for protective coat and other curing methods. The linseed emulsion curing compound will be permitted between April 16 and October 31 of the same year, provided it is applied with a mechanical sprayer according to Article 1101.09 (b), and meets the material requirements of Article 1022.07.

9/ Steam curing (heat and moisture) is acceptable and shall be accomplished by the method specified in Article 504.06(c)(6).

10/ A moist room according to AASHTO M 201 is acceptable for curing.

11/ If curing is required and interrupted because of form removal for cast-in-place concrete items, precast concrete products, or precast prestressed concrete products, the curing shall be resumed within two hours from the start of the form removal.

12/ Curing maintained only until opening strength is attained, with a maximum curing period of three days.

13/ The curing period shall end when the concrete has attained the mix design strength. The producer has the option to discontinue curing when the concrete has attained 80 percent of the mix design strength or after seven days. All strength test specimens shall remain with the units and shall be subjected to the same curing method and environmental condition as the units, until the time of testing.

14/ The producer shall determine the curing period or may elect to not cure the product. All strength test specimens shall remain with the units and shall be subjected to the same curing method and environmental condition as the units, until the time of testing.

15/ The producer has the option to continue curing after strand release.

16/ When structural steel or structural concrete is in place above slope wall, Article 1020.13(c) shall not apply. The protection method shall be according to Article 1020.13(e)(1).

17/ When Article 1020.13(e)(2) is used to protect the deck, the housing may enclose only the bottom and sides. The top surface shall be protected according to Article 1020.13(e)(1).

18/ For culverts having a waterway opening of 1 sq m (10 sq ft) or less, the culverts may be protected according to Article 1020.13(e)(3).

19/ The seven day protection period in the first paragraph of Article 1020.13(e)(2) shall not apply. The protection period shall end when curing is finished. For the third paragraph of Article 1020.13(e)(2), the decrease in temperature shall be according to Article 504.06(c)(6).”

Add the following to Article 1020.13(a) of the Standard Specifications:

"(5) Wetted Cotton Mat Method. After the surface of concrete has been textured or finished, it shall be covered immediately with dry cotton mats. The cotton mats shall be placed in a manner which will not mar the concrete surface. A texture resulting from the cotton mat material is acceptable. The cotton mats shall then be wetted immediately and thoroughly soaked with a gentle spray of water. For bridge decks, a foot bridge shall be used to place and wet the cotton mats.

The cotton mats shall be maintained in a wetted condition until the concrete has hardened sufficiently to place soaker hoses without marring the concrete surface. The soaker hoses shall be placed on top of the cotton mats at a maximum 1.2 m (4 ft) spacing. The cotton mats shall be kept wet with a continuous supply of water for the remainder of the curing period. Other continuous wetting systems may be used if approved by the Engineer.

After placement of the soaker hoses, the cotton mats shall be covered with white polyethylene sheeting or burlap-polyethylene blankets.

For construction items other than bridge decks, soaker hoses or a continuous wetting system will not be required if the alternative method keeps the cotton mats wet. Periodic wetting of the cotton mats is acceptable.

For areas inaccessible to the cotton mats on bridge decks, curing shall be according to Article 1020.13(a)(3)."

Revise the first paragraph of Article 1020.13(c) of the Standard Specifications to read:

"Protection of Portland Cement Concrete, Other Than Structures, From Low Air Temperatures. When the official National Weather Service forecast for the construction area predicts a low of 0 °C (32 °F), or lower, or if the actual temperature drops to 0 °C (32 °F), or lower, concrete less than 72 hours old shall be provided at least the following protection:"

Delete Article 1020.13(d) and Articles 1020.13(d)(1),(2),(3),(4) of the Standard Specifications.

Revise the first five paragraphs of Article 1020.13(e) of the Standard Specifications to read:

"Protection of Portland Cement Concrete Structures From Low Air Temperatures. When the official National Weather Service Forecast for the construction area predicts a low below 7 °C (45 °F), or if the actual temperature drops below 7 °C (45 °F), concrete less than 72 hours old shall be provided protection. Concrete shall also be provided protection when placed during the winter period of December 1 through March 15. Concrete shall not be placed until the materials, facilities and equipment for protection are approved by the Engineer.

When directed by the Engineer, the Contractor may be required to place concrete during the winter period. If winter construction is specified, the Contractor shall proceed with the construction, including concrete, excavation, pile driving, steel erection and all appurtenant work required for the complete construction of the item, except at times when weather conditions make such operations impracticable.

Regardless of the precautions taken, the Contractor shall be responsible for protection of the concrete placed and any concrete damaged by cold temperatures shall be removed and replaced by the Contractor at his/her own expense."

Add the following at the end of the third paragraph of Article 1020.13(e)(1) of the Standard Specifications:

"The Contractor shall provide means for checking the temperature of the surface of the concrete during the protection period."

Revise the second sentence of the first paragraph of Article 1020.13(e)(2) of the Standard Specifications to read:

"The Contractor shall provide means for checking the temperature of the surface of the concrete or air temperature within the housing during the protection period."

Delete the last sentence of the first paragraph of Article 1020.13(e)(3) of the Standard Specifications.

Add the following Article to Section 1022 of the Standard Specifications:

"**1022.06 Cotton Mats.** Cotton mats shall consist of a cotton fill material, minimum 400 g/sq m (11.8 oz/sq yd), covered with unsized cloth or burlap, minimum 200 g/sq m (5.9 oz/sq yd), and be tufted or stitched to maintain stability.

Cotton mats shall be in a condition satisfactory to the Engineer. Any tears or holes in the mats shall be repaired.

Add the following Article to Section 1022 of the Standard Specifications:

"**1022.07 Linseed Oil Emulsion Curing Compound.** Linseed oil emulsion curing compound shall be composed of a blend of boiled linseed oil and high viscosity, heavy bodied linseed oil emulsified in a water solution. The curing compound shall meet the requirements of a Type I, II, or III according to Article 1022.01, except the drying time requirement will be waived. The oil phase shall be 50 ± 4 percent by volume. The oil phase shall consist of 80 percent by mass (weight) boiled linseed oil and 20 percent by mass (weight) Z-8 viscosity linseed oil. The water phase shall be 50 ± 4 percent by volume."

Revise Article 1020.14 of the Standard Specifications to read:

"**1020.14 Temperature Control for Placement.** Temperature control for concrete placement shall conform to the following requirements:

(a) Temperature Control other than Structures. The temperature of concrete immediately before placing, shall be not less than 10 °C (50 °F) nor more than 32 °C (90 °F). Aggregates and/or water shall be heated or cooled as necessary to produce concrete within these temperature limits.

When the temperature of the plastic concrete reaches 30 °C (85 °F), an approved retarding admixture shall be used or the approved water reducing admixture in use shall have its dosage increased by 50 percent over the dosage recommended on the Department's Approved List of Concrete Admixtures for the temperature experienced. The amount of retarding admixture to be used will be determined by the Engineer. This requirement may be waived by the Engineer when fly ash compensated mixtures are used.

Plastic concrete temperatures up to 35 °C (96 °F), as placed, may be permitted provided job site conditions permit placement and finishing without excessive use of water on and/or overworking of the surface. The occurrence within 24 hours of unusual surface distress shall be cause to revert to a maximum 32 °C (90 °F) plastic concrete temperature.

Concrete shall not be placed when the air temperature is below 5 °C (40 °F) and falling or below 2 °C (35 °F), without permission of the Engineer. When placing of concrete is authorized during cold weather, the Engineer may require the water and/or the aggregates to be heated to not less than 20 °C (70 °F) nor more than 65 °C (150 °F). The aggregates may be heated by either steam or dry heat prior to being placed in the mixer. The apparatus used shall heat the mass uniformly and shall be so arranged as to preclude the possible occurrence of overheated areas which might damage the materials. No frozen aggregates shall be used in the concrete.

For pavement patching, refer to Article 442.06(e) for additional information on temperature control for placement.

(b) Temperature Control for Structures. The temperature of concrete as placed in the forms shall be not less than 10 °C (50 °F) nor more than 32 °C (90 °F). Aggregates and/or water shall be heated or cooled as necessary to produce concrete within these temperature limits. When insulated forms are used, the temperature of the concrete mixture shall not exceed 25 °C (80 °F). If the Engineer determines that heat of hydration might cause excessive temperatures in the concrete, the concrete shall be placed at a temperature between 10 °C (50 °F) and 15 °C (60 °F), per the Engineer's instructions. When concrete is placed in contact with previously placed concrete, the temperature of the concrete may be increased as required to offset anticipated heat loss.

Concrete shall not be placed when the air temperature is below 7 °C (45 °F) and falling or below 4 °C (40 °F), without permission of the Engineer. When placing of concrete is authorized during cold weather, the Engineer may require the water and/or the aggregates to be heated to not less than 20 °C (70 °F) nor more than 65 °C (150 °F).

The aggregates may be heated by either steam or dry heat prior to being placed in the mixer. The apparatus used shall heat the mass uniformly and shall be so arranged as to preclude the possible occurrence of overheated areas which might damage the materials. No frozen aggregates shall be used in the concrete.

When the temperature of the plastic concrete reaches 30 °C (85 °F), an approved retarding admixture shall be used or the approved water reducing admixture in use shall have its dosage increased by 50 percent over the dosage recommended on the Department's Approved List of Concrete Admixtures for the temperature experienced. The amount of retarding admixture to be used will be determined by the Engineer. This requirement may be waived by the Engineer when fly ash compensated mixtures are used.

(c) Temperature. The concrete temperature shall be determined according to ASTM C 1064."

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION

Effective: September 1, 2000 Revised: June 2, 2005

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 DBE Directory or most recent addendum.

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% 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% 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 firms performing work called for in this contract is eligible to be credited toward fulfillment of the Department's overall goal.

CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR. This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined that the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. This determination is based on an assessment of the type of work, the location of the work, and the availability of DBE companies to do a part of the work. The assessment indicates that, in the absence of unlawful discrimination, and in an arena of fair and open competition, DBE companies can be expected to perform 30.00% 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 award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in the performance of the work. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set forth in this Special Provision:

(a) The bidder documents that firmly committed DBE participation has been obtained to meet the goal; or

(b) The bidder documents that a good faith effort has been made to meet the goal, even though the effort did not succeed in obtaining enough DBE participation to meet the goal.

DBE LOCATOR REFERENCES. Bidders may consult the DBE Directory as a reference source for DBE companies certified by the Department. In addition, the Department maintains a letting and item specific DBE locator information system whereby DBE companies can register their interest in providing quotes on particular bid items advertised for letting. Information concerning DBE companies willing to quote work for particular contracts may be obtained by contacting the Department's Bureau of Small Business Enterprises at telephone number (217)785-4611, or by visiting the Department's web site at www.dot.state.il.us.

BIDDING PROCEDURES. Compliance with the bidding procedures of this Special Provision is required prior to the award of the contract and the failure of the as-read low bidder to comply will render the bid not responsive.

(a) In order to assure the timely award of the contract, the as-read low bidder shall submit a Disadvantaged Business Utilization Plan on Department form SBE 2026 within seven (7) working days after the date of letting. To meet the seven (7) day requirement, the bidder may send the Plan by certified mail or delivery service within the seven (7) working day period. If a question arises concerning the mailing date of a Plan, the mailing date will be established by the U.S. Postal Service postmark on the original certified mail receipt from the U.S. Postal Service or the receipt issued by a delivery

service. It is the responsibility of the bidder to ensure that the postmark or receipt date is affixed within the seven (7) working days if the bidder intends to rely upon mailing or delivery to satisfy the submission day requirement. The Plan is to be submitted 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). It is the responsibility of the bidder to obtain confirmation of telefax delivery. The Department will not accept a Utilization Plan if it does not meet the seven (7) day submittal requirement and the bid will be declared not responsive. In the event the bid is declared not responsive due to a failure to submit a Plan or failure to comply with the bidding procedures set forth herein, the Department may elect to cause the forfeiture of the penal sum of the bidder's proposal guaranty, and may deny authorization to bid the project if re-advertised for bids. The Department reserves the right to invite any other bidder to submit a Utilization Plan at any time for award consideration or to extend the time for award.

(b) The Utilization Plan shall indicate that the bidder either has obtained sufficient DBE participation commitments to meet the contract goal or has not obtained enough DBE participation commitments in spite of a good faith effort to meet the goal. The Utilization Plan shall further provide the name, telephone number, and telefax number of a responsible official of the bidder designated for purposes of notification of 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. The signatures on these forms must be original signatures. All elements of information indicated on the said form shall be provided, including but not limited to the following:

(1) The name and address of each DBE to be used;

(2) A description, including pay item numbers, of the commercially useful work to be done by each DBE;

(3) The price to be paid to each DBE for the identified work specifically stating 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) A commitment statement signed by the bidder and each DBE evidencing availability and intent to perform commercially useful work on the project; and

(5) If the bidder is a joint venture comprised of DBE firms and non-DBE firms, the plan must also include a clear identification of the portion of the work to be performed by the DBE partner(s).

(d) The contract will not be awarded until the Utilization Plan submitted by the bidder is approved. The Utilization Plan will be approved by the Department if the Plan commits sufficient commercially useful DBE work performance to meet the contract goal. The Utilization Plan will not be approved by the Department if the Plan does not commit

sufficient DBE performance to meet the contract goal unless the bidder documents that it made a good faith effort to meet the goal. The good faith procedures of Section VIII of this special provision apply. If the Utilization Plan is not approved because it is deficient in a technical matter, unless waived by the Department, the bidder will be notified and will be allowed no less than a five (5) working day period in order to cure the deficiency.

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% 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 firm does not count toward the DBE goals.

(b) DBE as a joint venture Contractor: 100% 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% 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 firm does not count toward the DBE goal.

(d) DBE as a trucker: 100% 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 contact. Credit will be given for the full value of all such DBE trucks operated using DBE employed drivers. Goal credit will be limited to the value of the reasonable fee or commission received by the DBE if trucks are leased from a non-DBE company.

(e) DBE as a material supplier:

(1) 60% goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.

(2) 100% goal credit for the cost of materials or supplies obtained from a DBE manufacturer.

(3) 100% credit for the value of reasonable fees and commissions for the procurement of materials and supplies if not a regular dealer or manufacturer.

GOOD FAITH EFFORT PROCEDURES. If the bidder cannot obtain sufficient DBE commitments to meet the contract goal, the bidder must document in the Utilization Plan the good faith efforts made in the attempt 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 could reasonably be expected to obtain sufficient DBE participation. The Department will consider the quality, quantity, and intensity of the kinds of efforts that the bidder has made. Mere *pro forma* efforts are not good faith efforts; rather, the bidder is expected to have taken those 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 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 a good faith effort has not been made, the Department will notify the bidder of that preliminary determination by contacting the responsible company official designated in the Utilization Plan. The preliminary determination shall include a statement of reasons why good faith efforts have not been found, and may include additional good faith efforts that the bidder could take. The notification will designate a five (5) working day period during which the bidder shall take additional efforts. The bidder is not limited by a statement of additional efforts, but may take other action beyond any stated additional efforts in order to obtain additional DBE commitments. The bidder shall submit an amended Utilization Plan if additional DBE commitments to meet the contract goal are secured. If additional DBE commitments sufficient to meet the contract goal are not secured, the bidder shall report the final good faith efforts made in the time allotted. All additional efforts taken by the bidder will be considered as part of the bidder's good faith efforts. If the bidder is not able to meet the goal after taking additional efforts, the Department will make a pre-final determination of the good faith efforts of the bidder and will notify the designated responsible company official of the reasons for an adverse determination.

(c) The bidder may request administrative reconsideration of a pre-final determination adverse to the bidder within the five (5) working days after 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 pre-final determination shall become final if a request is not made and delivered. A request may provide additional written documentation and/or argument concerning the issue of whether an adequate good faith effort was made to meet the contract goal. In addition, the request shall be considered a consent by the bidder to extend the time for award. The request will be forwarded to the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person in order to consider all issues of whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will be sent a written decision within ten (10) working days after receipt of the request for reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. A final decision by the Reconsideration Officer that a good faith effort was made shall approve the Utilization Plan submitted by the bidder and shall clear the contract for award. A final decision that a good faith effort was not made shall render the bid not responsive.

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 Plan and award of the contract, the Utilization Plan and individual DBE Participation Statements become part of the contract. If the Contractor did not succeed in obtaining enough DBE participation to achieve the advertised contract goal, and the Utilization Plan was approved and contract awarded based upon a determination of good faith, the total dollar value of DBE work calculated in the approved Utilization Plan as a percentage of the awarded contract value shall become the amended contract goal.

(a) No amendment to the Utilization Plan may be made without prior written approval from the Department's Bureau of Small Business Enterprises. All requests for amendment to the Utilization Plan shall be submitted to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764. Telephone number (217) 785-4611. Telefax number (217) 785-1524.

(b) All work indicated for performance by an approved DBE shall be performed, managed, and supervised by the DBE executing the Participation Statement. The Contractor shall not terminate for convenience a DBE listed in the Utilization Plan and then perform the work of the terminated DBE with its own forces, those of an affiliate or those of another subcontractor, whether DBE or not, without first obtaining the written consent of the Bureau of Small Business Enterprises to amend the Utilization Plan. If a DBE listed in the Utilization Plan is terminated for reasons other than convenience, or fails to complete its work on the contract for any reason, the Contractor shall make good faith efforts to find another DBE to substitute for the terminated DBE. The good faith efforts

shall be directed at finding another DBE to perform at least the same amount of work under the contract as the DBE that was terminated, but only to the extent needed to meet the contract goal or the amended contract goal. The Contractor shall notify the Bureau of Small Business Enterprises of any termination for reasons other than convenience, and shall obtain approval for inclusion of the substitute DBE in the Utilization Plan. If good faith efforts following a termination of a DBE for cause are not successful, the Contractor shall contact the Bureau and provide a full accounting of the efforts undertaken to obtain substitute DBE participation. The Bureau will evaluate the good faith efforts in light of all circumstances surrounding the performance status of the contract, and determine whether the contract goal should be amended.

(c) 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 therefor to the DBE by the Contractor, but not later than thirty (30) 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 Report on Department form SBE 2115 to the Regional Engineer. If full and final payment has not been made to the DBE, the Report shall indicate whether a disagreement as to the payment required exists between the Contractor and the DBE or if the Contractor believes that the work has not been satisfactorily completed. If the Contractor does not have the full amount of work indicated in the Utilization Plan performed by the DBE companies indicated in the Plan, the Department will deduct from contract payments to the Contractor the amount of the goal not achieved as liquidated and ascertained damages.

(d) 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.

Erosion and sediment control deficiency deduction (BDE)

Effective: August 1, 2001 Revised: November 1, 2001

When the Engineer is notified or determines an erosion and/or sediment control deficiency(s) exists, he/she will direct the Contractor in writing to correct the deficiency. The Contractor shall then correct the deficiency within 24 hours. The deficiency may be any lack of repair, maintenance, or implementation of erosion and/or sediment control devices included in the contract, or any failure to comply with the conditions of the National Pollutant Discharge Elimination System (NPDES) Storm Water Permit for Construction Site Activities.

If the Contractor fails to correct the deficiency(s) within 24 hours, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency exists. The time period will begin with the initial written notification to the Contractor and end with the Engineer's acceptance of the corrected work. The per calendar day deduction will be either $1000.00 or 0.05 percent of the awarded contract value, whichever is greater.

If the Contractor fails to respond, the Engineer may correct the deficiencies and deduct the cost from monies due or which may become due the Contractor. This corrective action shall in no way relieve the Contractor of his/her contractual requirements or responsibilities.

Expansion Joints (BDE)
Effective: August 1, 2003

Add the following paragraph after the second paragraph of Article 420.10(e) of the Standard Specifications:

"After the dowel bars are oiled, plastic expansion caps shall be secured to the bars maintaining a minimum expansion gap of 50 mm (2 in.) between the end of the bar and the end of the cap. The caps shall fit snuggly on the bar and the closed end shall be watertight. For expansion joints formed using dowel bar basket assemblies, the caps shall be installed on the alternating free ends of the bars. For expansion joints formed using a construction header, the caps shall be installed on the exposed end of each bar once the header has been removed and the joint filler material has been installed."

FLAGGER VESTS (BDE)
Effective: April 1, 2003 Revised: April 1, 2005

Revise the first sentence of Article 701.04(c)(1) of the Standard Specifications to read:

"The flagger shall be stationed to the satisfaction of the Engineer and be equipped with a fluorescent orange, fluorescent yellow/green or a combination of fluorescent orange and fluorescent yellow/green vest meeting the requirements of the American National Standards Institute specification ANSI/ISEA 107-1999 for Conspicuity Class 2 garments and approved flagger traffic control signs conforming to Standard 702001 and Article 702.05(e)."

Revise Article 701.04(c)(6) of the Standard Specifications to read:

"(6) Nighttime Flagging. The flagger station shall be lit by additional overhead lighting other than streetlights. The flagger shall be equipped with a fluorescent orange, fluorescent yellow/green, or a combination of fluorescent orange and fluorescent yellow/green garment meeting the requirements of the American National Standards Institute specification ANSI/ISEA 107-1999 for Conspicuity Class 3 garments."

FREEZE-THAW RATING (BDE)
Effective: November 1, 2002

Revise the first sentence of Article 1004.02(f) of the Standard Specifications to read:

"When coarse aggregate is used to produce portland cement concrete for base course, base course widening, pavement, driveway pavement, sidewalk, shoulders, curb, gutter, combination curb and gutter, median, paved ditch or their repair using concrete, the gradation permitted will be determined from the results of the Department's Freeze-Thaw Test."

Furnished Excavation (BDE)
Effective: August 1, 2002 Revised: November 1, 2004

Revise Article 204.01 of the Standard Specifications to read:

"**Description.** Borrow excavation and furnished excavation shall consist of excavating suitable materials obtained from locations approved by the Engineer and transporting the materials to various locations throughout the limits of the contract."

Revise Article 204.07(b) of the Standard Specifications to read:

"(b) Measured Quantities. Furnished excavation will be computed for payment in cubic meters (cubic yards) as follows:

Furnished Excavation = Embankment - [Suitable Excavation x (1 - Shrinkage Factor)]

Where:

Embankment = the volume of fill in its final position computed by the method of average end areas and based upon the existing ground line as shown on the plans except as noted in (1) and (2) below;

Suitable Excavation = earth excavation, rock excavation, and other on-site excavation suitable for use in embankments as shown in the Earthwork Schedule on the plans;

Shrinkage Factor = 0.25 unless otherwise shown on the plans.

(1) If the Contractor so requests, the Engineer will reestablish the existing ground line after the clearing and tree removal have been performed according to Section 201 and the top 150 mm (6 in.) of the existing ground surface has been disked and compacted to the satisfaction of the Engineer.

(2) If settlement platforms are erected, the Engineer will reestablish the existing ground line after the embankment is complete as specified in Article 204.07(a)(2).

Furnished excavation placed in excess of that required for the execution of the contract will not be measured for payment."

Add the following paragraph to the end of Article 204.07 of the Standard Specifications:

"The quantity for furnished excavation will not be recalculated when surplus, suitable materials are utilized in embankments according to Article 202.03."

hand vibrator (BDE)
Effective: November 1, 2003

Add the following paragraph to Article 1103.17(a) of the Standard Specifications:

"The vibrator shall have a non-metallic head for areas containing epoxy coated reinforcement. The head shall be coated by the manufacturer. The hardness of the non-metallic head shall be less than the epoxy coated reinforcement, resulting in no damage to the epoxy coating. Slip-on covers will not be allowed."

impact attenuatorS, temporary (BDE)
Effective: November 1, 2003 Revised: April 1, 2004

Description. This work shall consist of furnishing, installing, maintaining, and removing temporary impact attenuators of the category and test level specified.

Materials. Materials shall meet the requirements of the impact attenuator manufacturer and the following:

Item	Article/Section
(a) Fine Aggregate (Note 1)	1003.01
(b) Steel Posts, Structural Shapes, and Plates	1006.04
(c) Rail Elements, End Section Plates, and Splice Plates	1006.25
(d) Bolts, Nuts, Washers and Hardware	1006.25
(e) Hollow Structural Tubing	1006.27(b)
(f) Wood Posts and Wood Blockouts	1007.01, 1007.02, 1007.06
(g) Preservative Treatment	1007.12
(h) Rapid Set Mortar (Note 2)	

Note 1. Fine aggregate shall be FA-1 or FA-2, Class A quality. The sand shall be unbagged and shall have a maximum moisture content of five percent.

Note 2. Rapid set mortar shall be obtained from the Department's approved list of Packaged, Dry, Rapid Hardening Cementitous Materials for Concrete Repairs. For a rapid set mortar mixture, one part packaged rapid set cement shall be combined with two parts fine aggregate, by volume or a packaged rapid set mortar shall be used. Mixing of the rapid set mortar shall be according to the manufacturer's instructions.

CONSTRUCTION REQUIREMENTS

General. Impact Attenuators shall meet the testing criteria contained in National Cooperative Highway Research Program (NCHRP) Report 350 for the test level specified and shall be on the Department's approved list.

Installation. Regrading of slopes or approaches for the installation shall be as shown on the plans.

Attenuator bases, when required by the manufacturer, shall be constructed on a prepared subgrade according to the manufacturer's specifications. The surface of the base shall be slightly sloped or crowned to facilitate drainage.

Impact attenuators shall be installed according to the manufacturer's specifications and include all necessary transitions between the impact attenuator and the item to which it is attached.

When water filled attenuators are used between November 1 and April 15, they shall contain anti-freeze according to the manufacturer's recommendations.

Markings. Sand module impact attenuators shall be striped with alternating reflectorized Type AA or Type AP fluorescent orange and reflectorized white horizontal, circumferential stripes. There shall be at least two of each stripe on each module.

Other types of impact attenuators shall have a terminal marker applied to their nose and reflectors along their sides.

Maintenance. All maintenance of the impact attenuators shall be the responsibility of the Contractor until removal is directed by the Engineer.

Relocate. When relocation of temporary impact attenuators is specified, they shall be removed, relocated and reinstalled at the new location. The reinstallation requirements shall be the same as those for a new installation.

Removal. When the Engineer determines the temporary impact attenuators are no longer required, the installation shall be dismantled with all hardware becoming the property of the Contractor.

Surplus material shall be disposed of according to Article 202.03. Anti-freeze, when present, shall be disposed of/recycled according to local ordinances.

When impact attenuators have been anchored to the pavement, the anchor holes shall be repaired with rapid set mortar Only enough water to permit placement and consolidation by rodding shall be used and the material shall be struck-off flush.

Method of Measurement. This work will be measured for payment as each, where each is defined as one complete installation.

Basis of Payment. This work will be paid for at the contract unit price per each for IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW); IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, WIDE); IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW); IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE); or IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) of the test level specified.

Relocation of the devices will be paid for at the contract unit price per each for IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE); IMPACT ATTENUATORS, RELOCATE (SEVERE USE); or IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE); of the test level specified.

Regrading of slopes or approaches will be paid for according to Section 202 and/or Section 204 of the Standard Specifications.

Inlet FILTERS (BDE)
Effective: August 1, 2003

Add the following to Article 280.02 of the Standard Specifications:

"(k) Inlet Filters..... 1081.15(h)"

Add the following paragraph after the first paragraph of Article 280.04(c) of the Standard Specifications:

"When specified, drainage structures shall be protected with inlet filters. Inlet filters shall be installed either directly on the drainage structure or under the grate of the drainage structure resting on the lip of the frame. The fabric bag shall hang down into the drainage structure. Prior to ordering materials, the Contractor shall determine the size and shape of the various drainage structures being protected."

Revise Article 280.07(d) of the Standard Specifications to read:

"(d) Inlet and Pipe Protection. This work will be paid for at the contract unit price per each for INLET AND PIPE PROTECTION.

Protection of drainage structures with inlet filters will be paid for at the contract unit price per each for INLET FILTERS."

Add the following to Article 1081.15 of the Standard Specifications:

"(h) Inlet Filters. An inlet filter shall consist of a steel frame with a two piece geotextile fabric bag attached with a stainless steel band and locking cap that is suspended from the frame. A clean, used bag and a used steel frame in good condition meeting the approval of the Engineer may be substituted for new materials. Materials for the inlet filter assembly shall conform to the following requirements:

(1) Frame Construction. Steel shall conform to Article 1006.04.

Frames designed to fit under a grate shall include an overflow feature that is welded to the frame's ring. The overflow feature shall be designed to allow full flow of water into the structure when the filter bag is full. The dimensions of the frame shall allow the drainage structure grate to fit into the inlet filter assembly frame opening. The assembly frame shall rest on the inside lip of the drainage structure frame for the full variety of existing and proposed drainage structure frames that are present on this contract. The inlet filter assembly frame shall not cause the drainage structure grate to extend higher than 6 mm (1/4 in.) above the drainage structure frame.

(2) Grate Lock. When the inlet is located in a traffic lane, a grate lock shall be used to secure the grate to the frame. The grate lock shall conform to the manufacturer's requirements for materials and installation.

(3) Geotextile Fabric Bag. The sediment bag shall be constructed of an inner filter bag and an outer reinforcement bag.

a. Inner Filter Bag. The inner filter bag shall be constructed of a polypropylene geotextile fabric with a minimum silt and debris capacity of 0.06 cu m (2.0 cu ft). The bag shall conform to the following requirements:

Inner Filter Bag		
Material Property	Test Method	Minimum Avg. Roll Value
Grab Tensile Strength	ASTM D 4632	45 kg (100 lb)
Grab Tensile Elongation	ASTM D 4632	50%
Puncture Strength	ASTM D 4833	29 kg (65 lb)
Trapezoidal Tear	ASTM D 4533	20 kg (45 lb)
UV Resistance	ASTM D 4355	70% at 500 hours
Actual Open Size	ASTM D 1420	212 μm (No. 70 sieve US)
Permittivity	ASTM D 4491	2.0/sec
Water Flow Rate	ASTM D 4491	5900 Lpm/sq m (145 gpm/sq ft)

b. Outer Reinforcement Bag. The outer reinforcement bag shall be constructed of polyester mesh material that conforms to the following requirements:

Outer Reinforcement Bag		
Material Property	Test Method	Value
Content	ASTM D 629	Polyester
Weight	ASTM D 3776	155 g/sq m (4.55 oz/sq yd) ±15%
Whales (holes)	ASTM D 3887	7.5 ± 2 holes/25 mm (1 in.)
Chorses (holes)	ASTM D 3887	15.5 ± 2holes/25 mm (1 in.)
Instronball Burst	ASTM D 3887	830 kPa (120 psi) min.
Thickness	ASTM D 1777	1.0 ± 0.1 mm (0.040 ± 0.005 in.)

(4) Certification. The manufacturer shall furnish a certification with each shipment of inlet filters, stating the amount of product furnished, and that the material complies with these requirements."

PARTIAL PAYMENTS (BDE)
Effective: September 1, 2003

Revise Article 109.07 of the Standard Specifications to read:

"**109.07 Partial Payments.** Partial payments will be made as follows:

(a) Progress Payments. At least once each month, the Engineer will make a written estimate of the amount 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.

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. Furthermore, progress payments may be reduced by liens filed pursuant to Section 23(c) of the Mechanics Lien Act, 770 ILCS 60/23(c).

(b) Material Allowances. At the discretion of the Department, payment may be made for materials, prior to their use in the work, when satisfactory evidence is presented by the Contractor. Satisfactory evidence includes justification for the allowance (to expedite the work, meet project schedules, regional or national material shortages, etc.), documentation of material and transportation costs, and evidence that such material is properly stored on the project or at a secure location acceptable and accessible to the Department.

Material allowances will be considered only for nonperishable materials when the cost, including transportation, exceeds $10,000 and such materials are not expected to be utilized within 60 days of the request for the allowance. For contracts valued under $500,000, the minimum $10,000 requirement may be met by combining the principal (material) product of no more than two contract items. An exception to this two item limitation may be considered for any contract regardless of value for items in which material (products) are similar except for type and/or size.

Material allowances shall not exceed the value of the contract items in which used and shall not include the cost of installation or related markups. Amounts paid by the Department for material allowances will be deducted from estimates due the Contractor as the material is used. Two-sided copies of the Contractor's cancelled checks for materials and transportation must be furnished to the Department within 60 days of payment of the allowances or the amounts will be reclaimed by the Department."

Pavement Thickness Determination for Payment (BDE)

Effective: April 1, 1999 Revised: January 1, 2004

Description. This work shall consist of determining pavement thickness for payment for full depth bituminous concrete and all pcc pavements. Pavement pay items that individually contain at least 840 sq m (1000 sq yd) of contiguous pavement will be subject to this Special Provision with the following exclusions: temporary pavements; variable width pavement; radius returns and side streets less than 125 m (400 ft) in length; and turn lanes of constant width less than 125 m (400 ft) in length. The areas of pavement excluded from the pay adjustment as described in this Special Provision will be cored according to Article 407.10 of the Standard Specifications. Temporary pavements are defined as pavements constructed and removed under this contract.

Materials. Rapid set materials shall be obtained from the Department's approved list of Packaged, Dry, Rapid Hardening Cementitous Materials For Concrete Repairs. Coarse aggregate may be added to the mortar if allowed by the manufacturer's instructions on the package. Mixing shall be according to the manufacture's recommendations.

Equipment. Cores shall be taken utilizing an approved coring machine. The cores shall have a diameter of 50 mm (2 in.). The cores shall be measured utilizing an approved measuring device.

CONSTRUCTION REQUIREMENTS

Tolerance in Thickness. Determination of the pavement thickness shall be performed after the pavement surface tests and all corrective grinding are complete according to Article 407.09 of the Standard Specifications. Adjustments made in the contract unit price for pavement thickness will be in addition to and independent of those made for the Profile Index.

The pavement will be divided into approximately equal lots of not more than 1500 m (5000 ft) in length. When the length of a continuous strip of pavement is less than 1500 m (5000 ft), these short lengths of pavement, ramps, turn lanes, and other short sections of continuous pavement shall be grouped together to form lots of approximately 1500 m (5000 ft) in length. Short segments between structures will be measured continuously with the structure segments omitted. Each lot will be subdivided into ten equal sublots. The width of a sublot and lot will be the width from the pavement edge to the adjacent lane line, from one lane line to the next, or between pavement edges for single-lane pavements.

Fifty millimeter (Two inch) cores shall be taken from the pavement by the Contractor at random locations selected by the Engineer. When computing the thickness of a lot, one core will be taken per sublot. Core locations will be specified by the Engineer prior to beginning the coring operations.

The Contractor and the Engineer shall witness the coring operations, the measurement, and recording of the cores. Core measurements will be determined immediately upon removal from the core bit and prior to moving to the next core location. Upon concurrence of the length, the core samples may be discarded.

Patching Holes. Upon completion of coring, all core holes shall be filled with a rapid set mortar or concrete. Only enough water to permit placement and consolidation by rodding shall be used, and the material shall be struck-off flush with the adjacent pavement.

For a rapid set mortar mixture, one part packaged rapid set cement shall be combined with two parts fine aggregate, by volume; or a packaged rapid set mortar shall be used. For a rapid set concrete mixture, a packaged rapid set mortar shall be combined with coarse aggregate according to the manufacturer's instructions or a packaged rapid set concrete shall be used. Mixing of a rapid set mortar or concrete shall be according to the manufacturer's instructions.

Deficient Sublot. When the thickness of the core in a sublot is deficient by more than ten percent of plan thickness, the Contractor will have the option of taking three additional cores selected at random by the Engineer within the same sublot at the Contractor's expense. The

thickness of the additional three cores will be averaged with the original core thickness. When the average thickness shows the sublot to be deficient by ten percent or less, no additional action is necessary. If the Contractor chooses not to take additional cores, the pavement in the sublot shall be removed and replaced at the Contractor's expense. When additional cores are taken and the average thickness of the additional cores show the sublot to be deficient by more than ten percent, the pavement in that sublot shall be removed and replaced at the Contractor's expense. When requested in writing by the Contractor, the Engineer, at his/her option, may permit in writing such thin pavement to remain in place. For Bituminous Concrete Pavement (Full Depth) allowed to remain in place, additional lift(s) may be placed, at the Contractor's expense, to bring the deficient pavement to plan thickness when the Engineer determines grade control conditions will permit such lift(s). The material thickness(es), areas to be overlaid, and method of placement used for additional lift(s) will be approved by the Engineer. When the thin pavement is removed and replaced or additional lifts are placed, the replacement pavement will be retested for thickness at the Contractor's expense. When the thin pavement is left in place and no additional lift(s) are placed, no payment will be made for the deficient pavement sublot. The thickness of the original core taken in the sublot will be used in determining the payment for the entire lot and no adjustment to the pay factor will be made for any corrective action taken.

Deficient Lot. After analyzing the cores, the Percent Within Limits will be calculated. A lot of pavement represented by the Percent Within Limits (PWL) of 60 percent or less, shall be removed and replaced at the Contractor's expense. When requested in writing by the Contractor, the Engineer, at his/her option, may permit in writing such pavement to remain in place. For Bituminous Concrete Pavement (Full Depth), allowed to remain in place, additional lift(s) may be placed, at the Contractor's expense, to bring the deficient pavement to plan thickness when the Engineer determines grade control conditions will permit such lift(s). The material, thickness(es), areas to be overlaid and method of placement used for the additional lift(s) will be approved by the Engineer. After either corrective action, the Contractor shall core the lot according to the "Coring Procedures" at no additional cost to the Department. The PWL will then be recalculated for the lot, however, the pay factor for the lot will be a maximum of 100 percent. When requested in writing by the Contractor, the Engineer, at his/her option, may permit in writing, the lot to remain in place. When the lot is left in place and no additional lifts are placed the pay factor for the lot will be based on the calculated PWL.

Right of Discovery. When the Engineer has reason to believe the random core selection process will not accurately represent the true conditions of the work, he/she may order cores in addition to those specified. The additional cores shall be taken at specific locations determined by the Engineer. The Engineer will provide notice to the Contractor containing an explanation of the reasons for his/her action. These additional cores and locations will be determined prior to commencement of coring operations. When the additional cores show the pavement to be deficient by more than ten percent, additional cores shall be taken at locations determined by the Engineer to determine the limits of the deficient pavement area. The deficient pavement area will be defined as the area between two acceptable cores. An acceptable core is a core with a thickness of 90 percent or more of plan thickness. The defined pavement area shall be removed and replaced at the Contractor's expense. When requested by the Contractor, the Engineer, at his/her option, may permit in writing such thin pavement to remain in place. On Bituminous Concrete Pavement (Full Depth) allowed to remain in place, additional lift(s) may be placed to bring the deficient pavement to plan thickness when the Engineer determines that

grade control conditions will permit such lift(s). The material, thickness(es), areas to be overlaid and method of placement for the additional lift(s) will be approved by the Engineer. When the thin pavement is removed and replaced or additional lifts are placed, the replacement pavement will be retested for thickness at the Contractor's expense. When the thin pavement is left in place and no additional lift(s) are placed, no payment will be made for the deficient pavement. When the additional cores show the pavement to be deficient by ten percent or less the additional cores will be paid for according to Article 109.04. When the additional cores show the pavement to be deficient by more than ten percent the additional cores taken in the deficient area shall be at the Contractor's expense.

Profile Index Adjustment. After any section of pavement is removed and replaced or any additional lifts are added, the corrected areas shall be tested for pavement smoothness and any necessary Profile Index adjustments and/or corrections will be made based on these final profile readings. Such surface testing shall be performed at the Contractor's expense.

Core Analysis. Cores will be analyzed according to the following:

(a) Definition:

x_i = Individual values (core lengths) under consideration
n = Number of individual values under consideration
(10 per lot)

$\bar{x}$ = Average of the values under consideration
LSL = Lower Specification Limit (LSL = 0.98 plan thickness for pavement)
Q_L = Lower Quality Index
S = Sample Standard Deviation
PWL = Percent Within Limits

Determine $\bar{x}$ for the lot to the nearest two decimal places.

Compute the sample standard deviation to the nearest three decimal places using:

$$S = \sqrt{\frac{\sum \left(x_i - \bar{x}\right)^2}{n-1}}$$ where $\Sigma(x_i - \bar{x})^2 = (x_1 - \bar{x})^2 + (x_2 - \bar{x})^2 + \ldots + (x_{10} - \bar{x})^2$

Determine the Lower Quality Index to the nearest two decimal places using:

$$Q_L = \frac{\left(\bar{x} - LSL\right)}{S}$$

Determine the percentage that will fall above the Lower Specification Limit (LSL) by going to the attached Table and utilizing calculated Q_L. Read the appropriate PWL value from the Table. For Q_L values less than zero the value shown in the table must be subtracted from 100 to obtain PWL.

Pay Adjustment. The following pay adjustment equation will be used to determine (to the nearest two decimal places) the pay factor for each lot.

Pay Factor (PF) in percent = 55 + 0.5 (PWL)

If $\bar{x}$ for a lot is less than the plan thickness, the maximum pay factor for that lot will be 100 percent.

Total Payment. The payment will be based on the appropriate pay items in Sections 407, 420, and 421. The final payment will be adjusted according to the following equation:

Total Payment = TPF[CUP (TOTPAVT - DEFPAVT)]

TPF = Total Pay Factor
CUP = Contract Unit Price
TOTPAVT = Area of Pavement Subject to Coring
DEFPAVT = Area of Deficient Pavement

The TPF for the entire pavement will be the average of the PF for all the lots, however, not more than 102 percent of plan quantity will be paid.

Deficient pavement is defined as an area of pavement represented by a sublot deficient by more than 10 percent which is left in place with no additional thickness added.

All work involved in determining the total payment will be included in the contract unit prices of the pay items involved.

Percent Within Limits							
Quality Index (Q_L)*	Percent Within Limits (PWL)	Quality Index (Q_L)*	Percent Within Limits (PWL)	Quality Index (Q_L)*	Percent Within Limits (PWL)	Quality Index (Q_L)*	Percent Within Limits (PWL)
0.00	50.00	0.40	65.07	0.80	78.43	1.20	88.76
0.01	50.38	0.41	65.43	0.81	78.72	1.21	88.97
0.02	50.77	0.42	65.79	0.82	79.02	1.22	89.17
0.03	51.15	0.43	66.15	0.83	79.31	1.23	89.38
0.04	51.54	0.44	66.51	0.84	79.61	1.24	89.58
0.05	51.92	0.45	66.87	0.85	79.90	1.25	89.79
0.06	52.30	0.46	67.22	0.86	80.19	1.26	89.99
0.07	52.69	0.47	67.57	0.87	80.47	1.27	90.19
0.08	53.07	0.48	67.93	0.88	80.76	1.28	90.38
0.09	53.46	0.49	68.28	0.89	81.04	1.29	90.58
0.10	53.84	0.50	68.63	0.90	81.33	1.30	90.78
0.11	54.22	0.51	68.98	0.91	81.61	1.31	90.96
0.12	54.60	0.52	69.32	0.92	81.88	1.32	91.15
0.13	54.99	0.53	69.67	0.93	82.16	1.33	91.33
0.14	55.37	0.54	70.01	0.94	82.43	1.34	91.52
0.15	55.75	0.55	70.36	0.95	82.71	1.35	91.70
0.16	56.13	0.56	70.70	0.96	82.97	1.36	91.87
0.17	56.51	0.57	71.04	0.97	83.24	1.37	92.04
0.18	56.89	0.58	71.38	0.98	83.50	1.38	92.22
0.19	57.27	0.59	71.72	0.99	83.77	1.39	92.39
0.20	57.65	0.60	72.06	1.00	84.03	1.40	92.56
0.21	58.03	0.61	72.39	1.01	84.28	1.41	92.72
0.22	58.40	0.62	72.72	1.02	84.53	1.42	92.88
0.23	58.78	0.63	73.06	1.03	84.79	1.43	93.05
0.24	59.15	0.64	73.39	1.04	85.04	1.44	93.21
0.25	59.53	0.65	73.72	1.05	85.29	1.45	93.37
0.26	59.90	0.66	74.04	1.06	85.53	1.46	93.52
0.27	60.28	0.67	74.36	1.07	85.77	1.47	93.67
0.28	60.65	0.68	74.69	1.08	86.02	1.48	93.83
0.29	61.03	0.69	75.01	1.09	86.26	1.49	93.98
0.30	61.40	0.70	75.33	1.10	86.50	1.50	94.13
0.31	61.77	0.71	75.64	1.11	86.73	1.51	94.27
0.32	62.14	0.72	75.96	1.12	86.96	1.52	94.41
0.33	62.51	0.73	76.27	1.13	87.20	1.53	94.54
0.34	62.88	0.74	76.59	1.14	87.43	1.54	94.68
0.35	63.25	0.75	76.90	1.15	87.66	1.55	94.82
0.36	63.61	0.76	77.21	1.16	87.88	1.56	94.95
0.37	63.98	0.77	77.51	1.17	88.10	1.57	95.08
0.38	64.34	0.78	77.82	1.18	88.32	1.58	95.20
0.39	64.71	0.79	78.12	1.19	88.54	1.59	95.33

*For Q_L values less than zero, subtract the table value from 100 to obtain PWL

Percent Within Limits (continued)					
Quality Index (Q_L)*	Percent Within Limits (PWL)	Quality Index (Q_L)*	Percent Within Limits (PWL)	Quality Index (Q_L)*	Percent Within Limits (PWL)
1.60	95.46	2.00	98.83	2.40	99.89
1.61	95.58	2.01	98.88	2.41	99.90
1.62	95.70	2.02	98.92	2.42	99.91
1.63	95.81	2.03	98.97	2.43	99.91
1.64	95.93	2.04	99.01	2.44	99.92
1.65	96.05	2.05	99.06	2.45	99.93
1.66	96.16	2.06	99.10	2.46	99.94
1.67	96.27	2.07	99.14	2.47	99.94
1.68	96.37	2.08	99.18	2.48	99.95
1.69	96.48	2.09	99.22	2.49	99.95
1.70	96.59	2.10	99.26	2.50	99.96
1.71	96.69	2.11	99.29	2.51	99.96
1.72	96.78	2.12	99.32	2.52	99.97
1.73	96.88	2.13	99.36	2.53	99.97
1.74	96.97	2.14	99.39	2.54	99.98
1.75	97.07	2.15	99.42	2.55	99.98
1.76	97.16	2.16	99.45	2.56	99.98
1.77	97.25	2.17	99.48	2.57	99.98
1.78	97.33	2.18	99.50	2.58	99.99
1.79	97.42	2.19	99.53	2.59	99.99
1.80	97.51	2.20	99.56	2.60	99.99
1.81	97.59	2.21	99.58	2.61	99.99
1.82	97.67	2.22	99.61	2.62	99.99
1.83	97.75	2.23	99.63	2.63	100.00
1.84	97.83	2.22	99.66	2.64	100.00
1.85	97.91	2.25	99.68	$\geq$ 2.65	100.00
1.86	97.98	2.26	99.70		
1.87	98.05	2.27	99.72		
1.88	98.11	2.28	99.73		
1.89	98.18	2.29	99.75		
1.90	98.25	2.30	99.77		
1.91	98.31	2.31	99.78		
1.92	98.37	2.32	99.80		
1.93	98.44	2.33	99.81		
1.94	98.50	2.34	99.83		
1.95	98.56	2.35	99.84		
1.96	98.61	2.36	99.85		
1.97	98.67	2.37	99.86		
1.98	98.72	2.38	99.87		
1.99	98.78	2.39	99.88		

*For Q_L values less than zero, subtract the table value from 100 to obtain PWL

Payments to Subcontractors (BDE)

Effective: June 1, 2000 Revised: September 1, 2003

Federal regulations found at 49 CFR §26.29 mandate the Department to establish a contract clause to require Contractors to pay subcontractors for satisfactory performance of their subcontracts no later than 30 days from the receipt of each payment made to the Contractor.

State law addresses the timing of payments to be made to subcontractors. Section 7 of the Prompt Payment Act, 30 ILCS 540/7, generally requires that when a Contractor receives any payment from the Department, the Contractor is required to make corresponding, proportional payments to each subcontractor performing work within 15 calendar days after receipt of the state payment. Section 7 of the State Prompt Payment Act further provides that interest in the amount of 2% per month, in addition to the payment due, shall be paid to any subcontractor by the Contractor if the payment required by the Act is withheld or delayed without reasonable cause. The Act also provides that the time for payment required and the calculation of any interest due applies to transactions between subcontractors and lower-tier subcontractors throughout the contracting chain.

This Special Provision establishes the required federal contract clause, and adopts the 15 calendar day requirement of the Act for purposes of compliance with the federal regulation regarding payments to subcontractors. This contract is subject to the following payment obligations.

As progress payments are made to the Contractor in accordance with Article 109.07 of the Standard Specifications for Road and Bridge Construction, the Contractor shall make a corresponding partial payment within 15 calendar days to each subcontractor in proportion to the work satisfactorily completed by each subcontractor. The proportionate amount of partial payment due to each subcontractor shall be determined by the quantities measured or otherwise determined as eligible for payment by the Department and included in the progress payment to the Contractor. Subcontractors shall be paid in full within 15 calendar days after the subcontractor's work has been satisfactorily completed. The Contractor shall hold no retainage from the subcontractors.

This Special Provision does not create any rights in favor of any subcontractor against the State of Illinois or authorize any cause of action against the State of Illinois on account of any payment, nonpayment, delayed payment or interest claimed by application of the State Prompt Payment Act. The Department will neither determine the reasonableness of any cause for delay of payment nor enforce any claim to payment, including interest. Moreover, the Department will not approve any delay or postponement of the 15 day requirement. State law creates remedies available to any subcontractor or material supplier, regardless of tier, who has not been paid for work properly performed or material furnished. These remedies are a lien against public funds set forth in Section 23(c) of the Mechanics Lien Act, 770 ILCS 60/23(c), and a recovery on the Contractor’s payment bond in accordance with the Public Construction Bond Act, 30 ILCS 550.

PERSONAL PROTECTIVE EQUIPMENT (BDE)
Effective: July 1, 2004

All personnel, excluding flaggers, working outside of a vehicle (car or truck) within 7.6 m (25 ft) of pavement open to traffic shall wear a fluorescent orange, fluorescent yellow/green or a combination of fluorescent orange and fluorescent yellow/.green vest meeting the requirements of the American National Standards Institute specification ANSI/ISEA 107-1999 for Conspicuity Class 2 garments. Other types of garments may be substituted for the vest as long as the garments have manufacturers tags identifying them as meeting the ANSI Class 2 requirement.

polyurea pavement marking (BDE)
Effective: April 1, 2004

Description. This work shall consist of furnishing and applying pavement marking lines.

The type of polyurea pavement marking applied will be determined by the type of reflective media used. Polyurea Pavement Marking Type I shall use glass beads as a reflective media. Ployurea Pavement Marking Type II shall use a combination of composite reflective elements and glass beads as a reflective media.

Polyurea-based liquid pavement markings shall only be applied by Contractors on the list of Approved Polyurea Contractors maintained by the Engineer of Operations and in effect on the date of advertisement for bids.

Materials. Materials shall meet the following requirements:

(a) Polyurea Pavement Marking. The polyurea pavement marking material shall consist of 100 percent solid two part system formulated and designed to provide a simple volumetric mixing ratio of two components (must be two or three volumes of Part A to one volume of Part B). No volatile or polluting solvents or fillers will be allowed.

(b) Pigmentation. The pigment content by weight of component A shall be determined by low temperature ashing according to ASTM D 3723. The pigment content shall not vary more than ± two percent from the pigment content of the original qualified paint.

White Pigment shall be Titanium Dioxide meeting ASTM D 476 Type II, Rutile.

Yellow Pigment shall be an Organic Yellow and contain no heavy metals.

(c) Environmental. Upon heating to application temperature, the material shall not exude fumes which are toxic or injurious to persons or property.

(d) Daylight Reflectance. The daylight directional reflectance of the cured polyurea material (without reflective media) shall be a minimum of 80 percent (white) and 50 percent (yellow) relative to magnesium oxide when tested using a color spectrophotometer with a 45 degrees circumferential /zero degrees geometry, illuminant C, and two degrees observer angle. The color instrument shall measure the visible spectrum from 380 to 720 nm with a wavelength measurement interval and spectral bandpass of 10 nm. In addition, the color of the yellow polyurea shall visually match Color Number 33538 of Federal Standard 595a with chromaticity limits as follows:

X	0.490	0.475	0.485	0.539
Y	0.470	0.438	0.425	0.456

(e) Weathering Resistance. The polyurea marking material, when mixed in the proper ratio and applied at 0.35 to 0.41 mm (14 to 16 mils) wet film thickness to an aluminum alloy panel (Federal Test Std. No. 141, Method 2013) and allowed to cure for 72 hours at room temperature, shall be subjected to accelerated weathering for 75 hours. The accelerated weathering shall be completed by using the light and water exposure apparatus (fluorescent UV - condensation type) and tested according to ASTM G 53.

The cycle shall consist of four hours UV exposure at 50 °C (122 °F) and four hours of condensation at 40 °C (104 °F). UVB 313 bulbs shall be used. At the end of the exposure period, the material shall show no substantial change in color or gloss.

(f) Dry Time. The polyurea pavement marking material, when mixed in the proper ratio and applied at 0.35 to 0.41 mm (14 to 16 mils) wet film thickness and with the proper saturation of reflective media, shall exhibit a no-tracking time of ten minutes or less when tested according to ASTM D 711.

(g) Adhesion. The catalyzed polyurea pavement marking materials when applied to a 100 x 100 x 50 mm (4 x 4 x 2 in.) concrete block, shall have a degree of adhesion which results in a 100 percent concrete failure in the performance of this test.

The concrete block shall be brushed on one side and have a minimum strength of 24,100 kPa (3500 psi). A 50 mm (2 in.) square film of the mixed polyurea shall be applied to the brushed surface and allowed to cure for 72 hours at room temperature. A 50 mm (2 in.) square cube shall be affixed to the surface of the polyurea by means of an epoxy glue. After the glue has cured for 24 hours, the polyurea specimen shall be placed on a dynamic testing machine in such a fashion so that the specimen block is in a fixed position and the 50 mm (2 in.) cube (glued to the polyurea surface) is attached to the dynamometer head. Direct upward pressure shall be slowly applied until the polyurea system fails. The location of the break and the amount of concrete failure shall be recorded.

(h) Hardness. The polyurea pavement marking materials when tested according to ASTM D 2240, shall have a shore D hardness of between 70 and 100. Films shall be cast on a rigid substrate at 0.35 to 0.41 mm (14 to 16 mils) in thickness and allowed to cure at room temperature for 72 hours before testing.

(i) Abrasion. The abrasion resistance shall be evaluated according to ASTM D 4060 using a Taber Abrader with a 1,000 gram load and CS 17 wheels. The duration of the test shall be 1,000 cycles. The loss shall be calculated by difference and be less than 120 mgs. The tests shall be run on cured samples of polyurea material which have been applied at a film thickness of 0.35 to 0.41 mm (14 to 16 mils) to code S-16 stainless steel plates. The films shall be allowed to cure at room temperature for at least 72 hours and not more than 96 hours before testing.

(j) Reflective Media. The reflective media shall meet the following requirements:

(1) Type I - The glass beads shall meet the requirements of Article 1095.07 of the Standard Specifications and the following requirements:

a. First Drop Glass Beads The first drop glass beads shall be tested by the standard visual method of large glass spheres adopted by the Department. The beads shall have a silane coating and meet the following sieve requirements:

Sieve Size	U.S. Standard Sieve Number	% Passing (By Weight)
1.70 mm	12	95-100
1.40 mm	14	75-95
1.18 mm	16	10-47
1.00 mm	18	0-7
850 µm	20	0-5

b. Second Drop Glass Beads. The second drop glass beads shall meet the requirements of Article 1095.07 of the Standard Specifications for Type B.

(2) Type II - The combination of microcrystalline ceramic elements and glass beads shall meet the following requirements:

a. First Drop Glass Beads. The first drop glass beads shall meet the following requirements:

1. Composition. The elements shall be composed of a titania opacified ceramic core having clear and or yellow tinted microcrystalline ceramic beads embedded to the outer surface.

2. Index of Refraction. All microcrystalline reflective elements embedded to the outer surface shall have an index of refraction of 1.8 when tested by the immersion method.

3. Acid Resistance. A sample of microcrystalline ceramic beads supplied by the manufacturer, shall show resistance to corrosion of their surface after exposure to a one percent solution (by weight) of sulfuric acid. Adding 5.7 ml (0.2 oz) of concentrated acid into the water shall make the one percent acid solution. This test shall be performed by taking a 25 x 50 mm (1 x 2 in.) sample and adhering it to the bottom of a glass tray and placing just enough acid solution to completely immerse the sample. The tray shall be covered with a piece of glass to prevent evaporation and allow the sample to be exposed for 24 hours under these conditions. The acid solution shall be decanted (do not rinse, touch, or otherwise disturb the bead surfaces) and the sample dried while adhered to the glass tray in a 66 °C (150 °F) oven for approximately 15 minutes. Microscope examination (20X) shall show no white (corroded) layer on the entire surface.

b. Second Drop Glass Beads. The second drop glass beads shall meet the requirements of Article 1095.07 of the Standard Specifications for Type B or the following manufacturer's specification:

1. Sieve Analysis. The glass beads shall meet the following sieve requirements:

Sieve Size	U.S. Standard Sieve Number	% Passing (By Weight)
850 μm	20	100
600 μm	30	75-95
300 μm	50	15-35
150 μm	100	0-5

The manufacturer of the glass beads shall certify that the treatment of the glass beads meets the requirements of the polyurea manufacturer.

2. Imperfections. The surface of the glass beads shall be free of pits and scratches. The glass beads shall be spherical in shape and shall contain a maximum of 20 percent by weight of irregular shapes when tested by the standard method using a vibratile inclined glass plate as adopted by the Department.

3. Index of Refraction. The index of refraction of the glass beads shall be a minimum of 1.50 when tested by the immersion method at 25 °C (77 °F).

(k) Packaging. Microcrystalline ceramic reflective elements and glass beads shall be delivered in approved moisture proof bags or weather resistant bulk boxes. Each carton shall be legibly marked with the manufacturer, specifications and type, lot number, and the month and year the microcrystalline ceramic reflective elements and/or glass beads were packaged. The letters and numbers used in the stencils shall be a minimum of 12.7 mm (1/2 in.) in height.

(1) Moisture Proof Bags. Moisture proof bags shall consist of at least five ply paper construction unless otherwise specified. Each bag shall contain 22.7 kg (50 lb) net.

(2) Bulk Weather Resistance Boxes. Bulk weather resistance boxes shall conform to Federal Specification PPP-8-640D Class II or latest revision. Boxes are to be weather resistant, triple wall, fluted, corrugated-fiber board. Cartons shall be strapped with two metal straps. Straps shall surround the outside perimeter of the carton. The first strap shall be located approximately 50 mm (2 in.) from the bottom of the carton and the second strap shall be placed approximately in the middle of the carton. All cartons shall be shrink wrapped for protection from moisture. Cartons shall be lined with a minimum 4 mil polyester bag and meet Interstate Commerce Commission requirements. Cartons shall be approximately 1 x 1 m (38 x 38 in.), contain 910 kg (2000 lb) of microcrystalline ceramic reflective elements and/or glass beads and be supported on a wooden pallet with fiber straps.

(l) Packaging. The material shall be shipped to the job site in substantial containers and shall be plainly marked with the manufacturer's name and address, the name and color of the material, date of manufacture, and batch number.

(m) Verification. Prior to approval and use of the polyurea pavement marking materials, the manufacturer shall submit a notarized certification of an independent laboratory, together with the results of all tests, stating these materials meet the requirements as

set forth herein. The certification test report shall state the lot tested, manufacturer's name, brand name of polyurea and date of manufacture. The certification shall be accompanied by one 1/2 L (1 pt) samples each of Part A and Part B. Samples shall be sent in the appropriate volumes for complete mixing of Part A and Part B.

After approval by the Department, certification by the polyurea manufacturer shall be submitted for each batch used. New independent laboratory certified test results and samples for testing by the Department shall be submitted any time the manufacturing process or paint formulation is changed. All costs of testing (other than tests conducted by the Department) shall be borne by the manufacturer.

(n) Acceptance samples. Acceptance samples shall consist of one 1/2 L (1 pt) samples of Part A and Part B, of each lot of paint. Samples shall be sent in the appropriate volumes for complete mixing of Part A and Part B. The samples shall be submitted to the Department for testing, together with a manufacturer's certification. The certification shall state the formulation for the lot represented is essentially identical to that used for qualification testing. All, acceptance samples will be taken by a representative of the Department. The polyurea pavement marking materials shall not be used until tests are completed and they have met the requirements as set forth herein.

(o) Material Retainage. The manufacturer shall retain the test sample for a minimum of 18 months.

Equipment. The polyurea pavement marking compounds shall be applied through equipment specifically designed to apply two component liquid materials, glass beads and/or reflective elements in a continuous and skip-line pattern. The two-component liquid materials shall be applied after being accurately metered and then mixed with a static mix tube or airless impingement mixing guns. The static mixing tube or impingement mixing guns shall accommodate plural component material systems that have a volumetric ratio of 2 to 1 or 3 to 1. This equipment shall produce the required amount of heat at the mixing head and gun tip and maintain those temperatures within the tolerances specified. The guns shall have the capacity to deliver materials from approximately 5.7 to 11.4 L/min (1.5 to 3 gal/min) to compensate for a typical range of application speeds of 10 to 13 km/h (6 to 8 mph). The accessories such as spray tip, mix chamber, and rod diameter shall be selected according to the manufacturer's specifications to achieve proper mixing and an acceptable spray pattern. The application equipment shall be maneuverable to the extent that straight lines can be followed and normal curves can be made in a true arc. This equipment shall also have as an integral part of the gun carriage, a high pressure air spray capable of cleaning the pavement immediately prior to making application.

The equipment shall be capable of spraying both yellow and white polyurea, according to the manufacturer's recommended proportions and be mounted on a truck of sufficient size and stability with an adequate power source to produce lines of uniform dimensions and prevent application failure. The truck shall have at least two polyurea tanks each of 415 L (110 gal) minimum capacity and be equipped with hydraulic systems and agitators. It shall be capable of placing stripes on the left and right sides and placing two lines on a three-line system simultaneously with either line in a solid or intermittent pattern, in yellow or white, and applying the appropriate reflective media according to manufacturer's recommendations. All guns shall be in full view of operations at all times. The equipment shall have a metering device to register the accumulated installed quantities for each gun, each day. Each vehicle shall include at least

one operator who shall be a technical expert in equipment operations and polyurea application techniques. Certification of equipment shall be provided at the pre-construction conference.

The mobile applicator shall include the following features:

(a) Material Reservoirs. The applicator shall provide individual material reservoirs, or space for the storage of Part A and Part B of the resin composition.

(b) Heating Equipment. The applicator shall be equipped with heating equipment of sufficient capacity to maintain the individual resin components at the manufacturer's recommended temperature of ±2.8 °C (±5 ºF) for spray application.

(c) Dispensing Equipment. The applicator shall be equipped with glass bead and/or reflective element dispensing equipment. The applicator shall be capable of applying the glass beads and/or reflective elements at a rate and combination indicated by the manufacturer.

(d) Volumetric Usage. The applicator shall be equipped with metering devices or pressure gauges on the proportioning pumps as well as stroke counters to monitor volumetric usage. Metering devices or pressure gauges and stroke counters shall be visible to the Engineer.

(e) Pavement Marking Placement. The applicator shall be equipped with all the necessary spray equipment, mixers, compressors and other appurtenances to allow for the placement of reflectorized pavement markings in a simultaneous sequence of operations.

The Contractor shall provide an accurate temperature-measuring device(s) that shall be capable of measuring the pavement temperature prior to application of the material, the material temperature at the gun tip and the material temperature prior to mixing.

CONSTRUCTION REQUIREMENTS

General. The pavement shall be cleaned by a method approved by the Engineer to remove all dirt, grease, glaze or any other material that would reduce the adhesion of the markings with minimum or no damage to the pavement surface. New PCC pavements shall be air-blast-cleaned to remove all latents.

Widths, lengths, and shapes of the cleaned surface shall be of sufficient size to include the full area of the specified pavement marking to be placed.

The cleaning operation shall be a continuous moving operation process with minimum interruption to traffic.

Markings shall be applied to the cleaned surfaces on the same calendar day. If this cannot be accomplished, the surface shall be re-cleaned prior to applying the markings. No markings shall be applied until the Engineer approves the cleaning.

The pavement markings shall be applied to the cleaned road surface, during conditions of dry weather and subsequently dry pavement surfaces at a minimum uniform wet thickness of 0.4 mm (15 mils) according to the manufacturer's installation instructions. On new bituminous

course surfaces the pavement markings shall be applied at a minimum uniform wet thickness of 0.5 mm (20 mils). The application of and combination of reflective media (glass beads and/or reflective elements) shall be applied at a rate specified by the manufacturer. At the time of installation the pavement surface temperature and the ambient temperature shall be above 4 °C (40 ºF) and rising. The pavement markings shall not be applied if the pavement shows any visible signs of moisture or it is anticipated that damage causing moisture, such as rain showers, may occur during the installation and set periods. The Engineer will determine the atmospheric conditions and pavement surface conditions that produce satisfactory results.

Using the application equipment, the pavement markings shall be applied in the following manner, as a simultaneous operation:

(a) The surface shall be air-blasted to remove any dirt and residue.

(b) The resin shall be mixed and heated according to manufacturer's recommendations and sprayed onto the pavement surface.

The edge of the center line or lane line shall be offset a minimum distance of 50 mm (2 in.) from a longitudinal crack or joint. Edge lines shall be approximately 50 mm (2 in.) from the edge of pavement. The finished center and lane lines shall be straight, with the lateral deviation of any 3 m (10 ft) line not to exceed 25 mm (1 in.).

Notification. The Contractor shall notify the Engineer 72 hours prior to the placement of the markings in order that he/she can be present during the operation. At the time of notification, the Contractor shall provide the Engineer the manufacturer and lot numbers of polyurea and reflective media that will be used.

Inspection. The polyurea pavement markings will be inspected following installation according to Article 780.10 of the Standard Specifications, except, no later than December 15, and inspected following a winter performance period that extends 180 days from December 15.

Method of Measurement. This work will be measured for payment in place, in meters (feet). Double yellow lines will be measured as two separate lines.

Basis of Payment. This work will be paid for at the contract unit price per meter (foot) for POLYUREA PAVEMENT MARKING TYPE I – LINE of the line width specified or for POLYUREA PAVEMENT MARKING TYPE II – LINE of the line width specified.

PORTABLE CHANGEABLE MESSAGE SIGNS (BDE)
Effective: November 1, 1993 Revised: April 2, 2004

Description. This work shall consist of furnishing, placing, and maintaining changeable message sign(s) at the locations(s) shown on the plans or as directed by the Engineer.

The sign(s) shall be trailer mounted. The message panel shall be at least 2.1 m (7 ft) above the pavement, present a level appearance, and be capable of displaying up to eight characters in each of three lines at a time. Character height shall be 450 mm (18 in.).

The message panel shall be of either a bulb matrix or disc matrix design controlled by an onboard computer capable of storing a minimum of 99 programmed messages for instant recall. The computer shall be capable of being programmed to accept messages created by the operator via an alpha-numeric keyboard and able to flash any six messages in sequence. The message panel shall also be capable of being controlled by a computer from a remote location via a cellular linkage. The Contractor shall supply the modem, the cellular phone, and the necessary software to run the sign from a remote computer at a location designated by the Engineer. The Contractor shall promptly program and/or reprogram the computer to provide the messages as directed by the Engineer.

The message panel shall be visible from 400 m (1/4 mile) under both day and night conditions. The letters shall be legible from 250 m (750 ft).

The sign shall include automatic dimming for nighttime operation and a power supply capable of providing 24 hours of uninterrupted service.

The Contractor shall provide all preventive maintenance efforts s(he) deems necessary to achieve uninterrupted service. If service is interrupted for any cause and not restored within 24 hours, the Engineer will cause such work to be performed as may be necessary to provide this service. The cost of such work shall be borne by the Contractor or deducted from current or future compensation due the Contractor.

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

Basis of Payment. When portable changeable message signs are shown on the Standard, this work will not be paid for separately but shall be considered as included in the cost of the Standard.

For all other portable changeable message signs, this work will be paid for at the contract unit price per calendar month for each sign as CHANGEABLE MESSAGE SIGN.

portland cement (BDE)
Effective: January 1, 2005

Replace the first sentence of the second paragraph of Article 1001.01 of the Standard Specifications with the following:

"For portland cement according to ASTM C 150, the addition of up to 5.0 percent limestone by mass (weight) to the cement will not be permitted. Also, the total of all organic processing additions shall not exceed 1.0 percent by mass (weight) of the cement and the total of all inorganic processing additions shall not exceed 4.0 percent by mass (weight) of the cement."

Portland Cement Concrete (BDE)
Effective: November 1, 2002

Add the following paragraph after the fourth paragraph of Article 1103.01(b) of the Standard Specifications:

"The truck mixer shall be approved before use according to the Bureau of Materials and Physical Research's Policy Memorandum, "Approval of Concrete Plants and Delivery Trucks"."

Add the following paragraph after the first paragraph of Article 1103.01(c) of the Standard Specifications:

"The truck agitator shall be approved before use according to the Bureau of Materials and Physical Research's Policy Memorandum, "Approval of Concrete Plants and Delivery Trucks"."

Add the following paragraph after the first paragraph of Article 1103.01(d) of the Standard Specifications:

"The nonagitator truck shall be approved before use according to the Bureau of Materials and Physical Research's Policy Memorandum, "Approval of Concrete Plants and Delivery Trucks"."

Revise the first sentence of the first paragraph of Article 1103.02 of the Standard Specifications to read:

"The plant shall be approved before production begins according to the Bureau of Materials and Physical Research's Policy Memorandum, "Approval of Concrete Plants and Delivery Trucks"."

Precast Concrete Products (BDE)
Effective: July 1, 1999 Revised: November 1, 2004

Product Approval. Precast concrete products shall be produced according to the Department's current Policy Memorandum, "Quality Control/Quality Assurance Program for Precast Concrete Products". The Policy Memorandum applies to precast concrete products listed under the Products Key of the "Approved List of Certified Precast Concrete Producers".

Precast Concrete Box Culverts. Add the following sentence to the end of the fourth paragraph of Article 540.06:

"After installation, the interior and exterior joint gap between precast concrete box culvert sections shall not exceed 38 mm (1 1/2 in.)."

Portland Cement Replacement. For precast concrete products using Class PC concrete or other mixtures, portland cement replacement with fly ash or ground granulated blast-furnace (GGBF) slag shall be governed by the AASHTO or ASTM standard specification referenced in the Standard Specifications.

For all other precast concrete products using Class PC concrete or other mixtures, portland cement replacement with fly ash or GGBF slag shall be approved by the Engineer. Class F fly ash shall not exceed 15 percent by mass (weight) of the total portland cement and Class F fly ash. Class C fly ash shall not exceed 20 percent by mass (weight) of the total portland cement and Class C fly ash. GGBF slag shall not exceed 25 percent by mass (weight) of the total portland cement and GGBF slag.

Concrete mix designs, for precast concrete products, shall not consist of portland cement, fly ash and GGBF slag.

Ready-Mixed Concrete. Delete the last paragraph of Article 1020.11(a) of the Standard Specifications.

Shipping. When a precast concrete product has attained the specified strength, the earliest the product may be loaded, shipped, and used is on the fifth calendar day. The first calendar day shall be the date casting was completed.

Acceptance. Products which have been lot or piece inspected and approved by the Department prior to July 1, 1999, will be accepted for use on this contract.

PREFORMED RECYCLED RUBBER JOINT FILLER (BDE)
Effective: November 1, 2002

Revise Article 503.02(c) of the Standard Specifications to read:

"(c) Preformed Expansion Joint Filler .....1051"

Revise Article 637.02(d) of the Standard Specifications to read:

"(d) Preformed Expansion Joint Filler .....1051"

Add the following Article to Section 1051 of the Standard Specifications:

"1051.10 Preformed Recycled Rubber Joint Filler. Preformed recycled rubber joint filler shall consist of ground tire rubber, free of steel and fabric, combined with ground scrap or waste polyethylene. It shall not have a strong hydrocarbon or rancid odor and shall meet the physical property requirements of ASTM D 1752. Water absorption by volume shall not exceed 5.0 percent."

railroad, full-actuated controller and cabinet (bde)
Effective: April 1, 2004

Description. Work shall be according to Section 857 of the Standard Specifications except as modified herein.

Revise the first sentence of the first paragraph of Article 857.04 of the Standard Specifications to read:

"This work will be paid for at the contract unit price each for FULL-ACTUATED CONTROLLER AND CABINET or RAILROAD, FULL-ACTUATED CONTROLLER AND CABINET of the type specified, which price shall include the conflict monitor, load switches and flasher relays."

Add the following paragraph after the first paragraph of Article 1073.01(c)(2) of the Standard Specifications:

"Railroad interconnected controllers shall provide for immediate track clearance green re-service upon receipt of each subsequent pre-empt demand. During this re-service all normal vehicle clearance intervals, including red revert, shall be respected. Pedestrian clearance during railroad pre-emption will be limited to a flashing don't walk interval in length to the vehicle yellow clearance interval and shall time concurrently with the yellow clearance."

Add the following to Article 1074.03(a)(5) of the Standard Specifications:

"e. Railroad Interconnection. Railroad interconnected controllers and cabinets shall be fully tested and approved in the equipment suppliers facility prior to field installation. Three copies of the complete cabinet wiring showing all connections including railroad interconnect circuit shall be furnished.

Cabinets shall be equipped with a labeled test switch for the railroad interconnected pre-emption line which shall place a call in the controllers railroad pre-emption routine and also shall acknowledge power to the interconnect line. The switch shall resume to normal position upon release.

The terminal facility shall be wired so as to provide supervision of all essential pre-emption components. This wiring shall cause the facility to transfer to or remain in flashing operation in the event any critical component is missing, not connected or failed. The preemption interface relay shall be wired so as to be in the energized state during normal (non-pre-empt) operation. Each critical element such as controller harnesses and interface relays shall be wired to form a series loop which must be complete for normal operation.

A method of supervising the individually shielded three pair cable or individually braided three conductor cable, interconnecting the traffic and railroad facilities shall provide flashing operation during failed cable conditions. Upon detection of a failed railroad interconnect the controller shall provide one track clearance green interval and shall enter flashing operation at the end of track clearance red interval. Such flashing operation shall be manually reset. The supervision circuit shall be capable of detecting failure of the supervision circuit components themselves, and shall provide fail-safe operation upon such failure.

The interconnect to the railroad facility shall be such that demand for pre-emption begins when the railroad flasher begin to flash and ends when railroad gates begin to rise.

A Department approved method of controller security shall be implemented to assure data integrity and to preclude changes to critical data. The method shall include a means for the controller to continuously verify controller/cabinet Cyclical Redundancy Check (CRC) or Terminal and Facility (T&F) Signature match. The CRC or T&F Signature shall be developed based on preemptor entries, unit data (including phases in use, sequence and ring structure, etc.), overlap assignment and timing, firmware version, and any special memory content necessary to proper operation. Where data is stored in a data module or on a computer chip, a spare data module or computer chip shall be provided to the Engineer."

RAILROAD PROTECTIVE LIABILITY INSURANCE (BDE)

The contractor will be required to carry Railroad Protective Liability and Property Damage Liability Insurance in accordance with Article 107.11 of the Standard Specifications. The limits of liability shall be in accordance with Article 107.11 of the Standard Specifications unless otherwise noted. A separate policy is required for each railroad indicated below unless otherwise noted.
W.C @ IL-22 (Lake Zurich Hwy) in Prairie View

NAMED INSURED & ADDRESS	NUMBER & SPEED OF PASSENGER TRAINS	NUMBER & SPEED OF FREIGHT TRAINS
Wisconsin Central Ltd. 1625 Depot Street P.O. Box 348 Stevens Point, WI 5448100	0	30 trains/day @ 60 mph

FOR FREIGHT/PASSENGER INFORMATION CONTACT: Gary Cummings

PHONE: 715-345-2504

FOR INSURANCE INFORMATION CONTACT: Jerry Sernau

PHONE: 715-345-2511

METRA (Metropolitan Rail) 547 W. Jackson Blvd. Chicago, IL 60661	10 trains/day @ 60 mph	0

FOR FREIGHT/PASSENGER INFORMATION CONTACT: Bob Shuster

PHONE: 312-322-6910

FOR INSURANCE INFORMATION CONTACT: Kerry Brunette

PHONE: 312-322-6991

Basis of Payment: The costs for providing insurance, as noted above, will be paid for at the contract unit price per Lump Sum for RAILROAD PROTECTIVE LIABILITY INSURANCE.

APPROVAL OF INSURANCE: The ORIGINAL and one CERTIFIED copy of each required policy shall be submitted to ENGINEER OF DESIGN, ILLINOIS DEPARTMENT OF TRANSPORTATION, 2300 SOUTH DIRKSEN PARKWAY, SPRINGFIELD, ILLINOIS 62764 for approval. The contractor will be advised when the Department has received approval of the insurance from the railroad(s). Before any work begins on railroad right-of-way, the Contractor shall submit to the Resident Engineer evidence that the required railroad protective liability insurance has been approved by the railroad(s). The Contractor shall also provide the Resident Engineer with expiration date of each required policy.

RAP for Use in Bituminous Concrete Mixtures (BDE)
Effective: January 1, 2000 Revised: April 1, 2002

Revise Article 1004.07 to read:

"**1004.07 RAP Materials.** RAP is reclaimed asphalt pavement resulting from cold milling or crushing of an existing dense graded hot-mix asphalt pavement. RAP must originate from routes or airfields under federal, state or local agency jurisdiction. The Contractor shall supply documentation that the RAP meets these requirements.

(a) Stockpiles. The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. No additional RAP will be allowed on top of the pile after the pile has been sealed.

(1) Homogeneous. Homogeneous RAP stockpiles shall consist of RAP from Class I/ Superpave, or equivalent mixtures only and represent the same aggregate quality, but shall be at least C quality or better, the same type of crushed aggregate (either crushed natural aggregate, ACBF slag, or steel slag), similar gradation and similar AC content. If approved by the Engineer, combined single pass surface/binder millings may be considered "homogenous", with a quality rating dictated by the lowest coarse aggregate quality present in the mixture. Homogenous stockpiles shall meet the requirements of Article 1004.07(d). Homogeneous RAP stockpiles not meeting these requirements may be processed (crushing and screening) and retested.

(2) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I/ Superpave, or equivalent mixtures only. The coarse aggregate in this RAP shall be crushed aggregate only and may represent more than one aggregate type and/or quality but shall be at least C quality or better. This RAP may have an inconsistent gradation and/or asphalt cement content prior to processing. All conglomerate RAP shall be processed prior to testing by crushing to where all RAP shall pass the 16 mm (5/8 in.) or smaller screen. Conglomerate RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department. Conglomerate RAP stockpiles shall meet the requirements of Article 1004.07(d).

(3) Conglomerate "D" Quality (DQ). Conglomerate DQ RAP stockpiles shall consist of RAP containing coarse aggregate (crushed or round) that is at least D quality or better. This RAP may have an inconsistent gradation and/or asphalt content. Conglomerate DQ RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department. Conglomerate DQ RAP shall meet the requirements of Article 1004.07(d).

Reclaimed Superpave Low ESAL IL-9.5L surface mixtures shall only be placed in conglomerate DQ RAP stockpiles due to the potential for rounded aggregate.

(4) Other. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Other". "Other" RAP stockpiles shall not be used in any of the Department's bituminous mixtures.

(b) Use. The allowable use of a RAP stockpile shall be set by the lowest quality of coarse aggregate in the RAP stockpile. Class I/Superpave surface mixtures are designated as containing Class B quality coarse aggregate only. Superpave Low ESAL IL-19.0L binder and IL-9.5L surface mixtures are designated as Class C quality coarse aggregate only. Class I/Superpave binder mixtures, bituminous base course mixtures, and bituminous base course widening mixtures are designated as containing Class C quality coarse aggregate only. Bituminous stabilized subbase and BAM shoulders are designated as containing Class D quality coarse aggregate only. Any mixture not listed above shall have the designated quality determined by the Department.

RAP containing steel slag or other expansive material, as determined by the Department, shall be homogeneous and will be approved for use in Class I/Superpave (including Low ESAL) surface mixtures only. RAP stockpiles for use in Class I/Superpave mixtures (including Low ESAL), base course, base course widening and Class B mixtures shall be either homogeneous or conglomerate RAP stockpiles except conglomerate RAP stockpiles shall not be used in Superpave surface mixture Ndesign 50 or greater. RAP for use in bituminous aggregate mixtures (BAM) shoulders and BAM stabilized subbase shall be from homogeneous, conglomerate, or conglomerate DQ stockpiles.

Additionally, RAP used in Class I/Superpave surface mixtures shall originate from milled or crushed mixtures only, in which the coarse aggregate is of Class B quality or better. RAP stockpiles for use in Class I/Superpave (including Low ESAL) binder mixes as well as base course, base course widening and Class B mixtures shall originate from milled or processed surface mixture, binder mixture, or a combination of both mixtures uniformly blended to the satisfaction of the Engineer, in which the coarse aggregate is of Class C quality or better.

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

(d) Testing. All RAP shall be sampled and tested either during or after stockpiling.

For testing during stockpiling, washed extraction samples shall be run at the minimum frequency of one sample per 450 metric tons (500 tons) for the first 1800 metric tons (2,000 tons) and one sample per 1800 metric tons (2,000 tons) thereafter. A minimum of five tests shall be required for stockpiles less than 3600 metric tons (4,000 tons).

For testing existing stockpiles, the Contractor shall submit a plan for approval to the District proposing a satisfactory method of sampling and testing the RAP pile either in-situ or by restockpiling. The sampling plan shall meet the minimum frequency required above and detail the procedure used to extract representative samples throughout the pile for testing.

Before extraction, each field sample shall be split to 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.

All of the extraction results shall be compiled and averaged for asphalt content and gradation. Individual extraction test results, when compared to the averages, will be accepted if within the tolerances listed below.

Parameter	Homogeneous / Conglomerate	Conglomerate "D" Quality
25 mm (1 in.)		± 5%
12.5 mm (1/2 in.)	± 8%	± 15%
4.75 mm (No. 4)	± 6%	± 13%
2.36 mm (No. 8)	± 5%	
1.18 mm (No. 16)		± 15%
600 μm (No. 30)	± 5%	
75 μm (No. 200)	± 2.0%	± 4.0%
AC	± 0.4%	± 0.5%

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

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

(e) Designs. At the Contractor's option, bituminous concrete mixtures may be constructed utilizing RAP material meeting the above detailed requirements. The amount of RAP included in the mixture shall not exceed the percentages specified in the plans.

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

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

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

If the RAP control tolerances or QC/QA test results require corrective action, the Contractor shall cease production of the mixture containing RAP and either switch to the virgin aggregate design or submit a new RAP design.

SEEDING AND SODDING (BDE)

Effective: July 1, 2004 Revised: November 1, 2004

Revise Class 1A and 2A seeding mixtures shown in Table 1 of Article 250.07 of the Standard Specifications to read:

"Table 1 - SEEDING MIXTURES			
Class – Type		Seeds	kg/hectare (lb/acre)
1A	Salt Tolerant Lawn Mixture 7/	Bluegrass Perennial Ryegrass Audubon Red Fescue Rescue 911 Hard Fescue Fults Salt Grass*	70 (60) 20 (20) 20 (20) 20 (20) 70 (60)
2A	Salt Tolerant Roadside Mixture 7/	Alta Fescue or Ky 31 Perennial Ryegrass Audubon Red Fescue Rescue 911 Hard Fescue Fults Salt Grass 1/	70 (60) 20 (20) 20 (30) 20 (30) 70 (60)"

Revise Note 7 of Article 250.07 of the Standard Specifications to read:

"Note 7. In Districts 1 through 6, the planting times shall be April 1 to June 15 and August 1 to November 1. In Districts 7 through 9, the planting times shall be March 1 to June 1 and August 1 to November 15. Seeding may be performed outside these dates provided the Contractor guarantees a minimum of 75 percent coverage over the entire seeded area(s) after one growing season. The guarantee shall be

submitted to the Engineer in writing prior to performing the work. After one growing season, areas not sustaining 75 percent growth shall be interseeded or reseeded, as determined by the Engineer, at the Contractor's expense."

Add the following sentence to Article 252.04 of the Standard Specifications:

"Sod shall not be placed during the months of July and August."

Revise the first paragraph of Article 252.08 of the Standard Specifications to read:

"**252.08 Sod Watering.** Within two hours after the sod has been placed, water shall be applied at a rate of 25 L/sq m (5 gal/sq yd). Additional water shall be applied every other day at a rate of 15 L/sq m (3 gal/sq yd) for a total of 15 additional waterings. During periods exceeding 26 ºC (80 ºF) or subnormal rainfall, the schedule of additional waterings may be altered with the approval of the Engineer."

Revise Article 252.09 of the Standard Specifications to read:

"**252.09 Supplemental Watering.** During periods exceeding 26 ºC (80 ºF) or subnormal rainfall, supplemental watering may be required after the initial and additional waterings. Supplemental watering shall be performed when directed by the Engineer. Water shall be applied at the rate specified by the Engineer within 24 hours of notice."

Revise the first and third paragraphs of Article 252.12 of the Standard Specifications to read:

"**252.12 Method of Measurement**. Sodding will be measured for payment in place and the area computed in square meters (square yards). To be acceptable for final payment, the sod shall be growing in place for a minimum of 30 days in a live, healthy condition. When directed by the Engineer, any defective or unacceptable sod shall be removed, replaced and watered by the Contractor at his/her own expense."

"Supplemental watering will be measured for payment in units of 1000 L (1000 gal) of water applied on the sodded areas. Waterings performed in addition to those required by Article 252.08 or after the 30 day establishment period will be considered as supplemental watering."

Replace the first paragraph of Article 252.13 of the Standard Specifications with the following:

"**252.13 Basis of Payment.** Sodding will be paid for at the contract unit price per square meter (square yard) for SODDING or SODDING, SALT TOLERANT according to the following schedule.

(a) Initial Payment. Upon placement of sod, 25 percent of the pay item will be paid.

(b) Final Payment. Upon acceptance of sod, the remaining 75 percent of the pay item will be paid."

Revise Article 1081.03(b) of the Standard Specifications to read:

"(b) Salt Tolerant Sod.

Variety	Percent by Weight
Buffalo Grass Buchloe Dactyloides	30%
Amigo Fineleaf Tall Fescue	20%
Audubon Red Fescue	15%
Rescue 911 Hard Fescue	15%
Rugby Kentucky Bluegrass	5%
Fults Pucinnellia Distans	15%"

Revise Table II of Article 1081.04(c)(6) of the Standard Specifications to read:

TABLE II

Variety of Seeds	Hard Seed Percent Maximum	Purity Percent Minimum	Pure, Live Seed Percent Minimum	Weed Percent Maximum	Secondary Noxious Weeds No. per kg (oz) Max. Permitted*	Remarks
Alfalfa	20	92	89	0.50	211 (6)	1/
Brome Grass	-	90	75	0.50	175 (5)	-
Clover, Alsike	15	92	87	0.30	211 (6)	2/
Clover, Crimson	15	92	83	0.50	211 (6)	-
Clover, Ladino	15	92	87	0.30	211 (6)	-
Clover, Red	20	92	87	0.30	211 (6)	-
Clover, White Dutch	30	92	87	0.30	211 (6)	3/
Audubon Red Fescue	0	97	82	0.10	105 (3)	-
Fescue, Alta or Ky. 31	-	97	82	1.00	105 (3)	-
Fescue, Creeping Red	-	97	82	1.00	105 (3)	-
Fults Salt Grass	0	98	85	0.10	70 (2)	-
Kentucky Bluegrass	-	97	80	0.30	247 (7)	5/
Lespedeza, Korean	20	92	84	0.50	211 (6)	3/
Oats	-	92	88	0.50	70 (2)	4/
Orchard Grass	-	90	78	1.50	175 (5)	4/
Redtop	-	90	78	1.80	175 (5)	4/
Ryegrass, Perennial, Annual	-	97	85	0.30	175 (5)	4/
Rye, Grain, Winter	-	92	83	0.50	70 (2)	4/
Rescue 911 Hard Fescue	0	97	82	0.10	105 (3)	-
Timothy	-	92	84	0.50	175 (5)	4/
Vetch, Crown	30	92	67	1.00	211 (6)	3/ & 6/
Vetch, Spring	30	92	88	1.00	70 (2)	4/
Vetch, Winter	15	92	83	1.00	105 (3)	4/
Wheat, hard Red Winter	-	92	89	0.50	70 (2)	4/

Self-consolidating CONCRETE for precast products (BDE)
Effective: July 1, 2004

Definition. Self-consolidating concrete is a flowable mixture that does not require mechanical vibration for consolidation.

Usage. Self-consolidating concrete may be used for precast concrete products. The design and testing of a self-consolidating concrete mixture shall be according to Section 1020 of the Standard Specifications except as modified herein.

Materials. Materials shall conform to the following requirements:

(a) Self-Consolidating Admixtures. The self-consolidating admixture system shall consist of either a high range water-reducing admixture only or a high range water-reducing admixture combined with a separate viscosity modifying admixture. The one or two component admixture system shall be capable of producing a flowable concrete that does not require mechanical vibration.

The high range water-reducing admixture shall comply with the requirements of AASHTO M 194, Type F.

The viscosity modifying admixture will be evaluated according to the test methods and mix design proportions referenced in AASHTO M 194, except the following physical requirements shall be met:

(1) For initial and final set times, the allowable deviation of the test concrete from the reference concrete shall not be more than 1.0 hour earlier or 1.5 hours later.

(2) For compressive and flexural strengths, the test concrete shall be a minimum of 90 percent of the reference concrete at 3, 7 and 28 days.

(3) The length change of the test concrete shall be a maximum 135 percent of the reference concrete. However, if the length change of the reference concrete is less than 0.030 percent, the length change of the test concrete shall be a maximum 0.010 percentage units greater than the reference concrete.

(4) The relative durability factor of the test concrete shall be a minimum 80 percent.

(b) Fine Aggregate. A fine aggregate used alone in the mix design shall not have an expansion greater than 0.30 percent per ASTM C 1260. For a blend of two or more fine aggregates, the resulting blend shall not have an expansion greater than 0.30 percent.

The aggregate blend expansion will be calculated as follows:

Aggregate Blend Expansion = (a/100 x A) + (b/100 x B) + (c/100 x C) + ……etc.

Where: a, b, c, … = percent of aggregate blend
A, B, C, … = aggregate expansion according to ASTM C 1260

Mix Design Criteria. The slump requirements of Article 1020.04 of the Standard Specifications shall not apply. In addition, the allowable coarse aggregate gradations shall be CA 11, CA 13, CA 14, CA 16, or a blend of these gradations. The fine aggregate proportion shall be a maximum 50 percent by mass (weight) of the total aggregate used.

Trail Batch. A minimum 1 cu m (1 cu yd) trial batch shall be produced. The mixture will be evaluated for air content, slump flow, visual stability index, compressive strength, passing ability, and static/dynamic segregation resistance.

The trial batch shall be scheduled and performed in the presence of the Engineer. Testing shall be performed per the Department's test method or as approved by the Engineer.

For the trial batch, the air content shall be within the top half of the allowable specification range. The slump flow range shall be 510 mm (20 in.) minimum to 710 mm (28 in.) maximum. The visual stability index shall be a maximum of 1. Strength shall be determined at 28 days. At the Contractor's option, strength may be determined for additional days.

Passing ability and static/dynamic segregation resistance shall be determined by tests selected by the Contractor and approved by the Engineer. The visual stability index shall not be used as the sole criteria for evaluating static segregation resistance.

After an acceptable mixture has been batched and tested, the mixture shall also be evaluated for robustness. Robustness shall be evaluated by varying the dosage of the self-consolidating admixture system and water separately. Additional trial batches may be necessary to accomplish this.

When necessary, the trial batches shall be disposed of according to Article 202.03 of the Standard Specifications.

Quality Control. Once testing is completed and acceptable results have been attained, production test frequencies and allowable test ranges for slump flow, visual stability index, passing ability, and static/dynamic segregation resistance shall be proposed. The production test frequencies and allowable test ranges will be approved by the Engineer.

The slump flow range shall be ± 50 mm (± 2 in.) of the target value, and within the overall range of 510 mm (20 in.) minimum to 710 mm (28 in.) maximum. The visual stability index shall be a maximum of 1. The approved test ranges for passing ability and static/dynamic segregation resistance will be based on recommended guidelines determined by the Engineer.

STABILIZED SUBBASE AND BITUMINOUS SHOULDERS SUPERPAVE (BDE)
Effective: April 1, 2002 Revised: July 1, 2004

Description. This work shall consist of constructing stabilized subbase and bituminous shoulders Superpave according to Sections 312 and 482 respectively, of the Standard Specifications and the special provision, "Quality Control/Quality Assurance of Bituminous Concrete Mixtures" except as modified herein.

Revise Article 312.03(b) of the Standard Specifications to read:

"(b) RAP Material (Note 3)"

Revise Note 2 of Article 312.03 of the Standard Specifications to read:

"Note 2. Gradation CA 6, CA 10, or CA 12 shall be used."

Revise Note 3 of Article 312.03 of the Standard Specifications to read:

"Note 3. RAP shall meet the requirements of the special provision "RAP for Use in Bituminous Concrete Mixtures". RAP containing steel slag shall be permitted for use in top-lift surface mixtures only."

Revise Note 4 of Article 312.03 of the Standard Specifications to read:

"Note 4. Unless otherwise specified on the plans, the bituminous material shall be performance graded asphalt cement, PG58-22. When more than 15 percent RAP is used, a softer PG binder may be required as determined by the Engineer."

Revise Article 312.06 of the Standard Specifications to read:

"**312.06 Mixture Design.** The Contractor shall submit mix designs for approval, for each required mixture. Mix designs shall be developed by Level III personnel who have completed the course, “Superpave Mix Design Upgrade”. The mixtures shall be designed according to the respective Illinois Modified AASHTO references listed below:

AASHTO MP 2	Standard Specification for Superpave Volumetric Mix Design
AASHTO R 30	Standard Practice for Mixture Conditioning of Hot-Mix Asphalt (HMA)
AASHTO PP 28	Standard Practice for Designing Superpave HMA
AASHTO T 209	Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
AASHTO T 312	Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor
AASHTO T 308	Determining the Asphalt Content of Hot Mix Asphalt (HMA) by the Ignition Method

(a) Job Mix Formula (JMF). The JMF shall be according to the following limits:

Ingredient	Percent by Dry Weight
Aggregate	94.0 to 96.0
Asphalt Cement	4.0 to 6.0*
Dust/AC Ratio	1.4

*Upper limit may be raised for the lower or top lifts if the Contractor elects to use a highly absorptive coarse and/or fine aggregate requiring more than six percent asphalt. The additional asphalt shall be furnished at no cost to the Department.

When RAP material is being used, the JMF shall be according to the following limits:

Ingredient	Percent by Dry Weight
Virgin Aggregate(s)	46.0 to 96.0
RAP Material(s) (Note 1)	0 to 50
Mineral Filler (if required)	0 to 5.0
Asphalt Cement	4.0 to 7.0
Dust/AC Ratio	1.4

Note 1. If specified on the plans, the maximum percentage of RAP shall be as specified therein.

It is recommended that the selected combined aggregate gradation not pass through the restricted zones specified in Illinois Modified AASHTO MP 2.

(b) Volumetric Requirements.

Design Compactive Effort	Design Air Voids Target (%)
N_{DES} =30	2.0

(c) Determination of Need for Anti-Stripping Additive. The mixture designer shall determine if an additive is needed in the mix to prevent stripping. The determination will be made on the basis of tests performed according to Illinois Modified AASHTO T 283 using 4 in. Marshall bricks. To be considered acceptable by the Engineer as a mixture not susceptible to stripping, the ratio of conditioned to unconditioned split tensile strengths (TSR) shall be equal to or greater than 0.75. Mixtures, either with or without an additive, with TSR values less than 0.75 will be considered unacceptable.

If it is determined that an additive is required, the additive may be hydrated lime, slaked quicklime, or a liquid additive, at the Contractor's option. The liquid additive shall be selected from the Department's list of approved additives and may be limited to those which have exhibited satisfactory performance in similar mixes.

Dry hydrated lime shall be added at a rate of 1.0 to 1.5 percent by weight of total dry aggregate. Slurry shall be added in such quantity as to provide the required amount of hydrated lime solids by weight of total dry aggregate. The exact rate of application for all anti-stripping additives will be determined by the Engineer. The method of application shall be according to Article 406.12 of the Standard Specifications."

Revise Article 312.08 of the Standard Specifications to read:

"**312.08 Mixture Production.** When a hot-mix plant conforming to Article 1102.01 is used, the aggregate shall be dried and heated in the revolving dryer to a temperature of 120 °C (250 °F) to 175 °C (350 °F).

The aggregate and bituminous material used in the bituminous aggregate mixture shall be measured separately and accurately by weight or by volume. When the aggregate is in the mixer, the bituminous material shall be added and mixing continued for a minimum of 35 seconds and until a homogeneous mixture is produced in which all particles of the aggregate

are coated. The mixing period, size of the batch and the production rate shall be approved by the Engineer.

The ingredients shall be heated and combined in such a manner as to produce a mixture which, when discharged from the mixer, shall be workable and vary not more 10 °C (20 °F) from the temperature set by the Engineer.

When RAP material(s) is used in the bituminous aggregate mixture, the virgin aggregate(s) shall be dried and heated in the dryer to a temperature that will produce the specified resultant mix temperature when combined with the RAP material.

The heated virgin aggregates and mineral filler shall be combined with RAP material in such a manner as to produce a bituminous mixture which when discharged from the mixer shall not vary more than 15 °C (30 °F) from the temperature set by the Engineer. The combined ingredients shall be mixed for a minimum of 35 seconds and until a homogeneous mixture as to composition and temperature is obtained. The total mixing time shall be a minimum of 45 seconds consisting of dry and wet mixing. Variation in wet and dry mixing times may be permitted, depending on the moisture content and amount of salvaged material used. The mix temperature shall not exceed 175 °C (350 °F). Wide variations in the mixture temperature will be cause for rejection of the mix.

(a) Personnel. The QC Manager and Level I Technician shall have successfully completed the Department's "Superpave Field Control Course".

(b) Required Tests. Testing for stabilized subbase and bituminous shoulders shall be conducted to control the production of the bituminous mixture using the test methods identified and performed at a frequency not less than indicated in the following table.

Parameter	Frequency of Tests Non-Class I Mixtures	Test Method
Aggregate Gradation Hot bins for batch and continuous plants. Individual cold-feeds or combined belt-feed for drier-drum plants. (% passing seives: 12.5 mm (1/2 In.), 4.75 mm (No. 4), 75 µm (No. 200))	1 gradation per day of production. The first day of production shall be washed ignition oven test on the mix. Thereafter, the testing shall alternate between dry gradation and washed ignition oven test on the mix. The dry gradation and the washed ignition oven test results shall be plotted on the same control chart.	Illinois Procedure (See Manual of Test Procedures for Materials).
Asphalt Content by ignition oven (Note 1.)	1 per day	Illinois-Modified AASHTO T 308
Air Voids Bulk Specific Gravity of Gyratory Sample Maximum Specific Gravity of Mixture	 1 per day 1 per day	 Illinois-Modified AASHTO T 312 Illinois-Modified AASHTO T 209

Note 1. The Engineer may waive the ignition oven requirement for AC content if the aggregates to be used are known to have ignition AC 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 AC content.

During production, the ratio of minus 75 µm (#200) sieve material to total asphalt cement shall be not less than 0.6 nor more than 1.6, and the moisture content of the mixture at discharge from the mixer shall not exceed 0.5 percent. If at any time the ratio of minus 75 µm (#200) material to asphalt or moisture content of the mixture falls outside the stated limits, production of the mix shall cease. The cause shall be determined and corrective action satisfactory to the Engineer shall be initiated prior to resumption of production.

During production, mixture containing an anti-stripping additive will be tested by the Engineer for stripping according to Illinois Modified AASHTO T 283. If the mixture fails to meet the TSR criteria for acceptance, no further mixture will be accepted until the Contractor takes such action as is necessary to furnish a mixture meeting the criteria.

(c) Control Charts/Limits. Control charts/limits shall be according to QC/QA requirements for Non-Class I Mixtures except air voids shall be plotted on the control charts within the following control limits:

Air Void Control Limits	
Mixture	Individual Test
Shoulders	± 1.2 %
Others	± 1.2 %”

Replace the first paragraph of Article 312.10 of the Standard Specifications with the following:

“**312.10 Placing and Compacting.** After the subgrade has been compacted and is acceptable to the Engineer, the bituminous aggregate mixture shall be spread upon it with a mechanical spreader. The maximum compacted thickness of each lift shall be 150 mm (6 in.) provided the required density is obtained. The minimum compacted thickness of each lift shall be according to the following table:

Nominal Maximum Aggregate Size of Mixture	Minimum Compacted Lift Thickness
CA 12 – 12.5 mm (1/2 in.)	38 mm (1 1/2 in.)
CA 10 - 19 mm (3/4 in.)	57 mm (2 1/4 in.)
CA 6 – 25 mm (1 in.)	76 mm (3 in.)

The surface of each lift shall be clean and dry before succeeding lifts are placed.”

Revise Article 482.02 of the Standard Specifications to read:

“**482.02 Materials.** Materials shall meet the requirements of Article 312.03. For the top lift, the aggregate used shall meet the gradation requirements for a CA 10 or CA 12. Blending of aggregates to meet these gradation requirements will be permitted.”

Revise the first paragraph of Article 482.04 of the Standard Specifications to read:

"**482.04 General.** For pavement and shoulder resurfacing projects, Superpave binder and surface course mixtures may be used in lieu of bituminous aggregate mixture for the resurfacing of shoulders, at the option of the Contractor, or shall be used when specified on the plans."

Revise Article 482.04(c) of the Standard Specifications to read:

"(c) Mixture Production .....312.08"

Revise Article 482.05 of the Standard Specifications to read:

"**482.05 Composition of Bituminous Aggregate Mixture.** The composition of the mixture shall be according to Article 312.06, except that the amount of asphalt cement used in the top lift shall be increased up to 0.5 percent more than that required in the lower lifts. For resurfacing projects when the Superpave binder and surface course mixtures option is used, the asphalt cement used in the top lift shall not be increased. Superpave mixtures used on the top lift of such shoulders shall meet the gradation requirements of the special provision "Superpave Bituminous Concrete Mixtures".

For shoulder and strip construction, the composition of the Superpave binder and surface course shall be the same as that specified for the mainline pavement."

In the following locations of Section 482 of the Standard Specifications, change "Class I" to "Superpave":

the second paragraph of Article 482.04
the first sentence of the second paragraph of Article 482.06
the first sentence of the fourth paragraph of Article 482.06
the second sentence of the fourth paragraph of Article 482.06
the first sentence of the third paragraph of Article 482.08(b)

Revise the first paragraph of Article 482.06 of the Standard Specifications to read:

"**482.06 Placing and Compacting.** This work shall be according to Article 312.10. The mechanical spreader for the top lift of shoulders shall meet the requirements of Article 1102.03 when the shoulder width is 3 m (10 ft) or greater."

Revise Article 482.09 of the Standard Specifications to read:

"**482.09 Basis of Payment**. When bituminous shoulders are constructed along the edges of the completed pavement structure, this work will be paid for at the contract unit price per square meter (square yard) for BITUMINOUS SHOULDERS SUPERPAVE of the thickness specified. The specified thickness shall be the thickness shown on the plans at the edge of the pavement.

On pavement and shoulder resurfacing projects, the shoulder resurfacing will be paid for at the contract unit price per metric ton (ton) for BITUMINOUS SHOULDERS SUPERPAVE.

The construction of shoulder strips for resurfacing pavements will be paid according to the special provision, "Superpave Bituminous Concrete Mixtures"."

SUBGRADE PREPARATION (BDE)
Effective: November 1, 2002

Revise the tenth paragraph of Article 301.03 of the Standard Specifications to read:

"Equipment of such weight, or used in such a way as to cause a rut in the finished subgrade of 13 mm (1/2 in.) or more in depth, shall be removed from the work or the rutting otherwise prevented."

Superpave Bituminous Concrete Mixture IL-4.75 (BDE)
Effective: November 1, 2004

Description. This work shall consist of constructing bituminous concrete surface course or leveling binder with a Superpave, IL-4.75 mixture. Work shall be according to Section 406 of the Standard Specifications and the special provision "Quality Control/Quality Assurance of Bituminous Concrete Mixtures", except as modified herein.

Materials.

(a) Fine Aggregate. The fine aggregate shall be at least 50 percent manufactured sand meeting FA 20 gradation. The manufactured sand shall be stone sand, slag sand, steel slag sand, or combinations thereof. When used as leveling binder, steel slag sand will not be permitted.

The fine aggregate quality shall be Class B. The total minus 75 μm (No. 200) material in the mixture shall be free from organic impurities.

(b) Reclaimed Asphalt Pavement (RAP). RAP will not be permitted.

(c) Bituminous Material. The asphalt cement (AC) shall conform to Article 1009.05 of the Standard Specifications for SBS PG76-28 or SBR PG76-28, except the elastic recovery shall be a minimum of 80.

The AC shall be shipped, maintained, and stored at the mix plant according to the manufacturer's requirements. It shall be placed in an empty tank and not blended with other asphalt cements.

(d) Mineral Filler. Mineral filler shall conform to the requirements of Article 1011.01 of the Standard Specifications, except it shall not be collected dust.

Laboratory Equipment.

(a) Superpave Gyratory Compactor. The Superpave gyratory compactor (SGC) shall be used for all laboratory mixture compaction.

(b) Ignition Oven. The ignition oven shall be used for determination of AC content. The ignition oven shall also be used to recover aggregates for all required washed gradations.

The Engineer may waive the ignition oven requirement for AC content if the aggregates to be used are known to have ignition AC content calibration factors, which exceed 1.5 percent. If the calibration factor exceeds 1.5 percent other IDOT approved methods shall be utilized for determination of AC content.

Mixture Design. The Contractor shall submit mix designs for approval, for each required mixture. Mix designs shall be developed by Level III personnel who have successfully completed the course, "Superpave Mix Design Upgrade". Articles 406.10 and 406.13 of the Standard Specifications shall not apply. The mixtures shall be designed according to the respective Illinois Modified AASHTO references listed below.

AASHTO MP 2	Standard Specification for Superpave Volumetric Mix Design
AASHTO PP 2	Standard Practice for Short and Long Term Aging of Hot Mix Asphalt (HMA)
AASHTO PP 19	Standard Practice for Volumetric Analysis of Compacted Hot Mix Asphalt (HMA)
AASHTO PP 28	Standard Practice for Designing Superpave HMA
AASHTO T 209	Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
AASHTO T 305	Standard Method of Test for Determination of Draindown Characteristics in Uncompacted Asphalt Mixtures.
AASHTO T 308	Determining the Asphalt Content of Hot Mix Asphalt (HMA) by the Ignition Method
AASHTO T 312	Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor

(a) Mixture Composition. The job mix formula (JMF) shall conform to the following:

Sieve	Percent Passing
12.5 mm (1/2 in.)	100
9.5 mm (3/8 in.)	100
4.75 mm (No. 4)	90-100
2.36 mm (No. 8)	70-90
1.18 mm (No. 16)	50-65
600 μm (No. 30)	35-55
300 μm (No. 50)	15-30
150 μm (No. 100)	10-18
75 μm (No. 200)	8-10
AC Content	8% to 10%

(b) Volumetric Requirements.

Volumetric Parameter	Requirement
Design Air Voids	2.5 % at Ndesign 50
Voids in the Mineral Aggregate (VMA)	19.0% minimum
Voids Filled with Asphalt (VFA)	87-95%
Maximum Draindown	0.3%

(c) Determination of Need for Anti-Stripping Additive. The mixture designer shall determine if an additive is needed in the mix to prevent stripping. The determination shall be made on the basis of tests performed according to Illinois Modified T 283. To be considered acceptable by the Engineer as a mixture not susceptible to stripping, the ratio of conditioned to unconditioned split tensile strengths (TSRs) shall be equal to or greater than 0.75 for 4 in. specimens or 0.85 for 6 in. specimens. Mixtures having TSRs less than these, either with or without an additive, will be considered unacceptable.

When it is determined that an additive is required, the additive may be hydrated lime, slaked quicklime, or a liquid additive, at the Contractor's option. The liquid additive shall be selected from the Department's list of approved additives and may be limited to those, which have exhibited satisfactory performance in similar mixes.

Dry hydrated lime shall be added at a rate of 1.0 to 1.5 percent by weight of total dry aggregate. Slurry shall be added in such quantity as to provide the required amount of hydrated lime solids by weight of total dry aggregate. The exact rate of application for all anti-stripping additives will be determined by the Engineer. The method of application shall be according to Article 406.12 of the Standard Specifications.

Mixture Production. Plant modifications may be required to accommodate the addition of higher percentages of mineral filler as required by the JMF.

During production, mineral filler shall not be stored in the same silo as collected dust. This may require the wasting of any previously collected baghouse fines prior to production of the IL-4.75 mixture. Only dust collected during the production of IL-4.75 may be returned directly to the IL-4.75 mixture. Any additional minus 75 μm (No. 200) material needed to produce the IL-4.75 shall be mineral filler.

The mixture shall be produced within the temperature range recommended by the asphalt cement producer; but not less than 155 °C (310 °F).

The amount of moisture remaining in the finished mixture shall be less than 0.3 percent based on the weight of the test sample after drying.

Mixtures containing steel slag sand or aggregate having absorptions ≥ 2.5 percent shall have a silo storage plus haul time of not less than 1.5 hours.

Control Charts/Limits. Control charts/limits and testing frequency shall be according to QC/QA requirements for Class I mixtures except as follows:

Parameter	Individual Test	Moving Average
% Passing		
1.18 mm (No. 16)	± 4%	± 3%
75 μm mm (No. 200)	± 1.0%	± 0.8%
Asphalt Content	± 0.2%	± 0.1%
Air Voids	± 1.0% (of design)	± 0.8% (of design)
Density	93.5 - 97.4%	

CONSTRUCTION REQUIREMENTS

Placement. The mixture shall be placed on a dry, clean surface when the air temperature in the shade is 10 °C (50 °F) or above. The mixture temperature shall be 155 °C (310 °F) or above and shall be measured in the truck just prior to placement.

When used as leveling binder, the mixture shall be overlayed within five days of being placed.

Lift Thickness.

(a) Surface Course. The minimum and maximum compacted lift thickness for the IL-4.75 mixture shall be 19 mm (3/4 in.) and 32 mm (1 1/4 in.) respectively.

(b) Leveling Binder. Density requirements for IL-4.75 mixture shall apply when the nominal , compacted thickness is 19 mm (3/4 in.) or greater.

Compaction. The compaction operation shall start immediately after the mixture has been placed. The Contractor shall provide a minimum of two steel-wheeled tandem rollers for breakdown (T_B) and one finish steel-wheeled roller (T_F) meeting the requirements of Article 406.16(a) and 1101.01(e) of the Standard Specifications except the minimum compression for all of the rollers shall be 49 N/mm (280 lb/in.) of roller width. Pneumatic-tired and vibratory rollers will not be permitted.

Basis of Payment. This work will be paid for at the contract unit price per metric ton (ton) for POLYMERIZED LEVELING BINDER (MACHINE METHOD), SUPERPAVE, IL-4.75, N50; and POLYMERIZED BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, IL-4.75, N50.

Superpave Bituminous Concrete Mixtures (BDE)
Effective: January 1, 2000 Revised: April 1, 2004

Description. This work shall consist of designing, producing and constructing Superpave bituminous concrete mixtures using Illinois Modified Strategic Highway Research Program (SHRP) Superpave criteria. This work shall be according to Sections 406 and 407 of the Standard Specifications and the special provision, "Quality Control/Quality Assurance of Bituminous Concrete Mixtures", except as follows.

Materials.

(a) Fine Aggregate Blend Requirement. The Contractor may be required to provide FA 20 manufactured sand to meet the design requirements. For mixtures with Ndesign $\geq$ 90, at least 50 percent of the required fine aggregate fraction shall consist of either stone sand, slag sand, or steel slag sand meeting the FA/FM 20 gradation.

(b) Reclaimed Asphalt Pavement (RAP). If the Contractor is allowed to use more than 15 percent RAP, as specified in the plans, a softer performance-graded binder may be required as determined by the Engineer.

RAP shall meet the requirements of the special provision, "RAP for Use in Bituminous Concrete Mixtures".

RAP will not be permitted in mixtures containing polymer modifiers.

RAP containing steel slag will be permitted for use in top-lift surface mixtures only.

(c) Bituminous Material. The asphalt cement (AC) shall be performance-graded (PG) or polymer modified performance-graded (SBS-PG or SBR-PG) meeting the requirements of Article 1009.05 of the Standard Specifications for the grade specified on the plans.

The following additional guidelines shall be used if a polymer modified asphalt is specified:

(1) The polymer modified asphalt cement shall be shipped, maintained, and stored at the mix plant according to the manufacturer's requirements. Polymer modified asphalt cement shall be placed in an empty tank and shall not be blended with other asphalt cements.

(2) The mixture shall be designed using a mixing temperature of 163 $\pm$ 3 °C (325 $\pm$ 5 °F) and a gyratory compaction temperature of 152 $\pm$ 3 °C (305 $\pm$ 5 °F).

(3) Pneumatic-tired rollers will not be allowed unless otherwise specified by the Engineer. A vibratory roller meeting the requirements of Article 406.16 of the Standard Specifications shall be required in the absence of the pneumatic-tired roller.

Laboratory Equipment.

(a) Superpave Gyratory Compactor. The superpave gyratory compactor (SGC) shall be used for all QC/QA testing.

(b) Ignition Oven. The ignition oven shall be used to determine the AC content. The ignition oven shall also be used to recover aggregates for all required washed gradations.

The Engineer may waive the ignition oven requirement for AC content if the aggregates to be used are known to have ignition AC 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 AC content.

Mixture Design. The Contractor shall submit mix designs, for approval, for each required mixture. Mix designs shall be developed by Level III personnel who have successfully completed the course, “Superpave Mix Design Upgrade”. Articles 406.10 and 406.13 of the Standard Specifications shall not apply. The mixtures shall be designed according to the respective Illinois Modified AASHTO references listed below.

AASHTO MP 2	Standard Specification for Superpave Volumetric Mix Design
AASHTO R 30	Standard Practice for Mixture Conditioning of Hot-Mix Asphalt (HMA)
AASHTO PP 28	Standard Practice for Designing Superpave HMA
AASHTO T 209	Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
AASHTO T 312	Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor
AASHTO T 308	Determining the Asphalt Content of Hot Mix Asphalt (HMA) by the Ignition Method

(a) Mixture Composition. The ingredients of the bituminous mixture shall be combined in such proportions as to produce a mixture conforming to the composition limits by weight. The gradation mixture specified on the plans shall produce a mixture falling within the limits specified in Table 1.

TABLE 1. MIXTURE COMPOSITION (% PASSING)[1/]								
Sieve Size	IL-25.0 mm		IL-19.0 mm		IL-12.5 mm[4/]		IL-9.5 mm[4/]	
	min	max	min	max	Min	max	min	max
37.5 mm (1 1/2 in.)		100						
25 mm (1 in.)	90	100		100				
19 mm (3/4 in.)		90	82	100		100		
12.5 mm (1/2 in.)	45	75	50	85	90	100		100
9.5 mm (3/8 in.)						89	90	100
4.75 mm (#4)	24	42[2/]	24	50[2/]	28	65	28	65
2.36 mm (#8)	16	31	20	36	28	48[3/]	28	48[3/]
1.18 mm (#16)	10	22	10	25	10	32	10	32
600 μm (#30)								
300 μm (#50)	4	12	4	12	4	15	4	15
150 μm (#100)	3	9	3	9	3	10	3	10
75 μm (#200)	3	6	3	6	4	6	4	6

1/ Based on percent of total aggregate weight.

2/ The mixture composition shall not exceed 40 percent passing the 4.75 mm (#4) sieve for binder courses with Ndesign $\geq$ 90.

3/ The mixture composition shall not exceed 40 percent passing the 2.36 mm (#8) sieve for surface courses with Ndesign $\geq$ 90.

4/ The mixture composition for surface courses shall be according to IL-12.5 mm or IL-9.5 mm, unless otherwise specified by the Engineer.

One of the above gradations shall be used for leveling binder as specified in the plans and according to Article 406.04 of the Standard Specifications.

It is recommended that the selected combined aggregate gradation not pass through the restricted zones specified in Illinois Modified AASHTO MP 2.

(b) Dust/AC Ratio for Superpave. The ratio of material passing the 75 μm (#200) sieve to total asphalt cement shall not exceed 1.0 for mixture design (based on total weight of mixture).

(c) Volumetric Requirements. The target value for the air voids of the hot mix asphalt (HMA) shall be 4.0 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 requirements listed in Table 2.

TABLE 2. VOLUMETRIC REQUIREMENTS

	Voids in the Mineral Aggregate (VMA), % minimum				Voids Filled with Asphalt (VFA), %
Ndesign	**IL-25.0**	**IL-19.0**	**IL-12.5**	**IL-9.5**	
50	12.0	13.0	14.0	15	65 - 78
70					65 - 75
90					
105					

(d) Determination of Need for Anti-Stripping Additive. The mixture designer shall determine if an additive is needed in the mix to prevent stripping. The determination will be made on the basis of tests performed according to Illinois Modified T 283 using 4 in. Marshall bricks. To be considered acceptable by the Department as a mixture not susceptible to stripping, the ratio of conditioned to unconditioned split tensile strengths (TSRs) shall be equal to or greater than 0.75. Mixtures, either with or without an additive, with TSRs less than 0.75 will be considered unacceptable.

If it is determined that an additive is required, the additive may be hydrated lime, slaked quicklime, or a liquid additive, at the Contractor's option. The liquid additive shall be selected from the Department's list of approved additives and may be limited to those which have exhibited satisfactory performance in similar mixes.

Dry hydrated lime shall be added at a rate of 1.0 to 1.5 percent by weight of total dry aggregate. Slurry shall be added in such quantity as to provide the required amount of hydrated lime solids by weight of total dry aggregate. The exact rate of application for all anti-stripping additives will be determined by the Department. The method of application shall be according to Article 406.12 of the Standard Specifications.

Personnel. The QC Manager and Level I Technician shall have successfully completed the Department's "Superpave Field Control Course".

Required Plant Tests. Testing shall be conducted to control the production of the bituminous mixture. The Contractor shall use the test methods identified to perform the following mixture tests at a frequency not less than that indicated in Table 3.

TABLE 3. REQUIRED PLANT TESTS for SUPERPAVE			
Parameter		**Frequency of Tests**	**Test Method**
Aggregate Gradation Hot bins for batch and continuous plants Individual cold-feeds or combined belt-feed for drier drum plants. (% passing sieves: 12.5 mm (1/2 in.), 4.75 mm (No. 4), 2.36 mm (No. 8), 600 µm (No. 30), 75 µm (No. 200))		1 dry gradation per day of production (either morning or afternoon sample). And 1 washed ignition oven test on the mix per day of production (conduct in afternoon if dry gradation is conducted in the morning or vice versa). NOTE. The order in which the above tests are conducted shall alternate from the previous production day (example: a dry gradation conducted in the morning will be conducted in the afternoon on the next production day and so forth). The dry gradation and washed ignition oven test results shall be plotted on the same control chart.	Illinois Procedure (See Manual of Test Procedures for Materials).
Asphalt Content by Ignition Oven (Note 1.)		1 per half day of production	Illinois Modified AASHTO T 308
Air Voids	Bulk Specific Gravity of Gyratory Sample	1 per half day of production for first 2 days and 1 per day thereafter (first sample of the day)	Illinois Modified AASHTO T 312
	Maximum Specific Gravity of Mixture		Illinois Modified AASHTO T 209

Note 1. The Engineer may waive the ignition oven requirement for AC content if the aggregates to be used are known to have ignition AC 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 AC content.

During production, the ratio of minus 75 µm (#200) sieve material to total asphalt cement shall be not less than 0.6 nor more than 1.2 and the moisture content of the mixture at discharge from the mixer shall not exceed 0.5 percent. If at any time the ratio of minus 75 µm (#200) material to asphalt or moisture content of the mixture falls outside the stated limits, production of the mix shall cease. The cause shall be determined and corrective action satisfactory to the Engineer shall be initiated prior to resuming production.

During production, mixtures containing an anti-stripping additive will be tested by the Department for stripping according to Illinois Modified T 283. If the mixture fails to meet the TSR criteria for acceptance, no further mixture will be accepted until the Contractor takes such action as is necessary to furnish a mixture meeting the criteria.

Construction Requirements

Lift Thickness.

(a) Binder and Surface Courses. The minimum compacted lift thickness for constructing bituminous concrete binder and surface courses shall be according to Table 4:

TABLE 4 – MINIMUM COMPACTED LIFT THICKNESS	
Mixture	Thickness, mm (in.)
IL-9.5	32 (1 1/4)
IL-12.5	38 (1 1/2)
IL-19.0	57 (2 1/4)
IL-25.0	76 (3)

(b) Leveling Binder. Mixtures used for leveling binder shall be as follows:

TABLE 5 – LEVELING BINDER	
Nominal, Compacted, Leveling Binder Thickness, mm (in.)	Mixture
≤ 32 (1 1/4)	IL-9.5
32 (1 1/4) to 50 (2)	IL 9.5 or IL-12.5

Density requirements shall apply for leveling binder when the nominal, compacted thickness is 32 mm (1 1/4 in.) or greater for IL-9.5 mixtures and 38 mm (1 1/2 in.) or greater for IL-12.5 mixtures.

(c) Full-Depth Pavement. The compacted thickness of the initial lift of binder course shall be 100 mm (4 in.). The compacted thickness of succeeding lifts shall meet the minimums specified in Table 4 but not exceed 100 mm (4 in.).

If a vibratory roller is used for breakdown, the compacted thickness of the binder lifts, excluding the top lift, may be increased to 150 mm (6 in.) provided the required density is obtained.

(d) Bituminous Patching. The minimum compacted lift thickness for constructing bituminous patches shall be according to Table 4.

Control Charts/Limits. Control charts/limits shall be according to QC/QA Class I requirements, except density shall be plotted on the control charts within the following control limits:

TABLE 6. DENSITY CONTROL LIMITS		
Mixture	Parameter	Individual Test
12.5 mm / 9.5 mm	Ndesign ≥ 90	92.0 – 96.0%
12.5 mm / 9.5 mm	Ndesign < 90	92.5 – 97.4%
19.0 mm / 25.0 mm	Ndesign ≥ 90	93.0 – 96.0%
19.0 mm / 25.0 mm	Ndesign < 90	93.0 – 97.4%

Basis of Payment. On resurfacing projects, this work will be paid for at the contract unit price per metric ton (ton) for BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, of the friction aggregate mixture and Ndesign specified, LEVELING BINDER (HAND METHOD), SUPERPAVE, of the Ndesign specified, LEVELING BINDER (MACHINE METHOD), SUPERPAVE, of the Ndesign specified, and BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, of the mixture composition and Ndesign specified.

On resurfacing projects in which polymer modifiers are required, this work will be paid for at the contract unit price per metric ton (ton) for POLYMERIZED BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, of the friction aggregate mixture and Ndesign specified, POLYMERIZED LEVELING BINDER (HAND METHOD), SUPERPAVE, of the Ndesign specified, POLYMERIZED LEVELING BINDER (MACHINE METHOD), SUPERPAVE, of the Ndesign specified, and POLYMERIZED BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, of the mixture composition and Ndesign specified.

On full-depth pavement projects, this work will be paid for at the contract unit price per square meter (square yard) for BITUMINOUS CONCRETE PAVEMENT, (FULL-DEPTH), SUPERPAVE, of the thickness specified.

On projects where widening is constructed and the entire pavement is then resurfaced, the binder for the widening will be paid for at the contract unit price per square meter (square yard) for BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, of the mixture composition, Ndesign, and thickness specified. The surface and binder used to resurface the entire pavement will be paid for according to the paragraphs above for resurfacing projects.

temporary concrete barrier (BDE)
Effective: October 1, 2002 Revised: November 1, 2003

Revise Section 704 of the Standard Specifications to read:

"**SECTION 704. TEMPORARY CONCRETE BARRIER**

704.01 Description. This work shall consist of furnishing, placing, maintaining, relocating and removing precast concrete barrier at temporary locations as shown on the plans or as directed by the Engineer.

704.02 Materials. Materials shall meet the requirements of the following Articles of Section 1000 - Materials:

Item	Article/Section
(a) Portland Cement Concrete	1020
(b) Reinforcement Bars (Note 1)	1006.10(a)(b)
(c) Connecting Pins and Anchoring Pins	1006.09
(d) Connecting Loop Bars (Note 2)	
(e) Rapid Set Mortar (Note 3)	

Note 1. Reinforcement bars shall be Grade 400 (Grade 60).

Note 2. Connecting loop bars shall be smooth bars conforming to the requirements of ASTM A 36.

Note 3. Rapid set materials shall be obtained from the Department's approved list of Packaged, Dry, Rapid Hardening Cementitous Materials for Concrete Repairs. For a rapid set mortar mixture, one part packaged rapid set cement shall be combined with two parts fine aggregate, by volume or a packaged rapid set mortar shall be used. Mixing of the rapid set mortar shall be according to the manufacturer's instructions.

CONSTRUCTION REQUIREMENTS

704.03 General. Precast concrete barrier produced after October 1, 2002 shall meet National Cooperative Highway Research Program (NCHRP) Report 350, Category 3, Test Level 3 requirements and have the F shape. Precast concrete barrier shall be constructed according to the Bureau of Materials and Physical Research's Policy Memorandum "Quality Control/Quality Assurance Program for Precast Concrete Products", applicable portions of Sections 504 and 1020, and to the details shown on the plans.

Precast units shall not be removed from the casting beds until a flexural strength of 2,000 kPa (300 psi) or a compressive strength of 10,000 kPa (1400 psi) is attained. When the concrete has attained a compressive strength according to Article 1020.04, and not prior to four days after casting, the units may be loaded, shipped and used.

704.04 Installation. F shape barrier units shall be seated on bare, clean pavement or paved shoulder and pinned together in a smooth, continuous line at the exact locations provided by the Engineer. The barrier unit at each end of the installation shall be secured to the pavement or paved shoulder using six anchoring pins and protected with an impact attenuator as shown on the plans.

F shape and New Jersey shape barrier units shall not be mixed in the same run.

Barrier units or attachments damaged during transportation or handling, or by traffic during the life of the installation, shall be repaired or replaced by the Contractor at his/her expense. The Engineer will be the sole judge in determining which units or attachments require repair or replacement.

The temporary barriers shall be removed when no longer required by the contract. After removal, all anchoring holes in the pavement or paved shoulder shall be filled with a rapid set mortar. Only enough water to permit placement and consolidation by rodding shall be used and the material shall be struck-off flush.

704.05 New Jersey Shape Barrier. New Jersey shape barrier produced prior to October 1, 2002 according to earlier Department standards, may be used until January 1, 2008.

Barrier units or attachments damaged during transportation or handling, or by traffic during the life of the installation, shall be repaired or replaced by the Contractor at his/her expense. The Engineer will be the sole judge in determining which units or attachments require repair or replacement.

F shape and New Jersey shape barrier units shall not be mixed in the same run.

The barrier unit at each end of the installation shall be secured to the pavement or paved shoulder using six dowel bars and protected with an impact attenuator as shown on the plans.

The temporary barriers shall be removed when no longer required by the contract. After removal, all anchoring holes in the pavement or paved shoulder shall be filled with a rapid set mortar. Only enough water to permit placement and consolidation by rodding shall be used and the material shall be struck-off flush.

704.06 Method of Measurement. Temporary concrete barrier will be measured for payment in meters (feet) in place along the centerline of the barrier. When temporary concrete barrier is relocated within the limits of the jobsite, the relocated barrier will be measured for payment in meters (feet) in place along the centerline of the barrier.

704.07 Basis of Payment. When the Contractor furnishes the barrier units, this work will be paid for at the contract unit price per meter (foot) for TEMPORARY CONCRETE BARRIER or RELOCATE TEMPORARY CONCRETE BARRIER.

When the Department furnishes the barrier units, this work will be paid for at the contract unit price per meter (foot) for TEMPORARY CONCRETE BARRIER, STATE OWNED or RELOCATE TEMPORARY CONCRETE BARRIER, STATE OWNED.

Impact attenuators will be paid for separately."

TRAFFIC BARRIER TERMINALS (BDE)
Effective: January 1, 2003

Revise Article 631.05 of the Standard Specifications to read:

"**631.05 Traffic Barrier Terminal, Type 5 and Type 5A.** The face of the guardrail shall be installed flush with the face of the bridge rail or parapet."

Revise Article 631.06 of the Standard Specifications to read:

"**631.06 Traffic Barrier Terminal, Type 6.** When attaching the end shoe to concrete constructed with forms and with a thickness of 300 mm (12 in.) or less, the holes may be formed, core drilled or an approved 20 mm (3/4 in.) cast-in-place insert may be used.

When attaching the end shoe to concrete constructed with forms and with a thickness greater than 300 mm (12 in.), an approved M20 (3/4 in.) bolt with an approved expansion device may be used in lieu of formed or core drilled holes.

When attaching the end shoe to concrete constructed by slipforming, the holes shall be core drilled.

The tapered, parapet, wood block out shall be used on all appurtenances with a sloped face.

When no bridge approach curb is present, Type B concrete curb shall be constructed as shown on the plans according to Section 606."

Revise Article 631.07 of the Standard Specifications to read:

"**631.07 Traffic Barrier Terminal, Type 6B.** Attachment of the end shoe to concrete shall be according to Article 631.06 except the tapered, parapet, wood block out will not be required."

Delete the third and fourth paragraphs of Article 631.11 of the Standard Specifications.

Add the following paragraph to the end of Article 631.11 of the Standard Specifications:

"Construction of the Type B concrete curb for TRAFFIC BARRIER TERMINAL, TYPE 6 will be paid for according to Article 606.14."

Traffic Control Deficiency Deduction (BDE)

Effective: April 1, 1992 Revised: January 1, 2005

To ensure a prompt response to incidents involving the integrity of work zone traffic control, the Contractor shall provide a telephone number where a responsible individual can be contacted 24 hours-a-day.

When the Engineer is notified, or determines a traffic control deficiency exists, he/she will notify and direct the Contractor to correct the deficiency within a specified time. The specified time, which begins upon notification to the Contractor, will be from 1/2 hour to 12 hours based upon the urgency of the situation and the nature of the deficiency. The Engineer shall be the sole judge.

A deficiency may be any lack of repair, maintenance, or non-compliance with the traffic control plan. A deficiency may also be applied to situations where corrective action is not an option such as the use of non-certified flaggers for short term operations; working with lane closures beyond the time allowed in the contract; or failure to perform required contract obligations such as traffic control surveillance.

If the Contractor fails to correct a deficiency within the specified time, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency exists. The calendar day(s) will begin with notification to the Contractor and end with the Engineer's acceptance of the correction. The daily monetary deduction will be either $1,000 or 0.05 percent of the awarded contract value, whichever is greater. For those deficiencies where corrective action was not an option this monetary deduction will be immediate.

In addition, if the Contractor fails to respond, the Engineer may correct the deficiency and the cost thereof will be deducted from monies due or which may become due the Contractor. This corrective action will in no way relieve the Contractor of his/her contractual requirements or responsibilities.

transient voltage surge suppression (BDE)
Effective: August 1, 2003

Revise the first paragraph of Article 1074.03(a)(4) of the Standard Specifications to read:

"(4) Transient Voltage Surge Suppression. The cabinet shall be provided with transient voltage surge suppression. Transient surge suppression unit leads shall be kept as short as possible and ground shall be made directly to the cabinet wall or ground plate as near as possible to the object being grounded. All transient surge suppression units shall be tested and certified as meeting this specification by an independent testing laboratory. One copy of each of the full testing report shall be submitted to the Engineer."

Revise Article 1074.03(a)(4)a. of the Standard Specifications to read:

"a. Surge Suppressor. The suppressor protecting the solid state controller, conflict monitor, and detection equipment shall consist of two stages: stage one which shall include a controller cabinet AC power protection assembly and stage two which shall include AC circuit protection.

The design of the stage one suppressor shall be modular and it shall be installed in such a way that it may be removed and replaced with the intersection under power and in flashing operation. It shall have a permanently mounted and wired base and a removable circuit package. The stage one suppressor shall have two LED failure indicators for power 'on' and suppression 'failure' and shall meet the following properties:

Stage One Suppressor	
Properties	Criteria
"Plug-in" suppression module	12 pin connector assembly
Clamp voltage	250 V at 20,000 A typical
Response time	Less than 5 nanoseconds
Maximum continuous service current	15 A at 120 VAC 60 Hz
High frequency noise attenuation	At least 50 dB at 100,000 Hz
Operating temperature	-40 °C (-40 °F) to 85 °C (185 °F)

If the controller assembly includes a system telemetry module or remote intersection monitor, the status of the stage one suppressor shall be continuously and remotely monitored by an appropriate alarm circuit.

The stage two, high speed, solid state, transient suppressor shall protect the system from transient over voltage without affecting power at the load. It shall suppress transients of either polarity and from either direction (source or load). The

suppressor shall have a visual "on" indicator lamp when the unit is operating normally. It shall also have a UL plastic enclosure, a four position terminal strip for power connection, and it shall utilize silicon avalanche diode technology. The stage two suppressor shall meet the following properties:

Stage Two Suppressor	
Properties	Criteria
Nominal service voltage	120 V at 50/60 Hz
Maximum voltage protection level	±330 V
Minimum voltage protection level	±220 V ±5%
Minimum surge current rating	700 A
Stand by power	Less than 0.5 Watts
Hot to neutral leakage current at 120 V RMS	Less than 5μA
Maximum response time	5 nanoseconds
Operating and Storage temperature	-20 °C (-4 °F) to 50 °C (122 °F)"

truck bed release agent (BDE)
Effective: April 1, 2004

Add the following sentence after the third sentence of the first paragraph of Article 406.14 of the Standard Specifications.

"In addition to the release agent, the Contractor may use a light scatter of manufactured sand (FA 20 or FA 21) evenly distributed over the bed of the vehicle."

Weight control deficiency deduction
Effective: April 1, 2001 Revised: August 1, 2002

The Contractor shall provide accurate weights of materials delivered to the contract for incorporation into the work (whether temporary or permanent) and for which the basis of payment is by weight. These weights shall be documented on delivery tickets which shall identify the source of the material, type of material, the date and time the material was loaded, the contract number, the net weight, the tare weight when applicable and the identification of the transporting vehicle. For aggregates, the Contractor shall have the driver of the vehicle furnish or establish an acceptable alternative to provide the contract number and a copy of the material order to the source for each load. The source is defined as that facility that produces the final material product that is to be incorporated into the contract pay items.

The Department will conduct random, independent vehicle weight checks for material sources according to the procedures outlined in the Documentation Section Policy Statement of the Department's Construction Manual and hereby incorporated by reference. The results of the independent weight checks shall be applicable to all contracts containing this Special Provision. Should the vehicle weight check for a source result in the net weight of material on the vehicle exceeding the net weight of material shown on the delivery ticket by 0.50% (0.70% for aggregates) or more, the Engineer will document the independent vehicle weight check and

immediately furnish a copy of the results to the Contractor. No adjustment in pay quantity will be made. Should the vehicle weight check for a source result in the net weight of material shown on the delivery ticket exceeding the net weight of material on the vehicle by 0.50% (0.70% for aggregates) or more, the Engineer will document the independent vehicle weight check and immediately furnish a copy of the results to the Contractor. The Engineer will adjust the net weight shown on the delivery ticket to the checked delivered net weight as determined by the independent vehicle weight check.

The Engineer will also adjust the method of measurement for all contracts for subsequent deliveries of all materials from the source based on the independent weight check. The net weight of all materials delivered to all contracts containing this Special Provision from this source, for which the basis of payment is by weight, will be adjusted by applying a correction factor "A" as determined by the following formula:

$$A = 1.0 - \left(\frac{B-C}{B}\right); \text{ Where } A \le 1.0; \left(\frac{B-C}{C}\right) > 0.50\% \text{ (0.70\% for aggregates)}$$

Where A = Adjustment factor
B = Net weight shown on delivery ticket
C = Net weight determined from independent weight check

The adjustment factor will be applied as follows:

Adjusted Net Weight = A x Delivery Ticket Net Weight

The adjustment factor will be imposed until the cause of the deficient weight is identified and corrected by the Contractor to the satisfaction of the Engineer. If the cause of the deficient weight is not identified and corrected within seven (7) calendar days, the source shall cease delivery of all materials to all contracts containing this Special Provision for which the basis of payment is by weight.

Should the Contractor elect to challenge the results of the independent weight check, the Engineer will continue to document the weight of material for which the adjustment factor would be applied. However, provided the Contractor furnishes the Engineer with written documentation that the source scale has been calibrated within seven (7) calendar days after the date of the independent weight check, adjustments in the weight of material paid for will not be applied unless the scale calibration demonstrates that the source scale was not within the specified Department of Agriculture tolerance.

At the Contractor's option, the vehicle may be weighed on a second independent Department of Agriculture certified scale to verify the accuracy of the scale used for the independent weight check.

WORK ZONE TRAFFIC CONTROL DEVICES (BDE)
Effective: January 1, 2003 Revised: November 1, 2004

Add the following to Article 702.01 of the Standard Specifications:

"All devices and combinations of devices shall meet the requirements of the National Cooperative Highway Research Program (NCHRP) Report 350 for their respective categories. The categories are as follows:

Category 1 includes small, lightweight, channelizing and delineating devices that have been in common use for many years and are known to be crashworthy by crash testing of similar devices or years of demonstrable safe performance. These include cones, tubular markers, flexible delineators and plastic drums with no attachments. Category 1 devices shall be crash tested and accepted or may be self-certified by the manufacturer.

Category 2 includes devices that are not expected to produce significant vehicular velocity change but may otherwise be hazardous. These include drums and vertical panels with lights, barricades and portable sign supports. Category 2 devices shall be crash tested and accepted for Test Level 3.

Category 3 includes devices that are expected to cause significant velocity changes or other potentially harmful reactions to impacting vehicles. These include crash cushions, truck mounted attenuators and other devices not meeting the definitions of Category 1 or 2. Category 3 devices shall be crash tested and accepted for either Test Level 3 or the test level specified.

Category 4 includes portable or trailer-mounted devices such as arrow boards, changeable message signs, temporary traffic signals and area lighting supports. Currently, there is no implementation date set for this category and it is exempt from the NCHRP 350 compliance requirement.

The Contractor shall provide a manufacturer's self-certification letter for each Category 1 device and an FHWA acceptance letter for each Category 2 and Category 3 device used on the contract. The letters shall state the device meets the NCHRP 350 requirements for its respective category and test level, and shall include a detail drawing of the device."

Delete the third, fourth and fifth paragraphs of Article 702.03(b) of the Standard Specifications.

Delete the third sentence of the first paragraph of Article 702.03(c) of the Standard Specifications.

Revise the first sentence of the first paragraph of Article 702.03(e) of the Standard Specifications to read:

"Drums shall be nonmetallic and have alternating reflectorized Type AA or Type AP fluorescent orange and reflectorized white horizontal, circumferential stripes."

Add the following to Article 702.03 of the Standard Specifications:

"(h) Vertical Barricades. Vertical barricades may be used in lieu of cones, drums or Type II barricades to channelize traffic."

Delete the fourth paragraph of Article 702.05(a) of the Standard Specifications.

Revise the sixth paragraph of Article 702.05(a) of the Standard Specifications to read:

"When the work operations exceed four days, all signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. When approved by the Engineer, a temporary sign stand may be used to support a sign at 1.2 m (5 ft) minimum where posts are impractical. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 30 m (100 ft) to avoid obstacles, hazards or to improve sight distance, when approved by the Engineer. "ROAD CONSTRUCTION AHEAD" signs will also be required on side roads located within the limits of the mainline "ROAD CONSTRUCTION AHEAD" signs."

Delete all references to "Type 1A barricades" and "wing barricades" throughout Section 702 of the Standard Specifications.

SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE)
Effective: April 2, 2005

To account for the preparatory work and operations necessary for the movement of subcontractor personnel, equipment, supplies, and incidentals to the project site and for all other work or operations that must be performed or costs incurred when beginning work approved for subcontracting in accordance with Article 108.01 of the Standard Specifications, the Contractor shall make a mobilization payment to each subcontractor.

This mobilization payment shall be made at least 14 days prior to the subcontractor starting work. The amount paid shall be equal to 3 percent of the amount of the subcontract reported on form BC 260A submitted for the approval of the subcontractor's work.

This provision shall be incorporated directly or by reference into each subcontract approved by the Department.

steel cost adjustment (bde)
Effective: April 2, 2004 Revised: July 1, 2004

Description. At the bidder's option, a steel cost adjustment will be made to provide additional compensation to the Contractor or a credit to the Department for fluctuations in steel prices. The bidder must indicate on the attached form whether or not steel cost adjustments will be part of this contract. This attached form shall be submitted with the bid. Failure to submit the form shall make this contract exempt of steel cost adjustments.

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), frames and grates, and other miscellaneous items will be subject to a steel cost adjustment when the pay item 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) Evidence that increased or decreased steel costs have been passed on to the Contractor.

(b) The dates and quantity of steel, in kg (lb), shipped from the mill to the fabricator.

(c) The quantity of steel, in kg (lb), 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 X D

Where: SCA = steel cost adjustment, in dollars
Q = quantity of steel incorporated into the work, in kg (lb)
D = price factor, in dollars per kg (lb)

$D = CBP_M - CBP_L$

Where: CBP_M = The average of the Consumer Buying Price indices for Shredded Auto Scrap (Chicago) and No. 1 Heavy Melt (Chicago) as published by the American Metal Market (AMM) for the day the steel is shipped from the mill. The indices will be converted from dollars per ton to dollars per kg (lb).

CBP_L = The average of the Consumer Buying Price indices for Shredded Auto Scrap (Chicago) and No. 1 Heavy Melt (Chicago) as published by the AMM for the day the contract is let. The indices will be converted from dollars per ton to dollars per kg (lb).

The unit masses (weights) 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 CBP_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 CBP_L and CBP_M in excess of five percent, as calculated by:

Percent Difference = $\{(CBP_L - CBP_M) \div CBP_L\} \times 100$

Steel cost adjustments will be calculated by the Engineer and will be paid or deducted when all other contract requirements for the steel items 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.

Attachment

Item	Unit Mass (Weight)
Metal Piling (excluding temporary sheet piling)	
Furnishing Metal Pile Shells 305 mm (12 in.), 3.80 mm (0.179 in.) wall thickness)	34 kg/m (23 lb/ft)
Furnishing Metal Pile Shells 305 mm (12 in.), 6.35 mm (0.250 in.) wall thickness)	48 kg/m (32 lb/ft)
Furnishing Metal Pile Shells 356 mm (14 in.), 6.35 mm (0.250 in.) wall thickness)	55 kg/m (37 lb/ft)
Other piling	See plans
Structural Steel	See plans for weights
Reinforcing Steel	See plans for weights
Dowel Bars and Tie Bars	3 kg (6 lb) each
Mesh Reinforcement	310 kg/sq m (63 lb/100 sq ft)
Guardrail	
Steel Plate Beam Guardrail, Type A w/steel posts	30 kg/m (20 lb/ft)
Steel Plate Beam Guardrail, Type B w/steel posts	45 kg/m (30 lb/ft)
Steel Plate Beam Guardrail, Types A and B w/wood posts	12 kg/m (8 lb/ft)
Steel Plate Beam Guardrail, Type 2	140 kg (305 lb) each
Steel Plate Beam Guardrail, Type 6	570 kg (1260 lb) each
Traffic Barrier Terminal, Type 1 Special (Tangent)	330 kg (730 lb) each
Traffic Barrier Terminal, Type 1 Special (Flared)	185 kg (410 lb) each
Steel Traffic Signal and Light Poles, Towers and Mast Arms	
Traffic Signal Post	16 kg/m (11 lb/ft)
Light Pole, Tenon Mount and Twin Mount, 9 m – 12 m (30 - 40 ft)	21 kg/m (14 lb/ft)
Light Pole, Tenon Mount and Twin Mount, 13.5 m – 16.5 m (45 - 55 ft)	31 kg/m (21 lb/ft)
Light Pole w/Mast Arm, 9 m – 15.2 m (30 - 50 ft)	19 kg/m (13 lb/ft)
Light Pole w/Mast Arm, 16.5 m – 18 m (55 - 60 ft)	28 kg/m (19 lb/ft)
Light Tower w/Luminaire Mount, 24 m – 33.5 m (80 - 110 ft)	46 kg/m (31 lb/ft)
Light Tower w/Luminaire Mount, 36.5 m – 42.5 m (120 - 140 ft)	97 kg/m (65 lb/ft)
Light Tower w/Luminaire Mount, 45.5 m – 48.5 m (150 - 160 ft)	119 kg/m (80 lb/ft)
Metal Railings (excluding wire fence)	
Steel Railing, Type SM	95 kg/m (64 lb/ft)
Steel Railing, Type S-1	58 kg/m (39 lb/ft)
Steel Railing, Type T-1	79 kg/m (53 lb/ft)
Steel Bridge Rail	77 kg/m (52 lb/ft)
Frames and Grates	
Frame	115 kg (250 lb)
Lids and Grates	70 kg (150 lb)

RETURN WITH BID

ILLINOIS DEPARTMENT OF TRANSPORTATION

OPTION FOR STEEL COST ADJUSTMENT

The bidder shall submit this form with his/her bid. Failure to submit the form shall make this contract exempt of steel 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 plans?

Yes ☐ No ☐

Signature: _____ **Date:** _____

FAP 337 Illinois 22 (Half Day Road)
Section: 20R-5
Lake County
Contract 60881

DEPARTMENT OF THE ARMY
CHICAGO DISTRICT, CORPS OF ENGINEERS
111 NORTH CANAL STREET
CHICAGO, ILLINOIS 60606-7206

REPLY TO
ATTENTION OF:

NOV 25 2009

Technical Services Division
Regulatory Branch
200400119

SUBJECT: Proposed Reconstruction of IL Rt 22 from IL Rt 83 to US 45/IL Rt 21 in Long Grove and Buffalo Grove, Lake County, IL

John Kos
Illinois Department of Transportation
201 W Center Court
Schaumburg, Illinois 60196

Dear Mr. Kos:

The U.S. Army Corps of Engineers, Chicago District, has completed its review of your notification for authorization under the Regional Permit Program (RPP).

This office has verified that your proposed activity complies with the terms and conditions of the Regional Permit RP03 (Transportation Projects) and the overall RPP under Category I of the Regional Permit Program dated March 1, 2001. 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. In addition, this authorization is contingent upon the **Lake County Stormwater Management Commission** determining your soil erosion and sediment control plan meet technical standards, and implementing and maintaining soil erosion and sediment controls in a serviceable condition throughout the duration of the project.

This verification expires three (3) years from the date of this letter and covers only your activity as described in your notification. 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 permit does not authorize temporary construction activities, such as the use of earth moving machinery or temporarily stockpiling material within waters of the U.S. for work platforms, or bank stabilization activities.

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. Bruce Yurdin at IEPA's Division of Water Pollution Control, Permit Section #15, by telephone at (217) 782-0610.

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. Once you have completed the authorized activity, please sign and return the enclosed compliance certification. If you have any questions, please contact Mr. Ron Abrant of my staff by telephone at (312) 846-5536 or email at ron.j.abrant@usace.army.mil.

Sincerely,

Keith L. Wozniak
Chief, West Section
Regulatory Branch

Enclosure

Copy Furnished (w/o enclosure):

United States Fish & Wildlife Service (Rogner)
Illinois Environmental Protection Agency (Yurdin)
Illinois Department of Natural Resources (Schanzle)
Illinois Department of Natural Resources/OWR (Jereb)

PERMIT COMPLIANCE CERTIFICATION

Permit Number: 200400119

Permittee: Illinois Department of Transportation

Date of Issuance:

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 that compensatory wetland mitigation was completed in accordance with the approved mitigation plan.[1]

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.

[1] 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.

U.S. Army Corps of Engineers
Chicago District

General Conditions
Applicable to all Regional Permits

Permittees must 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 is 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.

   On October 27, 1999, the IEPA granted Section 401 certification, with conditions, for all Regional Permits except RP13 and activities in certain waterways under RPs 4 and 8 (see Appendix D). The following conditions of the certification are conditions of the RPP:

a. The permittee shall not cause:

   1) violation of applicable water quality standards of the Illinois Pollution Control Board Title 35, Subtitle C: Water Pollution Rules and Regulations;
   2) water pollution defined and prohibited by the Illinois Environmental Protection Act; or
   3) interference with water use practices near public recreation areas or water supply intakes.

b. The permittee 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.

c. 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 IEPA. Any backfilling must be done with clean material placed in a manner to prevent violation of applicable water quality standards.

d. All areas affected by construction shall be mulched and seeded as soon after construction as possible. The permittee 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 staked straw bales, sedimentation basins and temporary mulching. All construction within the waterway shall be conducted during zero to low flow conditions. The permittee shall be responsible for obtaining an NPDES Storm Water Permit prior to initiating construction if the construction activity associated with the project will result in the disturbance of five (5) 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 IEPA's Division of Water Pollution Control, Permit Section.

e. The permittee shall implement erosion control measures consistent with the Illinois Urban Manual (IEPA/USDA, NRCS; latest version).

f. The permittee is advised that the following permits(s) must be obtained from the IEPA: the permittee must obtain permits to construct sanitary sewers, lift stations, and related facilities prior to construction.

g. Backfill used in the stream crossing trench shall be predominantly sand or larger size material, with <20% passing a #230 U.S. sieve.

h. Channel relocation shall be constructed under dry conditions and stabilized to prevent erosion prior to the diversion of flow. [Applicable only to projects which involve relocating stream channels.]

i. The work shall be constructed with adequate erosion control measures (i.e., silt fences, straw bales, etc.) to prevent transport of sediment and materials to the adjoining wetlands and/or streams.

j. 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:

1) 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
2) excavation and backfilling are done under dry conditions.

k. Backfill used within trenches passing through wetland areas shall be clean material that 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.

l. Any permittee proposing activities in a mined area or previously mined area shall provide determination on sediment and materials used which are considered "acid-producing material" as defined in 35 Il. Adm. Code, Subtitle D. If considered "acid-producing material," the permittee shall obtain a permit to construct pursuant to 35 Il. Adm. Code 404.101.

2. Threatened and Endangered Species. No activity is authorized under the RPP if the activity is likely to jeopardize the continued existence of a threatened or endangered species listed or proposed for listing under the Federal Endangered Species Act (ESA) or destroy, or adversely modify, the critical habitat of such species. Federal agencies should follow their own procedures for complying with the requirements of the ESA. Non-federal applicants shall notify the District if any Federally listed (or proposed for listing) endangered or threatened species or critical habitat might be affected by the activity or is located in the project area. If the District determines that the activity may affect Federally listed species or critical habitat, the activity shall not be authorized under the RPP. An individual permit will be required and the District will initiate Section 7 consultation in accordance with the ESA. If all issues pertaining to endangered and threatened species have been resolved through the consultation process to the satisfaction of the District and U.S. Fish and Wildlife Service (USFWS), the District may, at its discretion, authorize the activity under the RPP instead of an individual permit. Applicants are encouraged to obtain information on threatened or endangered species and their critical habitats from the USFWS at the earliest stages of project planning. For information, contact:

U.S. Fish and Wildlife Service
Chicago Field Office
1250 South grove Avenue, Suite 103
Barrington, Illinois 60010
(847) 381-2253

3. Historic Properties. No activity is authorized under the RPP if the activity will affect properties listed, or properties eligible for listing, in the National Register of Historic Places, in accordance with the provisions of 33 CFR Part 325, Appendix C and Section 106 of the National Historic Preservation Act. Federal agencies should follow their own procedures for compliance with the requirements of the National Historic Preservation Act and other Federal historic preservation laws. Non-federal applicants should notify the District if the activity may affect historic properties which are listed, determined eligible for listing, or which the

applicant has reason to believe may be eligible for listing, on the National Register of Historic Places in the project area. If the District determines that the activity may potentially affect a historic property, or a property eligible for listing, the activity shall not be authorized under the RPP and an individual permit will be required. The District will take into account the effects on such properties in accordance with 33 CFR Part 325, Appendix C. 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, Illinois 62701-1507
(217) 782-4836

4. Soil Erosion and Sediment Control. Measures must 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 must be constructed before initiating any clearing, grading, excavating or filling activities. All temporary and permanent soil erosion and sediment control measures must be maintained during the construction period and until the site is stabilized. All exposed soil and other fills, and any work below the ordinary high water mark must be permanently stabilized at the earliest practicable date.

Applicants are required to prepare a soil erosion and sediment control (SESC) plan. The plan must be designed in accordance with the Illinois Procedures and Standards for Urban Soil Erosion and Sedimentation Control ("Green Book", latest version, except chapter 6). 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."

At the District's discretion, an applicant may be required to submit the SESC plan to the local Soil and Water Conservation District (for activities in Cook, DuPage, Kane, McHenry and Will Counties), or the Stormwater Management Commission (for activities in Lake County) for review. When the District does require submission of a SESC plan, the following applies. An activity may not be commenced until the SESC plan for the project site has been reviewed. 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 it meets technical standards. Once this determination has been made, the authorized work may commence. 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 545 S. Randall Road St. Charles, IL 60174 (630) 584-7961	Will/South Cook SWCD 1201 Gougar Road New Lenox, IL 60451 (815) 462-3106	McHenry County SWCD 1143 N. Seminary Road Woodstock, IL 60098 (815) 338-0049
North Cook SWCD 899 Jay Street Streamwood, IL 60120 (847) 608-8302	Lake County SMC 333-B Peterson Road Libertyville, IL 60048 (847) 918-5260	

5. 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 must by 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 local government (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 local government with jurisdiction as early as possible in the stages of project planning. For information on floodway construction, contact:

IDNR-OWR
Northeastern Illinois Regulatory Programs Section
201 W. Center Court, 3rd Floor
Schaumburg, Illinois 60196
(847) 705-4341

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.

6. Navigation. No activity may cause more than minimal adverse effects on navigation.

7. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including that necessary to ensure public safety.

8. 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.

9. Equipment. Heavy equipment working in wetlands must be placed on mats, or other measures, such as low-ground pressure equipment, must be taken to minimize soil disturbance.

10. 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.

11. Tribal Rights. No activity or its operation may impair reserved tribal rights, such as reserved water rights, treaty fishing and hunting rights.

12. 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.

13. Shellfish production. No discharge of dredged or fill material may occur in areas of concentrated shellfish production.

14. Suitable material. No discharge of dredged or fill material may consist of unsuitable material and material discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act). Unsuitable material includes trash, debris, car bodies, and asphalt.

15. Spawning areas. Discharges in spawning areas during spawning seasons must be avoided to the maximum extent practicable.

16. Obstruction of high flows. Discharges must not permanently restrict or impede the passage of normal or expected high flows. All crossings must be culverted, bridged or otherwise designed to prevent the restriction of expected high water flows, and must be designed so as not to impede low water flows or the movement of aquatic organisms.

17. 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 must be avoided to the maximum extent practicable.

18. Waterfowl breeding areas. Discharges into breeding areas for migratory waterfowl must be avoided to the maximum extent practicable.

19. Removal of temporary fills. Any temporary fill material must be removed in its

entirety and the affected area returned to its pre-existing condition.

20. Mitigation. Impacts to waters of the U.S. must be avoided and minimized to the maximum extent practicable at the project site. Avoidance and minimization must be attempted before compensatory wetland mitigation is considered. Compensatory mitigation will be accomplished by establishing 1.5 acres for every 1.0 acre of waters of the U.S. impacted by the project (a mitigation ratio of 1.5:1). However, if the project involves impacts to high-quality aquatic resources or is the subject of an enforcement action, the mitigation ratio will generally be greater than 1.5:1. Mitigation shall be consistent with the Memorandum of Agreement (MOA) between the Department of the Army and the Environmental Protection Agency Concerning the Determination of Mitigation under the Clean Water Act Section 404(b)(1) Guidelines. Mitigation may consist of the following, listed in order of preference: restoration of historic wetlands that are currently non-wetlands because of drainage or other alterations; enhancement of existing aquatic resources through various actions such as modification of hydrology, introduction of appropriate native species, invasive species removal, and other management measures; creation of aquatic resources in historically upland areas; and, preservation of existing aquatic resources through real estate acquisition strategies. Careful consideration must be given to the likelihood of sustainability, practicability, availability, and reliability of compensatory mitigation. Off-site wetland mitigation may be considered where the long-term success of on-site mitigation is uncertain.

21. Notification. The applicant must 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 (see below) from the applicant. If the District does not provide a written response to the applicant within 45 calendar days following receipt of a complete application, the applicant may presume the proposed activity qualifies for the requested Regional Permit(s), provided the activity complies with the terms and conditions of the RPP. If the District informs the applicant within 45 calendar days that the notification is incomplete (i.e., not a complete application), the applicant must submit the requested information to be considered for authorization. A new 45-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 45-day review period. For a Category I activity, notification must include:

a. A cover letter which provides a clear project purpose and need statement, a brief description of the proposed activity, the Regional Permit(s) to be used for the activity, the area (in acres) of waters of the U.S. to be impacted, and a statement that the terms and conditions of the RPP will be followed;

b. A completed joint application form (NCR Form 426, *Protecting Illinois Waters*) signed by the applicant or agent. If the agent signs, notification must include a signed, written statement from the applicant designating the agent as its representative;

c. A delineation of waters of the U.S., including wetlands, for the project site, prepared in accordance with the current Corps of Engineers methodology and generally conducted during the growing season.* The delineation must include information on the occurrence of any high-quality aquatic resources. For sites supporting wetlands, the delineation must include a Floristic Quality Assessment (Swink and Wilhelm. 1994 (latest edition). Plants of the Chicago Region);

d. A map showing the location of the project site;

* If a wetland delineation is conducted during the non-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 a delineation lacks sufficient evidence, the application will not be considered complete until such time the information is provided. This may involve re-delineating the project site during the growing season.

e. Construction drawings (full- and reduced-sized) showing all aspects of the proposed activity and the location of waters of the U.S. to be impacted or impacted. The drawings must include a detailed plan view and profile view. The drawings should also depict buffer areas, outlots, best management practices, deed restriction areas, and restoration areas, if required under the specific RP in Appendix A;

f. A preliminary soil erosion and sediment control plan;

g. Evidence that USFWS was contacted regarding the presence of any Federally listed (or proposed for listing) endangered or threatened species or critical habitat in the area that may be affected by the proposed activity;

h. Other items listed under the specific RP(s) in Appendix A.

For a Category II activity, the notification must include all materials listed for notification for Category I above, plus:

i. A detailed description of the proposed activity;

j. A discussion of the measures taken to avoid and minimize impacts to aquatic resources on the project site;

k. A compensatory mitigation plan for all impacts to waters of the U.S., if compensatory mitigation is required under the specific RP.

For Category II activities, the District will, upon receipt of a complete application, provide (by facsimile transmission, email or other expeditious means), a pre-construction notice (PCN) which describes the proposed activity to the USFWS, USEPA, Illinois Department of Natural Resources, IEPA, IHPA and U.S. Coast Guard (Section 10 activities only). These agencies will then have ten (10) calendar days from the date the PCN is transmitted to contact the District if they intend to provide substantive, site-specific comments. If so contacted by an agency, the District will wait an additional fifteen (15) calendar days for agency written comments before making a decision on the notification. 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 any special conditions 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.

22. 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 must notify the District in accordance with Category II. If multiple Regional Permits are used, the total impact may not exceed the maximum allowed by the Regional Permit with the greatest impact threshold.

23. 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.

ILLINOIS DEPARTMENT OF LABOR

PREVAILING WAGES FOR
LAKE COUNTY
EFFECTIVE JUNE 2005

The Prevailing rates of wages are included in the Contract proposals which are subject to Check Sheet #5 of the Supplemental Specifications and Recurring Special Provisions. The rates have been ascertained and certified by the Illinois Department of Labor for the locality in which the work is to be performed and for each craft or type of work or mechanic needed to execute the work of the Contract. As required by Prevailing Wage Act (820 ILCS 130/0.01, et seq.) and Check Sheet #5 of the Contract, not less than the rates of wages ascertained by the Illinois Department of Labor and as revised during the performance of a Contract shall be paid to all laborers, workers and mechanics performing work under the Contract. Post the scale of wages in a prominent and easily accessible place at the site of work.

If the Illinois Department of Labor revises the prevailing rates of wages to be paid as listed in the specification of rates, the contractor shall post the revised rates of wages and shall pay not less than the revised rates of wages. Current wage rate information shall be obtained by visiting the Illinois Department of Labor web site at http://www.state.il.us/agency/idol/ or by calling 312-793-2814. It is the responsibility of the contractor to review the rates applicable to the work of the contract at regular intervals in order to insure the timely payment of current rates. Provision of this information to the contractor by means of the Illinois Department of Labor web site satisfies the notification of revisions by the Department to the contractor pursuant to the Act, and the contractor agrees that no additional notice is required. The contractor shall notify each of its subcontractors of the revised rates of wages.

Lake County Prevailing Wage for June 2005

Trade Name	RG	TYP	C	Base	FRMAN	*M-F>8	OSA	OSH	H/W	Pensn	Vac	Trng
ASBESTOS ABT-GEN		ALL		29.000	29.750	1.5	1.5	2.0	6.310	3.440	0.000	0.170
ASBESTOS ABT-MEC		BLD		23.300	24.800	1.5	1.5	2.0	3.640	5.520	0.000	0.000
BOILERMAKER		BLD		36.820	40.140	2.0	2.0	2.0	6.920	6.260	0.000	0.210
BRICK MASON		BLD		32.050	35.260	1.5	1.5	2.0	5.650	6.340	0.000	0.440
CARPENTER		ALL		34.320	35.820	1.5	1.5	2.0	5.560	4.860	0.000	0.490
CEMENT MASON		ALL		31.500	32.750	1.5	2.0	2.0	5.900	7.880	0.000	0.050
CERAMIC TILE FNSHER		BLD		25.450	0.000	2.0	1.5	2.0	5.000	4.350	0.000	0.100
COMMUNICATION TECH		BLD		27.980	29.980	1.5	1.5	2.0	7.690	7.000	1.400	0.410
ELECTRIC PWR EQMT OP		ALL		26.940	34.540	1.5	1.5	2.0	3.750	7.440	0.000	0.130
ELECTRIC PWR GRNDMAN		ALL		20.970	34.540	1.5	1.5	2.0	3.750	5.760	0.000	0.100
ELECTRIC PWR LINEMAN		ALL		31.980	34.540	1.5	1.5	2.0	3.750	8.850	0.000	0.160
ELECTRIC PWR TRK DRV		ALL		21.640	34.540	1.5	1.5	2.0	3.750	5.950	0.000	0.110
ELECTRICIAN		BLD		32.660	35.930	1.5	1.5	2.0	7.840	9.150	1.630	0.460
ELEVATOR CONSTRUCTOR		BLD		38.995	43.870	2.0	2.0	2.0	7.275	3.420	2.340	0.370
FENCE ERECTOR		ALL		24.840	26.090	1.5	1.5	2.0	6.650	6.740	0.000	0.000
GLAZIER		BLD		30.000	31.000	1.5	2.0	2.0	6.090	8.450	0.000	0.500
HT/FROST INSULATOR		BLD		31.650	33.400	1.5	1.5	2.0	7.260	8.360	0.000	0.230
IRON WORKER		ALL		34.850	36.350	2.0	2.0	2.0	8.220	10.27	0.000	0.270
LABORER		ALL		29.000	29.750	1.5	1.5	2.0	6.310	3.440	0.000	0.170
LATHER		BLD		34.320	35.820	1.5	1.5	2.0	5.560	4.860	0.000	0.490
MACHINIST		BLD		34.540	36.290	2.0	2.0	2.0	3.200	4.100	2.380	0.000
MARBLE FINISHERS		ALL		25.050	0.000	1.5	1.5	2.0	5.220	6.340	0.000	0.570
MARBLE MASON		BLD		32.050	35.260	1.5	1.5	2.0	5.650	6.340	0.000	0.570
MILLWRIGHT		ALL		34.320	35.820	1.5	1.5	2.0	5.560	4.860	0.000	0.490
OPERATING ENGINEER		BLD	1	37.600	41.600	2.0	2.0	2.0	6.050	4.850	1.800	0.600
OPERATING ENGINEER		BLD	2	36.300	41.600	2.0	2.0	2.0	6.050	4.850	1.800	0.600
OPERATING ENGINEER		BLD	3	33.750	41.600	2.0	2.0	2.0	6.050	4.850	1.800	0.600
OPERATING ENGINEER		BLD	4	32.000	41.600	2.0	2.0	2.0	6.050	4.850	1.800	0.600
OPERATING ENGINEER		FLT	1	42.700	42.700	1.5	1.5	2.0	6.050	4.850	1.800	0.000
OPERATING ENGINEER		FLT	2	41.200	42.700	1.5	1.5	2.0	6.050	4.850	1.800	0.000
OPERATING ENGINEER		FLT	3	36.650	42.700	1.5	1.5	2.0	6.050	4.850	1.800	0.000
OPERATING ENGINEER		FLT	4	30.500	42.700	1.5	1.5	2.0	6.050	4.850	1.800	0.000
OPERATING ENGINEER		HWY	1	35.800	39.800	1.5	1.5	2.0	6.050	4.850	1.800	0.600
OPERATING ENGINEER		HWY	2	35.250	39.800	1.5	1.5	2.0	6.050	4.850	1.800	0.600
OPERATING ENGINEER		HWY	3	33.200	39.800	1.5	1.5	2.0	6.050	4.850	1.800	0.600
OPERATING ENGINEER		HWY	4	31.800	39.800	1.5	1.5	2.0	6.050	4.850	1.800	0.600
OPERATING ENGINEER		HWY	5	30.600	39.800	1.5	1.5	2.0	6.050	4.850	1.800	0.600
ORNAMNTL IRON WORKER		ALL		32.300	34.050	2.0	2.0	2.0	6.650	9.690	0.000	0.750
PAINTER		ALL		32.100	36.110	1.5	1.5	1.5	5.550	4.900	0.000	0.340
PAINTER SIGNS		BLD		25.530	28.660	1.5	1.5	1.5	2.600	2.040	0.000	0.000
PILEDRIVER		ALL		34.320	35.820	1.5	1.5	2.0	5.560	4.860	0.000	0.490
PIPEFITTER		BLD		35.000	37.000	1.5	1.5	2.0	6.410	5.600	0.000	0.650
PLASTERER		BLD		30.000	31.000	1.5	1.5	2.0	5.900	7.920	0.000	0.050
PLUMBER		BLD		34.450	36.450	1.5	1.5	2.0	7.300	6.650	0.000	0.400
ROOFER		BLD		31.950	33.950	1.5	1.5	2.0	5.470	2.950	0.000	0.330
SHEETMETAL WORKER		BLD		33.400	36.070	1.5	1.5	2.0	6.460	7.850	0.000	0.590
SIGN HANGER		BLD		23.750	24.600	1.5	1.5	2.0	3.880	2.000	0.000	0.000
SPRINKLER FITTER		BLD		34.500	36.500	1.5	1.5	2.0	7.000	5.550	0.000	0.500
STEEL ERECTOR		ALL		34.850	36.350	2.0	2.0	2.0	8.220	10.27	0.000	0.270
STONE MASON		BLD		32.050	35.260	1.5	1.5	2.0	5.650	6.340	0.000	0.440
TERRAZZO FINISHER		BLD		26.200	0.000	1.5	1.5	2.0	5.750	4.750	0.000	0.220
TERRAZZO MASON		BLD		30.050	32.550	1.5	1.5	2.0	5.750	6.150	0.000	0.120

TILE MASON	BLD	31.000	34.000	2.0	1.5	2.0	5.000	5.350	0.000	0.180
TRAFFIC SAFETY WRKR	HWY	22.800	24.400	1.5	1.5	2.0	3.078	1.875	0.000	0.000
TRUCK DRIVER	ALL 1	27.150	27.700	1.5	1.5	2.0	4.700	4.500	0.000	0.000
TRUCK DRIVER	ALL 2	27.300	27.700	1.5	1.5	2.0	4.700	4.500	0.000	0.000
TRUCK DRIVER	ALL 3	27.500	27.700	1.5	1.5	2.0	4.700	4.500	0.000	0.000
TRUCK DRIVER	ALL 4	27.700	27.700	1.5	1.5	2.0	4.700	4.500	0.000	0.000
TUCKPOINTER	BLD	33.500	34.500	1.5	1.5	2.0	4.210	5.840	0.000	0.400

Legend:

M-F>8 (Overtime is required for any hour greater than 8 worked each day, Monday through Friday.

OSA (Overtime is required for every hour worked on Saturday)

OSH (Overtime is required for every hour worked on Sunday and Holidays)

H/W (Health & Welfare Insurance)

Pensn (Pension)

Vac (Vacation)

Trng (Training)

Explanations

LAKE COUNTY

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

EXPLANATION OF CLASSES

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

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

CERAMIC TILE FINISHER

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

COMMUNICATION TECHNICIAN

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

MARBLE FINISHER

Loading and unloading trucks, distribution of all materials (all stone, sand, etc.), stocking of floors with material, performing all rigging for heavy work, the handling of all mateiral that may be needed for the installation of such materials, building of scaffolding, polishing if needed, patching, waxing of material if damaged, pointing up, caulking, grouting and cleaning of marble, holding water on diamond or Carborundum blade or saw for setters cutting, use of tub saw or any other saw needed for preparation of material, drilling of holes for wires that anchor material set by setters, mixing up of molding plaster for installation of material, mixing up thin set for the installation of material, mixing up of sand to cement for the installatin of material and such other work as may be required in helping a Marble Setter in the handling of all material in the erection or installation of interior marble, slate, travertine, art marble, serpentine, alberene stone, blue stone, granite and other stones (meaning as to stone any foreign or domestic materials as are

specified and used in building interiors and experiors and customarily known as stone in the trade), carrara, sanionyx, vitrolite and similar opaque glass and the laying of all marble tile, terrazzo tile, slate tile and precast tile, steps, risers treads, base, or any other materials that may be used as substitutes for any of the aforementioned materials and which are used on interior and experior which sare installed in a similar manner.

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

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

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

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

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

OPERATING ENGINEERS - BUILDING

Class 1. Mechanic; Asphalt Plant; Asphalt Spreader; Autograde; Backhoes with Caisson attachment; Batch Plant; Benoto; Boiler and Throttle Valve; Caisson Rigs; Central Redi-Mix Plant; Combination Back Hoe Front End-loader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Paver; Concrete Placer; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes, All; Cranes, Hammerhead; Cranes, (GCI and similar Type); Creter Crane; Crusher, Stone, etc.; Derricks, All;

Derricks, Traveling; Formless Curb and Gutter Machine; Grader, Elevating; Grouting Machines; Highlift Shovels or Front Endloader 2-1/4 yd. and over; Hoists, Elevators, outside type rack and pinion and similar machines; Hoists, one, two and three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes; Hydraulic Boom Trucks; Hydro Vac (and similar equipment); Locomotives, All; Motor Patrol; Pile Drivers and Skid Rig; Post Hole Digger; Pre-Stress Machine; Pump Cretes Dual Ram; Pump Cretes; Squeeze Cretes-screw Type Pumps; Raised and Blind Hole Drill; Roto Mill Grinder; Scoops - Tractor Drawn; Slip-form Paver; Straddle Buggies; Tournapull; Tractor with Boom and Side Boom; Trenching Machines.

Class 2. Bobcat (over 3/4 cu. yd.); Boilers; Brick Forklift; Broom, All Power Propelled; Bulldozers; Concrete Mixer (Two Bag and Over); Conveyor, Portable; Forklift Trucks; Greaser Engineer; Highlift Shovels or Front Endloaders under 2-1/4 yd.; Hoists, Automatic; Hoists, inside Freight Elevators; Hoists, Sewer Dragging Machine; Hoists, Tugger Single Drum; Laser Screed; Rock Drill (self-propelled); Rock Drill (truck mounted); Rollers, All; Steam Generators; Tractors, All; Tractor Drawn Vibratory Roller; Winch Trucks with "A" Frame.

Class 3. Air Compressor; Combination - Small Equipment Operator; Generators; Heaters, Mechanical; Hoists, Inside Elevators - (Rheostat Manual Controlled); Hydraulic Power Units (Pile Driving, Extracting, and Drilling); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Pumps, Well Points; Welding Machines (2 through 5); Winches, 4 small Electric Drill Winches; Bobcat (up to and including 3/4 cu. yd.).

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

OPERATING ENGINEERS - FLOATING

Class 1. Craft foreman (Master Mechanic), diver/wet tender, engineer (hydraulic dredge).

Class 2. Crane/backhoe operator, mechanic/welder, assistant engineer (hydraulic dredge), leverman (hydraulic dredge), and diver tender.

Class 3. Deck equipment operator (machineryman), maintenance of crane (over 50 ton capacity) or backhoe (96,000 pounds or more), tug/launch operator, loader, dozer and like equipment on barge, breakwater wall, slip/dock or scow, deck machinery, etc.

Class 4. Deck equipment operator (machineryman/fireman), (4 equipment units or more) and crane maintenance 50 ton capacity and under or backhoe weighing 96,000 pounds or less, assistant tug operator.

OPERATING ENGINEERS - HEAVY AND HIGHWAY CONSTRUCTION

Class 1. Craft Foreman; Asphalt Plant; Asphalt Heater and Planer Combination; Asphalt Heater Scarfire; Asphalt Spreader; Autograder/GOMACO or other similar type machines; ABG Paver; Backhoes with Caisson attachment; Ballast Regulator; Belt Loader; Caisson Rigs; Car Dumper; Central Redi-Mix Plant; Combination Backhoe Front Endloader Machine, (1 cu. yd. Backhoe Bucket or over or with attachments); Concrete Breaker (Truck Mounted): Concrete Conveyor; Concrete Paver over 27E cu. ft.; Concrete Placer; Concrete Tube

Float; Cranes, all attachments; Cranes, Hammerhead, Linden, Peco & Machines of a like nature; Crete Crane; Crusher, Stone, etc.; Derricks, All; Derrick Boats; Derricks, Traveling; Dowell machine with Air Compressor; Dredges; Field Mechanic-Welder; Formless Curb and Gutter Machine; Gradall and Machines of a like nature; Grader, Elevating; Grader, Motor Grader, Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard Rail Post Driver Mounted; Hoists, One, Two and Three Drum; Hydraulic Backhoes; Backhoes with shear attachments; Mucking Machine; Pile Drivers and Skid Rig; Pre-Stress Machine; Pump Cretes Dual Ram; Rock Drill - Crawler or Skid Rig; Rock Drill - Truck Mounted; Roto Mill Grinder; Slip-Form Paver; Soil Test Drill Rig (Truck Mounted); Straddle Buggies; Hydraulic Telescoping Form (Tunnel); Tractor Drawn Belt Loader (with attached pusher - two engineers); Tractor with Boom; Tractaire with Attachments; Trenching Machine; Truck Mounted Concrete Pump with Boom; Raised or Blind Hole; Drills (Tunnel Shaft); Underground Boring and/or Mining Machines; Wheel Excavator; Widener (APSCO).

Class 2. Batch Plant; Bituminous Mixer; Boiler and Throttle Valve; Bulldozers; Car Loader Trailing Conveyors; Combination Backhoe Front Endloader Machine (less than 1 cu. yd. Backhoe Bucket or over or with attachments); Compressor and Throttle Valve; Compressor, Common Receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding Machine; Concrete Mixer or Paver 7S Series to and including 27 cu. ft.; Concrete Spreader; Concrete Curing Machine, Burlap Machine, Belting Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck Cars (Haglund or Similar Type); Drills, All; Finishing Machine - Concrete; Greaser Engineer; Highlift Shovels or Front Endloader; Hoist - Sewer Dragging Machine; Hydraulic Boom Trucks (All Attachments); Hydro-Blaster; All Locomotives, Dinky; Pump Cretes; Squeeze Cretes-Screw Type Pumps, Gypsum Bulker and Pump; Roller, Asphalt; Rotory Snow Plows; Rototiller, Seaman, etc., self-propelled; Scoops - Tractor Drawn; Self-Propelled Compactor; Spreader - Chip - Stone, etc.; Scraper; Scraper - Prime Mover in Tandem (Regardless of Size); Tank Car Heater; Tractors, Push, Pulling Sheeps Foot, Disc, Compactor, etc.; Tug Boats.

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

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

Class 5. Bobcats (all); Brick Forklifts; Oilers.

TERRAZZO FINISHER

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

Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available. If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 618/993-7271 for wage rates or clarifications.

LANDSCAPING

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