

144

Letting March 8, 2019

Notice to Bidders, Specifications and Proposal



**Contract No. 61F41
COOK County
Section 10-00055-00-WR (Streamwood)
Route FAU 1321 (Irving Park Road)
Project TRGK-755 ()
District 1 Construction Funds**

Prepared by

Checked by

F

(Printed by authority of the State of Illinois)



- 1. TIME AND PLACE OF OPENING BIDS.** Electronic bids are to be submitted to the electronic bidding system (iCX-Integrated Contractors Exchange). All bids must be submitted to the iCX system prior to 10:00 a.m. March 8, 2019 at which time the bids will be publicly opened from the iCX SecureVault.
- 2. DESCRIPTION OF WORK.** The proposed improvement is identified and advertised for bids in the Invitation for Bids as:

**Contract No. 61F41
COOK County
Section 10-00055-00-WR (Streamwood)
Project TRGK-755 ()
Route FAU 1321 (Irving Park Road)
District 1 Construction Funds**

Roadway reconstruction on Irving Park Road from east of IL 59 to Bartlett Road in Streamwood.

- 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

Matt Magalis,
Acting Secretary

INDEX
FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2019

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

ERRATA Standard Specifications for Road and Bridge Construction (Adopted 4-1-16) (Revised 1-1-19)

SUPPLEMENTAL SPECIFICATIONS

<u>Std. Spec. Sec.</u>	<u>Page No.</u>
106 Control of Materials	1
107 Legal Regulations and Responsibility to Public	2
403 Bituminous Surface Treatment (Class A-1, A-2, A-3)	3
404 Micro-Surfacing and Slurry Sealing	4
405 Cape Seal	15
406 Hot-Mix Asphalt Binder and Surface Course	25
420 Portland Cement Concrete Pavement	26
424 Portland Cement Concrete Sidewalk	28
442 Pavement Patching	29
502 Excavation for Structures	30
503 Concrete Structures	32
504 Precast Concrete Structures	35
542 Pipe Culverts	36
586 Sand Backfill for Vaulted Abutments	37
602 Catch Basin, Manhole, Inlet, Drainage Structure, and Valve Vault Construction, Adjustment, and Reconstruction	39
630 Steel Plate Beam Guardrail	40
631 Traffic Barrier Terminals	43
670 Engineer's Field Office and Laboratory	44
701 Work Zone Traffic Control and Protection	45
704 Temporary Concrete Barrier	46
780 Pavement Striping	48
781 Raised Reflective Pavement Markers	49
888 Pedestrian Push-Button.....	50
1001 Cement	51
1003 Fine Aggregates	52
1004 Coarse Aggregates	53
1006 Metals	56
1020 Portland Cement Concrete	58
1043 Adjusting Rings	60
1050 Poured Joint Sealers	62
1069 Pole and Tower	64
1077 Post and Foundation	65
1096 Pavement Markers	66
1101 General Equipment	67
1102 Hot-Mix Asphalt Equipment	68
1103 Portland Cement Concrete Equipment	70
1105 Pavement Marking Equipment	72
1106 Work Zone Traffic Control Devices	74

RECURRING SPECIAL PROVISIONS

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

<u>CHECK SHEET #</u>			<u>PAGE NO.</u>
1	X	Additional State Requirements for Federal-Aid Construction Contracts	75
2	X	Subletting of Contracts (Federal-Aid Contracts)	78
3	X	EEO	79
4		Specific EEO Responsibilities Non Federal-Aid Contracts	89
5		Required Provisions - State Contracts	94
6		Asbestos Bearing Pad Removal	100
7		Asbestos Waterproofing Membrane and Asbestos HMA Surface Removal	101
8		Temporary Stream Crossings and In-Stream Work Pads	102
9		Construction Layout Stakes Except for Bridges	103
10	X	Construction Layout Stakes	106
11		Use of Geotextile Fabric for Railroad Crossing	109
12		Subsealing of Concrete Pavements	111
13		Hot-Mix Asphalt Surface Correction	115
14		Pavement and Shoulder Resurfacing	117
15		Patching with Hot-Mix Asphalt Overlay Removal	118
16		Polymer Concrete	120
17		PVC Pipeliner	122
18		Bicycle Racks	123
19		Temporary Portable Bridge Traffic Signals	125
20		Work Zone Public Information Signs	127
21	X	Nighttime Inspection of Roadway Lighting	128
22		English Substitution of Metric Bolts	129
23		Calcium Chloride Accelerator for Portland Cement Concrete	130
24		Quality Control of Concrete Mixtures at the Plant	131
25	X	Quality Control/Quality Assurance of Concrete Mixtures	139
26		Digital Terrain Modeling for Earthwork Calculations	155
27		Reserved	157
28		Preventive Maintenance – Bituminous Surface Treatment (A-1)	158
29		Reserved	164
30		Reserved	165
31		Reserved	166
32		Temporary Raised Pavement Markers	167
33		Restoring Bridge Approach Pavements Using High-Density Foam	168
34		Portland Cement Concrete Inlay or Overlay	171
35		Portland Cement Concrete Partial Depth Hot-Mix Asphalt Patching	175

LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS

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

<u>CHECK SHEET #</u>	<u>PAGE NO.</u>
LRS1	Reserved 179
LRS2	Furnished Excavation 180
LRS3	X Work Zone Traffic Control Surveillance 181
LRS4	Flaggers in Work Zones 182
LRS5	Contract Claims 183
LRS6	Bidding Requirements and Conditions for Contract Proposals 184
LRS7	Bidding Requirements and Conditions for Material Proposals 190
LRS8	Reserved 196
LRS9	Bituminous Surface Treatments 197
LRS10	Reserved 198
LRS11	Employment Practices 199
LRS12	Wages of Employees on Public Works 201
LRS13	Selection of Labor 203
LRS14	Paving Brick and Concrete Paver Pavements and Sidewalks 204
LRS15	Partial Payments 207
LRS16	Protests on Local Lettings 208
LRS17	Substance Abuse Prevention Program 209
LRS18	Multigrade Cold Mix Asphalt 210

INDEX OF SPECIAL PROVISIONS

LOCATION OF PROJECT 1

DESCRIPTION OF PROJECT 1

LIST OF WORK ITEMS NOT PAID FOR SEPARATELY 2

MAINTENANCE OF ROADWAYS 2

STATUS OF UTILITIES (D-1)..... 3

CONSTRUCTION SCHEDULE..... 5

COMPLETION DATE PLUS WORKING DAYS..... 6

FAILURE TO COMPLETE THE WORK ON TIME..... 6

AVAILABLE REPORTS 6

TRAFFIC CONTROL PLAN 7

TRAFFIC CONTROL AND PROTECTION (ARTERIALS) 8

PUBLIC CONVENIENCE AND SAFETY (D-1)..... 8

KEEPING ARTERIAL ROADWAYS OPEN TO TRAFFIC (LANE CLOSURES ONLY) 9

DETECTABLE WARNINGS..... 9

TEMPORARY INFORMATION SIGNING 10

AGGREGATE SURFACE COURSE FOR TEMPORARY ACCESS 11

CONCRETE NOISE ABATEMENT WALLS (ABSORPTIVE AND REFLECTIVE) (DIST 1)..... 12

EMBANKMENT II..... 19

EXPLORATION TRENCH, SPECIAL 20

FENCE REMOVAL 21

FENCE (SPECIAL) 21

STUMP REMOVAL 21

PLANTING WOODY PLANTS 22

PLANTING PERENNIAL PLANTS..... 26

COARSE SAND PLACEMENT..... 27A

WEED CONTROL, PRE-EMERGENT GRANULAR HERBICIDE..... 29

SUPPLEMENTAL WATERING..... 30

SHREDDED HARDWOOD BARK MULCH	31
LANDSCAPE EDGING	32
TOPSOIL FURNISH AND PLACE, SPECIAL.....	33
TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL	37
PLANTINGS.....	41
AGGREGATE SUBGRADE IMPROVEMENT (D-1).....	47
FRICTION AGGREGATE (D-1).....	49
HMA MIXTURE DESIGN REQUIREMENTS (D-1).....	52
RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES (D-1).....	59
DRAINAGE AND INLET PROTECTION UNDER TRAFFIC (DISTRICT 1)	67
COARSE AGGREGATE FOR BACKFILL, TRENCH BACKFILL AND BEDDING (D-1).....	68
GROUND TIRE RUBBER (GTR) MODIFIED ASPHALT BINDER (D-1).....	68
SIGN SHOP DRAWING SUBMITTAL	69
STORM SEWER (WATER MAIN REQUIREMENTS)	70
ADJUSTMENTS AND RECONSTRUCTIONS	70
TELEVISION INSPECTION OF SEWER, SPECIAL	71
TEST HOLES.....	71
MANHOLES, TYPE A, 8' DIAMETER, TYPE 1, CLOSED LID, RESTRICTOR PLATE.....	72
CONNNECTION TO EXISTING SEWER	72
FRAMES AND LIDS TO BE ADJUSTED (SPECIAL).....	72
SANITARY MANHOLES TO BE ADJUSTED WITH NEW TYPE 1 FRAME, CLOSED LID	73
SANITARY MANHOLES TO BE RECONSTRUCTED WITH NEW TYPE 1 FRAME, CLOSED LID.....	73
REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES	74
WATER DISTRIBUTION SYSTEM.....	89
WATER MAIN PIPE	99
CONNECTION TO EXISTING WATER MAIN (NON-PRESSURE)	100
WATER VALVES	100
WATER SERVICES.....	101
FIRE HYDRANTS WITH AUXILIARY VALVE AND VALVE BOX	102

FIRE HYDRANTS TO BE RELOCATED	103
VAULTS	104
FIRE HYDRANTS TO BE REMOVED	105
FILLING VALVE VAULTS	105
TRENCH BACKFILL, SPECIAL (WATER MAIN)	105
WATER MAIN DIRECTIONAL BORE (HDD)	106
ABANDON EXISTING WATER MAIN WITH CLSM FILL	108
CASING PIPE, OPEN CUT.....	108
GENERAL ELECTRICAL REQUIREMENTS.....	109
ELECTRIC UTILITY SERVICE CONNECTION (COMED).....	124
ELECTRIC SERVICE INSTALLATION.....	124
UNDERGROUND RACEWAYS.....	125
UNIT DUCT.....	126
WIRE AND CABLE	127
LUMINAIRE, LED, SPECIAL	128
LIGHT POLE, SPECIAL.....	133
LIGHT POLE FOUNDATION, 24" DIAMETER, OFFSET	134
IDOT TRAINING PROGRAM ON-THE-JOB TRAINING SPECIAL PROVISION (TPG).....	135
INSURANCE (LR 107).....	137
STORM WATER POLLUTION PREVENTION PLAN.....	138
NOTICE OF INTENT (NOI).....	147
WATER MAIN PERMIT.....	150

BDE SPECIAL PROVISIONS

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

<u>File Name</u>	<u>Pg.</u>	<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80099		Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2014
80274		Aggregate Subgrade Improvement	April 1, 2012	April 1, 2016
80192		Automated Flagger Assistance Device	Jan. 1, 2008	
80173	153	X Bituminous Materials Cost Adjustments	Nov. 2, 2006	Aug. 1, 2017
80241		Bridge Demolition Debris	July 1, 2009	
50261		Building Removal-Case I (Non-Friable and Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50481		Building Removal-Case II (Non-Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50491		Building Removal-Case III (Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50531		Building Removal-Case IV (No Asbestos)	Sept. 1, 1990	April 1, 2010
* 80404		Coarse Aggregate Quality for Micro-Surfacing and Cape Seals	Jan. 1, 2019	
80384	155	X Compensable Delay Costs	June 2, 2017	
80198		Completion Date (via calendar days)	April 1, 2008	
80199		Completion Date (via calendar days) Plus Working Days	April 1, 2008	
80293		Concrete Box Culverts with Skews > 30 Degrees and Design Fills ≤ 5 Feet	April 1, 2012	July 1, 2016
80311		Concrete End Sections for Pipe Culverts	Jan. 1, 2013	April 1, 2016
80277		Concrete Mix Design – Department Provided	Jan. 1, 2012	April 1, 2016
80261	159	X Construction Air Quality – Diesel Retrofit	June 1, 2010	Nov. 1, 2014
80387		Contrast Preformed Plastic Pavement Marking	Nov. 1, 2017	
* 80029	162	X Disadvantaged Business Enterprise Participation	Sept. 1, 2000	Mar. 2, 2019
80402	173	X Disposal Fees	Nov. 1, 2018	
80378		Dowel Bar Inserter	Jan. 1, 2017	Jan. 1, 2018
* 80405		Elastomeric Bearings	Jan. 1, 2019	
80388	175	X Equipment Parking and Storage	Nov. 1, 2017	
80229	176	X Fuel Cost Adjustment	April 1, 2009	Aug. 1, 2017
80304		Grooving for Recessed Pavement Markings	Nov. 1, 2012	Nov. 1, 2017
80246	179	X Hot-Mix Asphalt – Density Testing of Longitudinal Joints	Jan. 1, 2010	Aug. 1, 2018
* 80406		Hot-Mix Asphalt – Mixture Design Verification and Production (Modified for I-FIT Projects)	Jan. 1, 2019	
* 80398		Hot-Mix Asphalt – Longitudinal Joint Sealant	Aug. 1, 2018	Jan. 1, 2019
80399	181	X Hot-Mix Asphalt – Oscillatory Roller	Aug. 1, 2018	Nov. 1, 2018
80347		Hot-Mix Asphalt – Pay for Performance Using Percent Within Limits – Jobsite Sampling	Nov. 1, 2014	Aug. 1, 2018
* 80383		Hot-Mix Asphalt – Quality Control for Performance	April 1, 2017	Jan. 1, 2019
80376	183	X Hot-Mix Asphalt – Tack Coat	Nov. 1, 2016	
80392	184	X Lights on Barricades	Jan. 1, 2018	
80336		Longitudinal Joint and Crack Patching	April 1, 2014	April 1, 2016
* 80393	186	X Manholes, Valve Vaults, and Flat Slab Tops	Jan. 1, 2018	Mar. 1, 2019
80400		Mast Arm Assembly and Pole	Aug. 1, 2018	
80045		Material Transfer Device	June 15, 1999	Aug. 1, 2014
80394		Metal Flared End Section for Pipe Culverts	Jan. 1, 2018	April 1, 2018
80165		Moisture Cured Urethane Paint System	Nov. 1, 2006	Jan. 1, 2010
80349		Pavement Marking Blackout Tape	Nov. 1, 2014	April 1, 2016
80371	188	X Pavement Marking Removal	July 1, 2016	
80390	189	X Payments to Subcontractors	Nov. 2, 2017	
80389	190	X Portland Cement Concrete	Nov. 1, 2017	
80359		Portland Cement Concrete Bridge Deck Curing	April 1, 2015	Nov. 1, 2017
80401		Portland Cement Concrete Pavement Connector for Bridge Approach Slab	Aug. 1, 2018	

<u>File Name</u>	<u>Pg.</u>	<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80300		Preformed Plastic Pavement Marking Type D - Inlaid	April 1, 2012	April 1, 2016
80328	191	X Progress Payments	Nov. 2, 2013	
34261		Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2006
80157		Railroad Protective Liability Insurance (5 and 10)	Jan. 1, 2006	
* 80306		Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)	Nov. 1, 2012	Jan. 1, 2019
* 80407		Removal and Disposal of Regulated Substances	Jan. 1, 2019	
80395		Sloped Metal End Section for Pipe Culverts	Jan. 1, 2018	
80340		Speed Display Trailer	April 2, 2014	Jan. 1, 2017
80127	192	X Steel Cost Adjustment	April 2, 2014	Aug. 1, 2017
* 80408		Steel Plate Beam Guardrail Manufacturing	Jan. 1, 2019	
80397	195	X Subcontractor and DBE Payment Reporting	April 2, 2018	
80391	196	X Subcontractor Mobilization Payments	Nov. 2, 2017	
80317		Surface Testing of Hot-Mix Asphalt Overlays	Jan. 1, 2013	April 1, 2016
80298	197	X Temporary Pavement Marking	April 1, 2012	April 1, 2017
20338	200	X Training Special Provision	Oct. 15, 1975	
80403		Traffic Barrier Terminal, Type 1 Special	Nov. 1, 2018	
* 80409	203	X Traffic Control Devices – Cones	Jan. 1, 2019	
* 80410		Traffic Spotters	Jan. 1, 2019	
80318		Traversable Pipe Grate for Concrete End Sections	Jan. 1, 2013	Jan. 1, 2018
80288	204	X Warm Mix Asphalt	Jan. 1, 2012	April 1, 2016
80302	205	X Weekly DBE Trucking Reports	June 2, 2012	April 2, 2015
80071		Working Days	Jan. 1, 2002	

The following special provisions are in the 2019 Supplemental Specifications and Recurring Special Provisions.

<u>File Name</u>	<u>Special Provision Title</u>	<u>New Location</u>	<u>Effective</u>	<u>Revised</u>
80382	Adjusting Frames and Grates	Articles 602.02(s) and (t), 1043.04, and 1043.05	April 1, 2017	
80366	Butt Joints	Article 406.08(c)	July 1, 2016	
80386	Calcium Aluminate Cement for Class PP-5 Concrete Patching	Article 1001.01(e)	Nov. 1, 2017	
80396	Class A and B Patching	Articles 442.06(a)(1) and (2)	Jan. 1, 2018	Nov. 1, 2018
80377	Portable Changeable Message Signs	Articles 701.20(h) and 1106.02(i)	Nov. 1, 2016	April 1, 2017
80385	Portland Cement Concrete Sidewalk	Article 424.12	Aug. 1, 2017	

GUIDE BRIDGE SPECIAL PROVISION INDEX/CHECK SHEET

Effective as of the: June 15, 2018 Letting

Pg #	√	File Name	Title	Effective	Revised
		GBSP 4	Polymer Modified Portland Cement Mortar	June 7, 1994	Apr 1, 2016
		GBSP 12	Drainage System	June 10, 1994	Jun 24, 2015
		GBSP 13	High-Load Multi-Rotational Bearings	Oct 13, 1988	Apr 1, 2016
		GBSP 14	Jack and Remove Existing Bearings	April 20, 1994	April 13, 2018
		GBSP 15	Three Sided Precast Concrete Structure	July 12, 1994	Dec 21, 2016
		GBSP 16	Jacking Existing Superstructure	Jan 11, 1993	April 13, 2018
		GBSP 17	Bonded Preformed Joint Seal	July 12, 1994	Jan 1, 2007
		GBSP 18	Modular Expansion Joint	May 19, 1994	Dec 29, 2014
		GBSP 21	Cleaning and Painting Contact Surface Areas of Existing Steel Structures	June 30, 2003	April 13, 2018
		GBSP 25	Cleaning and Painting Existing Steel Structures	Oct 2, 2001	Apr 22, 2016
		GBSP 26	Containment and Disposal of Lead Paint Cleaning Residues	Oct 2, 2001	Apr 22, 2016
		GBSP 28	Deck Slab Repair	May 15, 1995	April 13, 2018
		GBSP 29	Bridge Deck Microsilica Concrete Overlay	May 15, 1995	Oct 20, 2017
		GBSP 30	Bridge Deck Latex Concrete Overlay	May 15, 1995	Oct 20, 2017
		GBSP 31	Bridge Deck High-Reactivity Metakaolin (HRM) Conc Overlay	Jan 21, 2000	Oct 20, 2017
		GBSP 33	Pedestrian Truss Superstructure	Jan 13, 1998	Dec 29, 2014
		GBSP 34	Concrete Wearing Surface	June 23, 1994	Oct 4, 2016
		GBSP 35	Silicone Bridge Joint Sealer	Aug 1, 1995	Oct 15, 2011
		GBSP 45	Bridge Deck Thin Polymer Overlay	May 7, 1997	Feb 6, 2013
		GBSP 51	Pipe Underdrain for Structures	May 17, 2000	Jan 22, 2010
		GBSP 53	Structural Repair of Concrete	Mar 15, 2006	Apr 1, 2016
		GBSP 55	Erection of Curved Steel Structures	June 1, 2007	
		GBSP 56	Setting Piles in Rock	Nov 14, 1996	Apr 1, 2016
		GBSP 59	Diamond Grinding and Surface Testing Bridge Sections	Dec 6, 2004	Mar 29, 2017
		GBSP 60	Containment and Disposal of Non-Lead Paint Cleaning Residues	Nov 25, 2004	Apr 22, 2016
		GBSP 61	Slipform Parapet	June 1, 2007	Apr 22, 2016
		GBSP 67	Structural Assessment Reports for Contractor's Means and Methods	Mar 6, 2009	Oct 5, 2015
		GBSP 71	Aggregate Column Ground Improvement	Jan 15, 2009	Oct 15, 2011
		GBSP 72	Bridge Deck Fly Ash or GGBF Slag Concrete Overlay	Jan 18, 2011	Oct 20, 2017
		GBSP 75	Bond Breaker for Prestressed Concrete Bulb-T Beams	April 19, 2012	
206	X	GBSP 77	Weep Hole Drains for Abutments, Wingwalls, Retaining Walls And Culverts	April 19, 2012	Oct 22, 2013
		GBSP 78	Bridge Deck Construction	Oct 22, 2013	Dec 21, 2016
		GBSP 79	Bridge Deck Grooving (Longitudinal)	Dec 29, 2014	Mar 29, 2017
		GBSP 81	Membrane Waterproofing for Buried Structures	Oct 4, 2016	April 13, 2018
		GBSP 82	Metallizing of Structural Steel	Oct 4, 2016	Oct 20, 2017
		GBSP 83	Hot Dip Galvanizing for Structural Steel	Oct 4, 2016	Oct 20, 2017
		GBSP 85	Micropiles	Apr 19, 1996	Oct 5, 2015
		GBSP 86	Drilled Shafts	Oct 5, 2015	Oct 4, 2016
		GBSP 87	Lightweight Cellular Concrete Fill	Nov 11, 2011	Apr 1, 2016
		GBSP 88	Corrugated Structural Plate Structures	Apr 22, 2016	April 13, 2018
		GBSP 89	Preformed Pavement Joint Seal	Oct 4, 2016	
		GBSP 90	Three Sided Precast Concrete Structure (Special)	Dec 21, 2016	April 13, 2018
		GBSP 91	Crosshole Sonic Logging Testing of Drilled Shafts	Apr 20, 2016	
		GBSP 92	Thermal Integrity Profile Testing of Drilled Shafts	Apr 20, 2016	

<u>Pg #</u>	<u>√</u>	<u>File Name</u>	<u>Title</u>	<u>Effective</u>	<u>Revised</u>
		GBSP 93	Preformed Bridge Joint Seal	Dec 21, 2016	April 13, 2018
		GBSP 94	Warranty for Cleaning and Painting Steel Structures	Mar 3, 2000	Nov 24, 2004
		GBSP 95	Bituminous Coated Aggregate Slopewall	Mar 21, 1997	Mar 19, 2018

LIST ANY ADDITIONAL SPECIAL PROVISIONS BELOW

The following Guide Bridge Special Provisions have been incorporated into the 2016 Standard Specifications:

File Name	Title	Std Spec Location
GBSP32	Temporary Sheet Piling	522
GBSP38	Mechanically Stabilized Earth Retaining Walls	522
GBSP42	Drilled Soldier Pile Retaining Wall	522
GBSP43	Driven Soldier Pile Retaining Wall	522
GBSP44	Temporary Soil Retention System	522
GBSP46	Geotextile Retaining Walls	522
GBSP57	Temporary Mechanically Stabilized Earth Retaining Walls	522
GBSP62	Concrete Deck Beams	504
GBSP64	Segmental Concrete Block Wall	522
GBSP65	Precast Modular Retaining Wall	522
GBSP73	Cofferdams	2017 Supp
GBSP74	Permanent Steel Sheet Piling (LRFD)	522
GBSP76	Granular Backfill for Structures	2017 Supp
GBSP80	Fabric Reinforced Elastomeric	1028
GBSP84	Precast, Prestressed Concrete Beams	2017 Supp

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

File Name	Title	Disposition:
GBSP70	Braced Excavation	Use TSRS per Sec 522
GBSP95	Bridge Deck Concrete Sealer	Use July 1, 2012 version for Repair projects only

STATE OF ILLINOIS

SPECIAL PROVISIONS

The following Special Provisions supplement the Illinois Department of Transportation's (IDOT) "Standard Specifications for Road and Bridge Construction," adopted April 1, 2016, (hereinafter referred to as the "Standard Specifications"); the "Manual on Uniform Traffic Control Devices for Streets and Highways" the "Manual of Test Procedures of Materials", in effect on the date of invitation for bids; the "Supplemental Specifications and Recurring Special Provisions," latest edition as indicated on the Check Sheet included herein, and Standard Specifications for Water and Sewer Main Construction in Illinois latest edition which apply to and govern the construction of FAU 1321 Illinois Route 19, Section No. 10-00055-00-WR, Project No. TRGK(755), Job No. C-91-136-11, Contract No. 61F41, Village of Streamwood, Cook County. In case of conflict with any or parts of said Specifications, the said Special Provisions shall take precedence and shall govern.

LOCATION OF PROJECT

The project is located on Illinois Route 19 (FAU 1321) from 1,800 feet east of Sutton Road to 570 feet west of Bartlett Road. The total gross and net length of the project is 3,441 feet (0.65 miles) within the Village of Streamwood in Cook County.

DESCRIPTION OF PROJECT

The work consists of roadway reconstruction and widening, Portland cement concrete sidewalk removal and replacement, hot-mix asphalt multi-use path, new combination concrete curb and gutter, storm sewer, water main, roadway lighting, retaining walls, restoration, traffic staging, and all incidental and collateral work necessary to complete the project as shown on the plans and as described herein.

LIST OF WORK ITEMS NOT PAID FOR SEPARATELY

The Contractor's attention is called to several specific work items as noted on the Contract Plans and Special Provisions and in addition to the lists in the Standard Specifications that will not be paid for separately. Below is a listing of these items and the pay item they are to be included within for general information only. The list is not intended to be all-inclusive and, therefore, the Contractor is responsible to perform all work according to the Plans, Special Provisions, and the Standard Specifications.

Pay Item Number	Designation	Work Item Included
20200100	EARTH EXCAVATION	Disposal of abandoned utilities that conflict with construction. Materials shall be disposed of outside the limits of the right of way.
44000100	PAVEMENT REMOVAL	Saw cutting of pavements, curb and gutter, sidewalk, etc. shall be to full depth and shall result in a clean straight edge on the portion remaining.
44000200	DRIVEWAY PAVEMENT REMOVAL	
44000500	COMBINATION CURB AND GUTTER REMOVAL	
44000600	SIDEWALK REMOVAL	
67100100	MOBILIZATION	Removal of loose materials deposited in the flow line of drainage structures at the end of each working day.
60406100	FRAMES AND LIDS, TYPE 1, CLOSED LID	The cost to locate the existing drainage structures, storm sewers, water mains, sanitary sewers, and any other public or private utilities. The existing frame and lid locations as shown on the plans are approximate.
VARIOUS	PROPOSED UTILITY	The cost of the utility exploration shall be included in the cost of the proposed utility.

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 maintenance of roadways 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 (D-1)

Effective: June 1, 2016

Utility companies and/or municipal owners located within the construction limits of this project have provided the following information in regard to their facilities and the proposed improvements. The tables below contain a description of specific conflicts to be resolved and/or facilities which will require some action on the part of the Department's contractor to proceed with work. Each table entry includes an identification of the action necessary and, if applicable, the estimated duration required for the resolution.

UTILITIES TO BE ADJUSTED

Conflicts noted below have been identified by following the suggested staging plan included in the contract. The company has been notified of all conflicts and will be required to obtain the necessary permits to complete their work; in some instances resolution will be a function of the construction staging. The responsible agency must relocate or complete new installations as noted in the action column; this work has been deemed necessary to be complete for the Department's contractor to then work in the stage under which the item has been listed.

STAGE / LOCATION	TYPE	DESCRIPTION	RESPONSIBLE AGENCY	ACTION
505+90-30' LT- 514+20-30' LT 514+20-30' RT- 523+20-30' RT 529+00-40' LT- 529+50-40' RT 529+50-40'RT- 533+00-40'RT PRESTAGE	Sanitary Sewer	Existing structures are in pavement. Structures may need to be adjusted during reconstruction.	Village of Streamwood/Contractor	Contractor to adjust sanitary sewer to new pavement elevation. 10 days
504+90-40'LT- 539+90-40' LT PRESTAGE	Aerial lines and poles	Existing aerial lines and power poles near right of way to be adjusted and relocated due to construction of noise walls.	ComEd	ComEd to relocate existing poles. 70 days.
504+90-40' LT- 539+90-40' LT PRESTAGE	Aerial lines and poles	Existing aerial lines and power poles near right of way to be adjusted and relocated due to construction of noise walls.	AT&T	AT&T to relocate to new ComEd poles. 20 days
504+90-40' LT- 539+90-40' LT PRESTAGE	Aerial lines and poles	Existing aerial lines and power poles near right of way to be adjusted and relocated due to construction of noise walls.	Comcast	Comcast to relocate to new ComEd poles. 20 days
504+90-40' LT- 539+90-40' LT PRESTAGE	Aerial lines and poles	Existing aerial lines and power poles near right of way to be adjusted and relocated due to	W.O.W.	W.O.W. to relocate to new ComEd poles. 20 days.

		construction of noise walls.		
515+59-30'RT to 515+69-36'LT PRESTAGE	Gas main	Existing gas main in roadway impacted by proposed storm sewer.	Nicor	Nicor designing and relocating gas facilities as necessary. 20 days.
520+39-38'RT, 527+78-43'RT, 525+13-28'RT, 527+00-28'RT, 528+67-30'RT, 530+90-27'RT, 533+83-27'RT, 537+55-30'RT, 537+92-38'LT, PRESTAGE	Gas Main	Existing gas main in parkway in conflict with proposed storm sewer.	Nicor	Nicor designing and relocating gas facilities as necessary. 90 days.

230 Days total.

UTILITIES TO BE WATCHED AND PROTECTED

The areas of concern noted below have been identified by following the suggested staging plan included for the contract. The information provided is not a comprehensive list of all remaining utilities, but those which during coordination were identified as ones which might require the Department's contractor to take into consideration when making the determination of the means and methods that would be required to construct the proposed improvement. In some instances the contractor will be responsible to notify the owner in advance of the work to take place so necessary staffing on the owners part can be secured.

STAGE / LOCATION	TYPE	DESCRIPTION	OWNER	ACTION
507+50-50'RT-539+40-50'RT	Gas	Existing gas main is in proposed path and proposed curb line	Nicor	Nicor preparing relocates plans. Contractor to perform work as not to impact and protect during construction.
504+90-50'RT-539+90' RT	Water main	Existing water main is in the parkway.	Streamwood/Contractor	Streamwood to work with contractor to ensure work can be performed as not to impact and protect during construction.
504+50-30'LT-514+50-30'LT	Intercepting Sewers	Existing sewer in roadway and north parkway.	MWRD	Contractor to contact MWRD if any structures are to be adjusted. No access hatches or manhole covers shall be buried or covered.

The following contact information is what was used during the preparation of the plans as provided by the owner of the facility.

Agency/Company Responsible to Resolve Conflict	Name of contact	Address	Phone	e-mail address
AT&T	Janet Ahern	1000 Commerce Drive Oak Brook, IL 60523	630-573-6414	Ja1763@att.com
ComEd	Aaron Babu Tim Tamason	1 Lincoln Center Oakbrook Terrace	708-683-9348, 815-477-5258	Aaron.babu@comed.com Timothy.Tamason@ComEd.com
Nicor Gas	Bruce Koppang	1844 Ferry Road Naperville, IL 60563	630-388-3046	Bkoppan@southernco.com
Streamwood	Matt Mann	565 S. Bartlett Road, Streamwood, IL 60107	630-736-3850	mmann@streamwood.org
Comcast	Martha Gieras Nick Mihalka		630-600-6352, 224-229-4513	Martha_gieras@cable.comcast.com Nick_Mihalka@cable.comcast.com
Wide Open West	Paul.Flinkow Deborah.Angello			Paul.Flinkow@wowinc.com Deborah.Angello@wowinc.com
MWRD	Steven Whitehead, Ed Staudacher		847-568-8329, 708-588-4319	

The above represents the best information available to the Department and is included for the convenience of the bidder. The days required for conflict resolution should be taken into account in the bid as this information has also been factored into the timeline identified for the project when setting the completion date. The applicable portions of the Standard Specifications for Road and Bridge Construction shall apply.

Estimated duration of time provided in the action column for the first conflicts identified will begin on the date of the executed contract regardless of the status of the utility relocations. The responsible agencies will be working toward resolving subsequent conflicts in conjunction with contractor activities in the number of days noted.

The estimated relocation dates must be part of the progress schedule submitted by the contractor. A utility kickoff meeting will be scheduled between the Department, the Department's contractor and the utility companies. The Department's contractor is responsible for contacting J.U.L.I.E. prior to any and all excavation work.

CONSTRUCTION SCHEDULE

Prior to August 1, 2019, the contractor will not be allowed to reconstruct the existing pavement. Day time lane closures will be allowed. Items that may be done before August 1, 2019 include erosion control, side walk, multi-use path, and noise walls.

COMPLETION DATE PLUS WORKING DAYS

Effective: September 30, 1985
Revised: January 1, 2007

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

"When a completion date plus working days is specified, the Contractor shall complete all contract items and safely open all roadways to traffic by **July 13, 2020** except as specified herein.

The Contractor will be allowed to complete all clean-up work and punch list items within 5 working days after the completion date for opening the roadway to traffic. Under extenuating circumstances the Engineer may direct that certain items of work, not affecting the safe opening of the roadway to traffic, may be completed within the working days allowed for clean up work and punch list items. Temporary lane closures for this work may be allowed at the discretion of the Engineer.

A calendar day is every day shown on the calendar and starts at 12:00 midnight and ends at the following 12:00 midnight, twenty-four hours later.

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

FAILURE TO COMPLETE THE WORK ON TIME

Effective: September 30, 1985
Revised: January 1, 2007

Should the Contractor fail to complete the work on or before the completion dates as specified in the Special Provision for "Completion Date Plus Working Days", or within such extended time as may have been allowed by the Department, the Contractor shall be liable to the Department in the amount of \$2,500, not as a penalty but as liquidated damages, for each calendar day or a portion thereof of overrun in the contract time or such extended time as may have been allowed.

In fixing the damages as set out herein, the desire is to establish a certain mode of calculation for the work since the Department's actual loss, in the event of delay, cannot be predetermined, would be difficult of ascertainment, and a matter of argument and unprofitable litigation. This said mode is an equitable rule for measurement of the Department's actual loss and fairly take into account the loss of use of the roadway if the project is delayed in completion. The Department shall not be required to provide any actual loss in order to recover these liquidated damages provided herein, as said damages are very difficult to ascertain. Furthermore, no provision of this clause shall be construed as a penalty, as such is not the intention of the parties.

A calendar day is every day shown on the calendar and starts at 12:00 midnight and ends at the following 12:00 midnight, twenty-four hours later.

AVAILABLE REPORTS

No project specific reports were prepared.

When applicable, the following checked reports and record information is available for Bidders' reference upon request:

Record structural plans

- Preliminary Site Investigation (PSI)
- Preliminary Environmental Site Assessment (PESA)
- Soils/Geotechnical Report
- Boring Logs
- Pavement Cores
- Location Drainage Study (LDS)
- Hydraulic Report
- Noise Analysis
- Other: _____

Those seeking these reports should request access from:

HR Green, Inc./Jack Melhuish/Project Manager
420 North Front Street, McHenry, IL 60050
jmelhuish@hrgreen.com

TRAFFIC CONTROL PLAN

Effective: September 30, 1985

Revised: January 1, 2007

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

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

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

Standards

701006-05, 701011-04, 701301-04, 701311-03, 701502-08, 701602-09, 701606-10, 701427-05, 701426-09, 701701-10, 701501-06, 701801-06, 701901-08

Details

Suggested Maintenance of Traffic Plans

Traffic Control and Protection for Side Roads, Intersections and Driveways (TC-10)

Raised Reflective Pavement Markers (Snow Plow Resistant) (TC-11)
District One Typical Pavement Markings (TC-13)
Traffic Control and Protection at Turn Bays (To Remain Open to Traffic) (TC-14)
Pavement Marking Letters and Symbols for Traffic Staging (TC-16)
Arterial Road Information Sign (TC-22)
Driveway Entrance Signing (TC-26)

Special Provisions

Maintenance of Roadways
Public Convenience and Safety (D-1)
Traffic Control and Protection (Arterials) (D-1)
Keeping Arterial Roadways Open to Traffic (D-1)
Temporary Information Signing
Temporary Pavement Marking (BDE)
Pavement Marking Removal (BDE)
Portable Changeable Message Signs (BDE)
Lights on Barricades (BDE)
Equipment Parking and Storage (BDE)
Traffic Control Devices-Cones (BDE)

TRAFFIC CONTROL AND PROTECTION (ARTERIALS)

Effective: February 1, 1996

Revised: March 1, 2011

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

When traffic is to be directed over a detour route, the Contractor shall furnish, erect, maintain and remove all applicable traffic control devices along the detour route according to the details shown in the plans.

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

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

Temporary pavement markings will be paid for separately unless shown on a Standard.

PUBLIC CONVENIENCE AND SAFETY (D-1)

Effective: May 1, 2012

Revised: July 15, 2012

Add the following to the end of the fourth paragraph of Article 107.09:

“If the holiday is on a Saturday or Sunday, and is legally observed on a Friday or Monday, the length of Holiday Period for Monday or Friday shall apply.”

Add the following sentence after the Holiday Period table in the fourth paragraph of Article 107.09:

“The Length of Holiday Period for Thanksgiving shall be from 5:00 AM the Wednesday prior to 11:59 PM the Sunday After”

Delete the fifth paragraph of Article 107.09 of the Standard Specifications:

“On weekends, excluding holidays, roadways with Average Daily Traffic of 25,000 or greater, all lanes shall be open to traffic from 3:00 P.M. Friday to midnight Sunday except where structure construction or major rehabilitation makes it impractical.”

KEEPING ARTERIAL ROADWAYS OPEN TO TRAFFIC (LANE CLOSURES ONLY)

Effective: January 22, 2003

Revised: August 10, 2017

The Contractor shall provide the necessary traffic control devices to warn the public and to delineate the work zone as required in these Special Provisions, the Standard Specifications, the State Standards, and the District Details.

Arterial lane closures shall be in accordance with the Standard Specifications, Highway Standards, District Details, and the direction of the Engineer. The Contractor shall request and gain approval from the Engineer seventy-two (72) hours in advance of all long-term (24 hrs. or longer) lane closures.

Arterial lane closures not shown in the staging plans will not be permitted during peak traffic volume hours.

Peak traffic volume hours are defined as weekdays (Monday through Friday) from 6:00 AM to 8:30 AM and 4:30 PM to 6:00 PM.

Private vehicles shall not be parked in the work zone. Contractor's equipment and/or vehicles shall not be parked on the shoulders or in the median during non-working hours. The parking of equipment and/or vehicles on State right-of-way will only be permitted at locations approved by the Engineer in accordance with Articles 701.08 and 701.11 of the Standard Specifications.

Should the Contractor fail to completely open and keep open all the traffic lanes to traffic in accordance with the limitations specified above, the Contractor shall be liable to the Department for the amount of:

One lane or ramp blocked = \$ 1,000.00

Two lanes blocked = \$ 2,000.00

Not as a penalty but as liquidated and ascertained damages for each and every 15 minute interval or a portion thereof that a lane is blocked outside the allowable time limitations. Such damages may be deducted by the Department from any monies due the Contractor. These damages shall apply during the contract time and during any extensions of the contract time.

DETECTABLE WARNINGS

This work shall consist of the installation of pre-fabricated panel of truncated domes twenty-four inches (24") wide and varying in length on concrete sidewalk accessibility ramps at locations as directed by the Engineer.

Truncated domes shall be in accordance with Article 424.09 of the Standard Specifications. The domes shall parallel the pavement crosswalk in accordance with the latest Highway Standard. The panel shall be Red. The panel shall meet the requirements of ASTM C1028 – Slip Resistance and ASTM G155 – Accelerated Weathering.

The Detectable Warning Panel shall be one of the following products:

1. Duratek tile available from
Detectile Corporation
P.O. Box 3513
Oak Brook, IL 60523
Phone: (630) 734-0277

OR
2. High-Impact Polymer Wet-Set tile available from
TufTile, Inc.
1200 Flex Court
Lake Zurich, IL 60047
Phone: (888) 960-8897

OR
3. Armor-Tile Replaceable Cast-In Place System available from
White Cap Construction Supply
8124 W. 188th Street
Mokena, IL 60448
Phone: (815) 464-8828

The product and method used for installing detectable warnings shall come with the following documents which shall be given to the Engineer prior to installation:

- (a) Manufacturer's certification stating the product is fully compliant with ADAAG.
- (b) Manufacturer's five year warranty.
- (c) Manufacturer's specifications stating the required materials, equipment, installation procedures and conformance to ASTM C1028

This work will be paid for at the contract unit price per SQUARE FOOT for DETECTABLE WARNINGS.

TEMPORARY INFORMATION SIGNING

Effective: November 13, 1996

Revised: January 2, 2007

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

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

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

- 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 Requirements

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

Signs which are placed along the roadway and/or within the construction zone shall be installed according to the requirements of Article 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 feet edge to edge (horizontally and vertically).

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

Basis of Payment: This work shall be paid for at the contract unit price per square 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.

AGGREGATE SURFACE COURSE FOR TEMPORARY ACCESS

Effective: April 1, 2001

Revised: January 2, 2007

Revise Article 402.10 of the Standard Specifications to read:

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

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

- (a) Private Entrance. The minimum width shall be 12 ft (3.6 m). The minimum compacted thickness shall be 6 in. (150 mm). The maximum grade shall be eight percent, except as required to match the existing grade.
- (a) Commercial Entrance. The minimum width shall be 24 ft (7.2 m). The minimum compacted thickness shall be 9 in. (230 mm). The maximum grade shall be six percent, except as required to match the existing grade.

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

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

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

Add the following to Article 402.12 of the Standard Specifications:

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

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

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

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

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

CONCRETE NOISE ABATEMENT WALLS (ABSORPTIVE AND REFLECTIVE) (DIST 1)

Effective: September 5, 2008

Revised: January 12, 2011

This work shall consist of furnishing the design, shop drawings, materials, post anchorage, and construction of noise abatement walls (noise walls) according to these special provisions, the contract plans and and/or as directed by the Engineer.

General. The noise abatement walls shall consist of panels spanning between vertical posts supported by concrete foundations (ground mounted) or attached to/supported by another structure (structure mounted) as shown on the plans. The design, material, fabrication and construction shall comply with this Special Provision and the requirements specified by the noise wall supplier selected by the Contractor for use on this project. The walls shall have no omissions or gap except as detailed.

The Contractor shall verify the locations for proposed ground mounted wall for conflicts and realign or redesign the wall to avoid any conflicts. The Contractor shall inform the Engineer in writing of any conflicts before realigning or redesigning the wall.

Post spacing shall avoid existing and proposed underground utilities and storm sewers.

Wall components shall be fabricated and erected to produce a precast concrete reflective noise wall system and/or an absorptive noise reduction system at the locations indicated herein. The noise reduction system shall satisfy the acoustical requirements stated in these special provisions. An absorptive noise reduction system may be used as an alternate to a reflective noise wall system. Wooden walls will not be allowed as substitutes.

All appurtenances behind, in front of, under, over, mounted upon, or passing through, such as drainage structures, fire hydrant access, highway signage, emergency access, utilities, and storm sewers shall be accounted for in design of the wall.

Submittals. The Contractor shall prepare a wall and foundation design submittal and submit to the Engineer; the Department's Bureau of Bridges and Structures will review the submittal for approval. The noise walls shall be designed and constructed to extend to the minimum lines, grades and dimensions of the wall envelope, with no omissions or gaps, as shown on the contract plans and as directed by the Engineer.

Complete design calculations for wall panels, posts, foundations, and all connections and shop drawings shall be submitted to the Department for review and approval no later than 90 days prior to beginning construction of the wall. The time required for the preparation and review of these submittals shall be charged to the allowable contract time. Delays caused by untimely submittals or insufficient data will not be considered justifications for any time extensions. No additional compensation will be made for any additional material, equipment or other items found necessary to comply with the project specifications as a result of the Engineer's review. The Contractor will be required to submit the necessary shop drawings. All submittals shall be signed and sealed by a Structural Engineer licensed in Illinois and include, but not be limited to, the following items:

Submittals shall include all details, dimensions, quantities and cross sections necessary for the construction of the noise abatement walls and will include but not be limited to:

- (1) A plan view of the wall indicating the stations and offsets required to locate the drilled shaft foundations. The proposed foundation diameter(s) and spacing(s) shall be indicated with all changes to the horizontal alignment shown. Each panel and post shall be numbered and any changes in type or size shall be noted. The centerline of any utilities passing under the wall and locations of expansion joints, access doors, lighting, signing, curb cuts, and drainage structures shall also be shown.
- (2) An elevation view of the wall, indicating the elevations of the top of the posts and panels as well as the elevations of the bottom of the panels, tops of the shaft foundations, all steps in wall system, the finished grade line, and vertical clearances to existing utilities and storm sewers. Each post size and length, panel type and size, and foundation depth shall be designated.
- (3) A typical cross section(s) that shows the panel, post, foundation or bridge parapet, and the elevation relationship between existing ground conditions and the finished grade as well as slopes adjacent to the wall.
- (4) All general notes required for constructing the wall.
- (5) All details for the steps in the bottom of panels shall be shown. The bottom of the panels shall be located at or below the theoretical bottom of panel line shown on the contract plans. The theoretical bottom of panel line is assumed to be 8 in (200 mm) below the finished grade line at front face of the wall for ground mounted noise walls and at the top of the structure for structure mounted noise walls, unless otherwise shown on the contract plans.

- (6) Tops of the panels and posts shall extend to or above the theoretical top of wall line shown on the contract plans. All panel tops shall be cast and placed horizontally with any changes in elevation accomplished by stepping adjacent panel sections at posts. Steps shall not exceed 1 ft (300 mm) in height, except within the last 50 ft (15 m) where 2 ft (600 mm) steps will be permitted.
- (7) All panel types shall be detailed. The details shall show panel orientation, all dimensions necessary to cast and fabricate each type of panel, the reinforcing steel, and location of post or foundation connection hardware as well as lifting devices embedded in the panels and posts. The Noise Reduction Coefficient (NRC) of each panel of the absorptive face shall be noted.
- (8) All post types shall be detailed. The details shall show all dimensions necessary to cast and/or fabricate each type of post, the reinforcing steel, connecting plates, and anchorage details. Post spacing for walls shall be limited to a distance that does not over stress the supporting structure.
- (9) Details of wall panels with appurtenances attached to or passing through the wall, as shown on the contract plans, such as utilities, emergency access doors, framed openings, drainage structures, signs, etc. shall be shown. Any modifications to the design or location of these appurtenances to accommodate a particular system shall also be submitted.
- (10) All architectural panel treatment, including color, texture and form liner patterns shall be shown. All joints shall be placed horizontal or vertical.
- (11) The details for the connection between panels and posts as well as their connection to the foundation, independent beam, retaining wall, and/or bridge parapet shall be shown. Foundation details including details showing the dimensions, reinforcement and post anchorage system for the drilled shaft foundations shall be shown.
- (12) Testing, certifications and reports from independent laboratories showing that the panel's sound Transmission Loss (TL) and NRC for the panel and post deflection satisfy the criteria shown in the design criteria section of this specification. The testing for the flame spread, smoke density and freeze-thaw/salt scaling requirements described in the materials section of this specification shall also be submitted.
- (13) Manufacturer recommended installation requirements, a sequence of construction and a detailed bill of materials shall be included.
- (14) The color of the wall panels and support posts identified by Federal Standard 595-B color number.

The Contractor shall deliver to the Department, attention Mr. Rick Wanner (847-705-4172), a 2 ft x 2 ft (600 mm x 600 mm) sample of the colors, textures and patterns proposed for use on the project for approval. The samples must be made at the same plant that will be making the product for the noise walls under this contract and be representative of those which will be tested per this specification. Once the color sample is approved, a batch shall be designated by batch number and date and will remain the standard for the entire project.

The Contractor shall submit site access plans showing access and limits of the work areas for the installation of the wall. Any required traffic controls shall be according to the requirements in the special provision for TRAFFIC CONTROL PLAN.

The initial submittal shall include three (3) sets of shop drawings and calculations. One set of drawings will be returned to the Contractor with any corrections indicated. The Contractor shall do no work or ordering of materials for the structure until the Engineer has approved the submittal.

Design Criteria. The wall system shall be designed to withstand wind pressure, applied perpendicular to the panels in either direction, according to the AASHTO Guide Specifications for Structural Design of Sound

Barriers, 1989 and interims. The concrete and steel components shall be designed according to the AASHTO Standard Specifications for Highway Bridges with a design life of 35 years unless otherwise noted. The wall system shall be designed to withstand active earth pressure and live load surcharge at locations indicated on the plans. The contractor shall be responsible for the structural adequacy of the panels, posts, foundations and connections as well as overall wall overturning stability. Prestressed and/or post tensioned panel concepts will not be permitted.

The design wind loading shall be as specified on the plans but not less than 35 psf (1.7 kN/m²) when located on bridge structures, retaining walls or traffic barriers. This loading can be reduced to 25 psf (1.2 kN/m²) for ground mounted walls where it is located more than a distance equal to the height of the wall away from the edge of pavement. When a sound wall is also required to support earth pressures, the service design active earth pressure shall be based on an equivalent fluid pressure of 40 pounds per cubic foot (641 kg/m³) and a live load surcharge pressure equal to not less than 2 feet (600 mm) of earth pressure. The earth pressure fill height shall be defined by the proposed grade line elevation and the theoretical bottom of panel line.

For ground mounted walls, Reinforcement of the concrete foundation shafts shall consist of a minimum of 8-#5 (#15) vertical bars symmetrically placed and tied with #3 (#10) ties at 6 in. (150 mm) centers. An additional tie shall be provided at the top and bottom of the foundation. As an alternative to the ties, a #3 (#10) spiral at a 6 in. (150 mm) pitch with an additional 1 1/2 turns at the top and bottom of the foundation or an equivalent 4 x 4 – W12.3 x W7.4 welded wire fabric may be substituted. The post shall be connected to the foundation by embedding the post inside the concrete foundation shaft. Embedded posts shall extend into the foundation shafts a minimum of 80 percent of the shaft length. The posts may alternatively be mounted to the foundation shafts with base plates and anchor bolts as required by design. The minimum number of anchor bolts per post shall be 4-1 in. (M24) diameter bolts with a minimum embedment of 18 in. (450 mm).

The material and construction of the foundations (drilled shafts) for ground mounted noise walls shall be according to Section 516 except that the payment for the drilled shaft and reinforcement will be included with the payment for the NOISE ABATEMENT WALL, GROUND MOUNTED.

The shaft foundation dimensions shall be determined using Broms method of analysis. Soil borings from prior soil investigations are shown in the plans. The design shall utilize a factor of safety of 2.0, applied to the soil shear strength if cohesive or the unit weight if granular, and account for the effects of a sloping ground surface and water table indicated on the plans. The following should be assumed for the foundation design:

Effective unit weight	70 pcf (1120 kg/m ³)
Internal friction angle	30 degrees
Cohesion intercept	0 ksf (0 kg/m ³)

The post spacing for structure mounted noise walls shall be as shown on the plans but in no case greater than 15 feet (4.6 m) center to center. Except where otherwise indicated on the plans, the maximum post spacing for ground mounted noise walls shall be as specified in the Contractor's approved design.

The maximum allowable panel deflection shall be no more than the panel length (L) divided by 240 (L/240). The vertical posts shall have a maximum deflection of (H/180) where H is the height of the post above the foundation. A lateral load report shall be submitted to the Engineer indicating that the above noted design lateral loads can be applied to the panels and/or posts without exceeding noted deflection tolerance. The test shall apply lateral loads to the panel simulating uniform wind pressure.

The design shall account for the presence of all appurtenances mounted on or passing through the wall such as drainage structures, existing or proposed utilities, emergency access doors and other items.

Corrugations, ribs or battens on the panel must be oriented vertically when erected. The panels shall be

designed to prevent entrapment and ponding of water. The walls shall not have openings allowing the perching or nesting of birds or the collection of dirt, debris or water.

The walls shall not have handholds or grips promoting climbing of the walls. Any bolts or fasteners used to connect material to the supporting panel, posts, or foundations shall be recessed or embedded in concrete, hidden from view and weather exposure. No external mechanical fastening devices such as frames or clips shall be used for these connections. The post to foundation connection shall utilize a corrosion protection system that is designed to last 75 years.

The noise abatement material shall be designed to achieve a sound TL equal to or greater than 20 dB in all one-third octave bands from 100 hertz to 5000 hertz, inclusive, when tested according to ASTM E-90. The sound absorptive material shall have a minimum NRC as indicated in Table 1.

Table 1

Noise Wall No.	From	To	Noise Wall Side	NRC	Comments
Wall C.1	507+27.68	508+90.09	Roadway	0.70	Only Roadway side is required to be Absorptive
	507+27.68	522+63.00	Residential	N/A	
Wall D.2	516+00.00	522+63.00	Roadway	0.70	Only Roadway side is required to be Absorptive
	516+00.00	522+63.00	Residential	N/A	
Wall E	523+67.00	529+70.00	Roadway	0.70	Only Roadway side is required to be Absorptive
	523+67.00	529+70.00	Residential	N/A	
Wall F.1	529+67.00	531+13.00	Roadway	0.70	Only Roadway side is required to be Absorptive
	529+67.00	531+13.00	Residential	N/A	
Wall F.2	532+13.00	535+16.00	Roadway	0.70	Only Roadway side is required to be Absorptive
	532+13.00	535+16.00	Residential	N/A	
Wall G	530+58.40	537+73.00	Roadway	0.70	Only Roadway side is required to be Absorptive
	530+58.40	537+73.00	Residential	N/A	

The NRC shall be determined per ASTM E795, tested according to ASTM C423 (mounting type A). The ratio of noise absorptive material on the panel surface to total wall area (including posts) shall be greater than 90 percent. NRC testing shall be performed on coated samples, utilizing the stain that will be applied for color.

Materials. Noise wall materials shall conform to the supplier's standards, AASHTO Specifications for noise walls and the following:

- (a) Reinforcement bars shall satisfy ASTM A706 Grade 60 (400). Welded wire fabric shall be according to AASHTO M 55.
- (b) Anchor bolts shall conform to ASTM F1554 Grade 55 or 105.
- (c) The precast elements shall be according to applicable portions of Section 1042 (Exception: Coarse Aggregate shall meet the requirements of Article 1004.02(f)). Additionally, dry cast concrete element will not be permitted. Wooden or steel materials will not be allowed as substitutes for the panels.
- (d) For sound absorptive panels, the manufacturer shall provide test information from an independent lab that the panels are durable. This information shall be either a freeze/thaw test according to AASHTO T 161 (ASTM C 666) Procedure A or B, or it shall be a salt scaling test according to ASTM C 672.

For the freeze/thaw test, a minimum of three specimens shall have been tested. The maximum weight (mass) loss after 300 cycles shall be 7.0 percent. The panel shall have no cracks, delamination (applies to composite material panel), or other excessive physical distress upon completion of the test.

For the salt scaling test, the test method shall be modified as outlined in Appendix D of the Guidelines for Evaluating the Performance of Highway Sound Barriers by the Highway Innovative Technology Evaluation Center (HITEC), A Service Center of the Civil Engineering Research Foundation, CERF REPORT: HITEC 96-04, Product 24 (October 1996). The maximum weight (mass) loss after 50 cycles using a 3 percent sodium chloride solution shall be 0.2 psf (0.1 kg/m²). The panel shall have no cracks, delamination (applies to composite material panel), or other excessive physical distress upon completion of the test.

For sound reflective panels, evidence of durability by one of the two previously mentioned tests is required for all materials except Class PC concrete.

- (e) The manufacturer for the noise abatement wall shall provide their quality control plan for testing the product, and test results shall be provided upon request by the Engineer. Manufacturers on the Approved List of Certified Precast Concrete Producers who are approved for noise abatement walls will be considered in compliance with this requirement.
- (f) Steel plates and posts shall conform to AASHTO M 270 (M 270 M) Grade 36 (250) or 50 (345). All portions of the post shall be galvanized according to AASHTO M111 and ASTM A385. Steel bolts, nuts, washers and anchor bolts shall be galvanized according to AASHTO M232. The portion of steel posts exposed to view shall then be painted with a paint system in the shop according to the special provision for Surface Preparation and Painting of Galvanized Steel Traffic Structures. The cost for Surface Preparation and Painting of Galvanized Steel Traffic Structures shall be included in the contract unit price for NOISE ABATEMENT WALL of the type required. The color of the paint system shall closely match the panels.
- (g) Lifting inserts cast into the panels shall be hot dipped galvanized.
- (h) Non shrink grout shall be according to Article 1024.
- (i) The color of both sides of the panels, posts and other visible elements shall be a light brown earth tone unless stated otherwise on the contract plans. Colors shall be achieved through the use of integral pigments or stains, which are in compliance with the environmental regulation of the State of Illinois. Components manufactured with integral pigment shall be tested and certified in conformance to ASTM C979. Stains shall be non film forming, penetrating stains. Stains shall be applied to concrete at the cured age of the manufacturer's recommendation. Surface preparation and application shall be according to manufacturer written recommendations. Coloring of concrete elements shall be

accomplished using a single component water based, sound absorptive, penetrating, architectural stain that is weather resistant. Stains and/or pigments must be applied at the manufacturing plant; application in the field on site will not be allowed. The final color shall be consistent with the quality and appearance of the approved sample.

- (j) The finish shall consist of a rolled Ashlar Stone finish and shall have a minimum 0.75 in (19 mm) impression.
- (k) With the exception of the steel and Portland cement concrete elements of the wall, all materials shall be tested for flame spread and smoke density developed according to ASTM E84. The material must exhibit a flame-spread index less than 10 and a smoke density developed value of 10 or less.

Fabrication. All precast units shall be manufactured according to Section 504 and the following requirements and tolerances with respect to the dimensions shown on the approved shop drawings.

- (a) The minimum reinforcement bar cover shall be 1 1/2 in (40 mm).
- (b) All reinforcement shall be epoxy coated
- (c) Panel dimensions shall be within 1/4 in (6 mm).
- (d) All hardware embedded in panels or posts shall be within 1/4 in (6 mm).
- (e) Angular distortion with regard to panel squareness, defined as the difference between the two diagonals, shall not exceed 1/2 in (13 mm).
- (f) Surface defects on formed surfaces measured on a length of 5 ft (1.5 m) shall not be more than 0.10 in (2.5 mm).
- (g) Posts shall be installed plumb to within 1/2 in (13 mm) of vertical for every 15 ft (5 m) of height and to within 1/2 in (13 mm) of the station and offset indicated on the approved shop drawings.
- (h) Drilled shaft foundations shall be placed within 2 in (50 mm) of the station and offset indicated on the approved shop drawings.
- (i) Panel reinforcement and lifting devices shall be set in place to the dimension and tolerances shown on the plans and these special provisions prior to casting.

The date of manufacture, the production lot number, and the piece-mark shall be clearly noted on each panel.

Absorptive material shall be permanently attached to their supporting elements and no external mechanical fastening systems such as frames or clips shall be used. Any bolts or fasteners used shall be recessed or embedded below the surface.

The panels, posts and other visible elements shall be fabricated with a light brown earth tone color following the procedures noted in the materials section of this special provision unless otherwise shown on the contract plans.

Any chipping, cracks, honeycomb, or other defects, to be allowed, shall be within acceptable standards for precast concrete products according to Section 1042.

Construction. The Contractor shall obtain technical assistance from the supplier during wall erection to demonstrate proper construction procedures and shall include any costs related to this technical assistance in the contract unit price for Noise Abatement Wall of the type specified. The instructions

provided by the wall supplier are guidelines and do not relieve the contractor of the responsibility to adhere to contract requirements.

It is recommended that all bottom panels be installed for a length of wall prior to placing middle or top panels. After bottom panels are in-place, finish grading can be accomplished with heavy equipment by reaching over the in-place panels.

Site excavations and/or fill construction shall be completed to plan elevations and profiles prior to the start of wall foundation construction. All underground utility or drainage structure installation shall be completed prior to foundation installation. The ground elevations as shown on the plans and the approved noise wall shop drawings shall be verified by the contractor and discrepancies corrected prior to material fabrication. Buried utilities shall be marked to verify proper clearance from the drilled foundations. The Contractor should consider overhead obstruction such as electric and telephone wires prior to wall erection.

All drilled shaft excavations shall be filled with concrete within 6 hours of their initiation. The concrete for the drilled shaft foundations shall be placed against undisturbed, in-place soils. The concrete at the top of the shaft shall be shaped to provide the panels on each side of the post adequate bearing area and correct elevation per the approved shop drawings.

The panels shall be delivered to the project site in full truckload quantities. They may be off-loaded individually or by forklift with a solid steel plate spanning between the forks. Providing uniform, fully distributed bearing support to the underside of the panels. Units shall be shipped, handled and stored in such a manner as to minimize the danger of staining, chipping, spalling, development of cracks, fractures, and excessive bending stresses. Panels shall be stored and shipped in bundles, on edge. Any touch up and repair is at the Contractor's expense and shall be carried out according to the manufacturer's recommendations or as directed by the Engineer.

Method of Measurement. Noise abatement walls will be measured in square feet (square meters) from the wall envelope, defined by the theoretical top of wall line to the theoretical bottom of wall line for the length of the wall as shown on the contract plans.

Basis of Payment. This work will be paid for at the contract unit price per square foot (square meter) for NOISE ABATEMENT WALL, GROUND MOUNTED.

EMBANKMENT II

Effective: March 1, 2011

Revised: November 1, 2013

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

Material. Reclaimed asphalt shall not be used within the ground water table or as a fill if ground water is present. The RAP used shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications". Gradation deleterious count shall not exceed 10% of total RAP and 5% of other by total weight.

CONSTRUCTION REQUIREMENTS

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

Placing Material. In addition to Article 202.03, broken concrete, reclaimed asphalt with no expansive

aggregate, or uncontaminated dirt and sand generated from construction or demolition activities shall be placed in 6 inches (150 mm) lifts and disked with the underlying lift until a uniform homogenous material is formed. This process also applies to the overlaying lifts. The disk must have a minimum blade diameter of 24 inches (600 mm).

When embankments are to be constructed on hillsides or existing slopes that are steeper than 3H:1V, steps shall be keyed into the existing slope by stepping and benching as shown in the plans or as directed by the Engineer.

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

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

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

Stability. The requirement for embankment stability in article 205.04 will be measured with a Dynamic Cone Penetrometer (DCP) according to the test method in the IDOT Geotechnical Manual. The penetration rate must be equal or less than 1.5 inches (38 mm) per blow.

Basis of Payment. This work will not be paid separately but will be considered as included in the various items of excavation.

EXPLORATION TRENCH, SPECIAL

Description.

This work shall be in accordance with Section 213 of the Standard Specifications insofar as applicable and noted herein.

Revise Article 213.01 to read:

“This work shall consist of excavating a trench at locations as directed by the Engineer for the purpose of locating existing sewer lines, water mains, sanitary sewers and other utilities within or adjacent to the proposed project limits.”

Revise the second paragraph of Article 213.02 to read:

“The trench shall be deep enough to expose the sewer lines, water mains, sanitary sewers or other utilities. The width of the trench shall be sufficient to allow proper investigation to determine if the existing facility needs to be adjusted.

The Contractor shall familiarize himself with the locations of all underground utilities of facilities as outlined in applicable Articles 105 of the Standard Specifications and shall save such facilities from damage.”

Revise the fourth paragraph of Article 213.02 to read:

“The exploration trench shall be backfilled with trench backfill meeting the requirements of the Standard Specifications, the cost of which shall be included in the item EXPLORATION TRENCH, SPECIAL.”

Method of Measurement.

This work shall be measured in place and measured per lineal FOOT. Payment shall be based on actual length of trench explored without change in unit price because of adjustment in plan quantities due to field conditions.

An estimated length of EXPLORATION TRENCH, SPECIAL has been shown in the Summary of Quantities to establish a unit price, and payment shall be based on actual length of trench explored without change in unit price because of adjustment in plan quantities. This work shall be measured in accordance with Article 213.03.

Basis of Payment.

This work will be paid for at the contract unit price per FOOT for EXPLORATION TRENCH, SPECIAL and no extra compensation will be allowed for any delays, inconvenience or damage sustained by the Contractor in performing this work. This price shall include excavation, backfill, and disposal of excess material.

FENCE REMOVAL

This work shall consist of removing and disposing of various types of fencing at various locations shown on the plans and as directed by the Engineer. The Contractor shall remove all underground post materials and foundations at no additional cost.

Method of Measurement: This work shall be measured for payment per lineal foot of fence removed.

Basis of Payment: This work shall be paid for at the contract unit price per lineal foot for FENCE REMOVAL, which price shall be full compensation for all labor and equipment required for performing the work as herein specified.

FENCE (SPECIAL)

Description: This work will consist of furnishing and installing a wooden fence with galvanized (zinc) coated steel posts in locations shown on the plans, details and as specified herein. A shop drawing shall be submitted by the contractor for approval.

Construction Requirements: The fence material shall be wood and 6 feet in height. The posts shall be galvanized (zinc) coated steel manufactured by Master Halco and be model PostMaster with dimensions of 3-1/2"x1-3/4".

Measurement and Payment: The work shall be paid for at the contract unit price per foot for FENCE (SPECIAL) which price shall include connections to existing and proposed fence(s), post foundations (if required), post excavation and all equipment, labor and materials required to complete this work.

STUMP REMOVAL

Description. This work shall consist of the cutting, grubbing, removal, and disposal of stumps, as hereinafter defined in accordance with the applicable portions of Section 201 of the Standard Specifications, and as specified herein.

Definitions. Tree stump – The remaining portion of a tree (as defined in Article 201.02) that has been cut off at or near ground level and the remaining portion of a tree (as defined in Article 201.02) where a substantial portion of the tree trunk remains but almost all of the tree limbs have been removed during utility relocation construction. A multiple-stem tree stump that forks below the 4.5 ft point of measurement will be considered a cluster of individual stumps. A multiple-stem tree stump that forks at or above the 4.5 ft point of measurement will be considered a single tree stump.

Tree stumps will not be considered as trees for purposes of measurement and removal.

Tree stumps removed during the performance of the work for tree removal will not be measured and paid

for separately.

Method of Measurement. This work will be measured for payment per unit of diameter where one unit is equal to 1 in. The diameter will be measured at a point 4.5 ft above the highest ground level at the base of the tree stump or at the elevation of cut off, whichever is lower, and will be determined by dividing the measured circumference of the tree stump by 3.1416.

Basis of Payment. This work will be paid for at the contract unit price per unit diameter for STUMP REMOVAL ONLY

PLANTING WOODY PLANTS

This work shall consist of planting woody plants as specified in Section 253 of the Standard Specifications with the following revisions:

Delete Article 253.03 Planting Time and substitute the following:

Spring Planting. This work shall be performed between March 15th and May 31st except that evergreen planting shall be performed between March 15th and April 30th in the northern zone.

Add the following to Article 253.03 (a) (2) and (b):

All plants shall be obtained from Illinois Nurserymen's Association or appropriate state chapter nurseries. All trees and shrubs shall be dug prior to leafing out (bud break) in the spring or when plants have gone dormant in the fall, except for the following species which are only to be dug prior to leafing out in the spring:

- Maple (Acer spp.)
- Serviceberry (Amelanchier spp.)
- Hackberry (Celtis occidentalis)
- Hawthorn (Crataegus spp.)
- Crabapple (Malus spp.)
- Oak (Quercus spp.)
- Baldcypress (Taxodium distichum)

Fall Planting. This work shall be performed between October 1st and November 30th except that evergreen planting shall be performed between August 15th and October 15th.

Planting dates are dependent on species of plant material and weather. Planting might begin or end prior or after above dates as approved by the Engineer. Do not plant when soil is muddy or during frost. No plant material shall be installed prior to the final grade of the planting soil. Trees must be installed first to establish proper layout and to avoid damage to other plantings.

Add the following to Article 253.05 Transportation:

Cover plants during transport. Plant material transported without cover shall be automatically rejected.

Delete the third sentence of Article 253.07 and substitute the following:

The Contractor shall be responsible for all plant layout. The layout must be performed by qualified

personnel. The planting locations must be laid out as shown in the landscape plan. This will require the use of an engineer's scale to determine some dimensions. Tree locations within each planting area shall be marked with a different color stake/flag and labeled to denote the different tree species. Shrub beds limits must be painted. The Engineer will contact the Roadside Development Unit at (847) 705-4171 to approve the layout prior to installation. Allow a minimum of seven (7) working days prior to installation for approval.

Delete Article 253.08 Excavation of Plant Holes and substitute the following:

Protect structures, utilities, sidewalks, knee walls, fences, pavements, utility boxes, other facilities, irrigations systems, lawns and existing plants from damage caused by planting operations.

Holes for trees shall be dug at the location indicated by the marking stakes. Holes for shrubs shall be dug within the marked outline of the planting bed. The spacing of plants will be designated on the plans. Spacing shall be measured form center-to-center, and alternate rows shall be staggered.

Excavate with sides vertical, bottom flat but with high center for drainage. Deglaze sides. The planting hole shall be twice the diameter of the root ball if possible, but in no case shall the hole be less than twelve (12) inches wider. Any soil covering the tree's root flair shall be removed to expose the crown, along with any secondary root growth, prior to planting. Remove all excavated subsoil from the site and dispose as specified in Article 202.03. The excavated material shall not be stockpiled on turf or in ditches.

Delete the third and fourth paragraphs of Article 253.10 Planting Procedures and Article 253.10 (a) and substitute the following:

Trees, shrubs, and vines shall be thoroughly watered with a method approved by the Engineer. Approved watering equipment shall be at the site of the work and in operational condition PRIOR TO STARTING the planting operation and DURING all planting operations OR PLANTING WILL NOT BE ALLOWED.

Set plants in the excavated hole with crown of the root ball 2 to 3 inches above existing grade leaving the trunk flare visible at the top of the root ball. Add topsoil as required under ball to achieve plumb. Remove all twine, rope, burlap and wire baskets from top half (1/2) of the root ball. The remaining burlap shall be loosened and scored to provide the root system quick contact with the soil. All ropes or wires shall be removed from the root ball and tree trunk.

In most cases, the backfill around the root ball shall be the same soil that was removed from the hole unless it is unsuitable for planting. Where rocks, gravel, heavy clay, debris or other unsuitable soils are encountered, clean top soil shall be used. Do not backfill excavation with subsoil. Topsoil furnish and place, special will be used instead of unsuitable material. See specification for Topsoil Furnish and Place, Special.

The hole shall be half (1/2) filled with soil firmly packed, then saturated with water. After the water has soaked in, more soil shall be added to the top of the hole, and then the hole shall be saturated again. Maintain plumb during backfilling. Visible root flair shall be left exposed, uncovered by the addition of soil. By mounding up the soil around the hole, create a 4" saucer beyond the edge of the root ball to hold future water.

Delete Article 253.11 and substitute the following:

Within 48 hours after planting, mulch shall be placed around all plants in the entire mulched bed or at the base of each tree to its dripline specified to a depth of 3 inches. No weed barrier fabric will be required for tree and shrub planting. Pre-emergent Granular Herbicide will be used instead of weed barrier fabric. The Pre-emergent Granular Herbicide shall be applied prior to mulch placement. See specification for Weed Control, Pre-Emergent Granular Herbicide.

The mulch shall consist of wood chips or shredded tree bark free not to exceed two (2) inches in its largest dimension, free of foreign matter, sticks, stones, and clods. A sample and request for material inspection form must be supplied to the Engineer for approval prior to performing any work.

Care shall be taken not to bury leaves, stems, or vines under mulch material. The mulch shall be pulled away 6 inches from the tree trunk, allowing the root flair at the base of the tree to be exposed and free of mulch contact. All finished mulch areas shall be left smooth and level to maintain uniform surface and appearance. After the mulch placement, any debris or piles of material shall be immediately removed from the right of way, including raking excess mulch out of turf areas.

Delete Article 253.12 Wrapping and substitute the following:

Any paper or cardboard trunk wrap must be removed before placing the tree in the tree hole in order to inspect the condition of the trunks. Within 48 hours, "A layer of commercial screen wire mesh shall be wrapped around the trunk of all deciduous trees. The screen wire shall be secured to itself with staples or single wire strands tied to the mesh. Trees shall be wrapped at time of planting, before the installation of mulch. The lower edge of the screen wire shall be in continuous contact with the ground and shall extend up to the lowest major branch.

Add the following to Article 253.13 Bracing:

Trees required to be braced shall be braced within 24 hours of planting.

Add the following to the first paragraph of Article 253.14 Period of Establishment:

Prior to being accepted, the plants shall endure a period of establishment. This period shall begin in April and end in December of the same year.

Delete the last sentence of the first paragraph of Article 253.15 Plant Care and substitute the following:

This may require pruning, cultivating, tightening and repairing supports, repair of wrapping, and furnishing and applying sprays as necessary to keep the plants free of insects and disease. The Contractor shall provide plant care a minimum of every week, or within 3 days following notification by the Engineer. All requirements for plant care shall be considered as included in the cost of the contract.

Delete the first paragraph of Article 253.15 Plant Care (a) and substitute the following:

During plant care additional watering shall be performed at least every week during the months of May through December or within 36 hours following notification by the Engineer. The contractor shall apply a minimum of 40 gallons of water per tree, 30 gallons per large shrub, 15 gallons per small shrub, and 3 gallons per vine. The Engineer may direct the Contractor to adjust the watering rate and frequency depending upon weather conditions.

Add the following to Article 253.15 Plant Care (c):

The contractor shall correct any vine growing across the ground plane that should be growing up desired vertical element (noise wall, retaining wall, fence, kneewall, etc.). Work may include but is not limited to carefully weaving vines through fence and/or taping vines to vertical elements.

Add the following to Article 253.15 Plant Care (d):

The contractor shall inspect all trees, shrubs, and vines for pests and diseases at least every two weeks during the months of initial planting through final acceptance. Contractor must identify and monitor pest and diseases and determine action required to maintain the good appearance, health and, top performance of all plant material. Contractor shall notify the Engineer with their inspection findings and recommendations within twenty-four hours of findings. The recommendations for action by the Contractor must be reviewed by the Engineer for approval/rejection. All approved corrective activities will be considered as included in the cost of the contract and shall be performed within 48 hours following notification by the Engineer.

Delete Article 253.17 Basis of Payment and substitute the following:

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

- (a) Initial Payment. Upon completion of planting, mulch covering, wrapping, and bracing, 75 percent of the pay item(s) will be paid.
- (b) Final Payment. Upon inspection and acceptance of the plant material, or upon execution of a third party bond, the remaining 25 percent of the pay item(s) will be paid.”
- (c) The placement of Pre-emergent Herbicide shall be paid for at the contract unit price for WEED CONTROL, PRE-EMERGENT GRANULAR HERBICIDE.
- (d) The placement of Topsoil Furnish and Place, Special shall be paid for at the contract unit price for TOPSOIL FURNISH AND PLACE, SPECIAL.

REQUIRED INSPECTION OF WOODY PLANT MATERIAL

Delete Article 1081.01(a)(5) and substitute the following:

The place of growth for all material, and subsequent inspection, must be located within 200 miles of the project.

Delete Article 1081.01(c)(1) and substitute the following:

Inspection of plant material will be made at the nursery by the Engineer, or a duly authorized representative of the Department; all plant material must be in the ground of the nursery supplying the material.

The Contractor shall provide the Engineer a minimum of 50 calendar days advance notice of the plant material to be inspected. Written certification by the Nursery will be required certifying that the plants are true to their species and/or cultivar specified in the plans.

The Department reserves the right to place identification seals on any or all plants selected. No trees shall be delivered without IDOT seal. Plant material not installed within 60 days of initial inspection will be required to be re-inspected.

PLANTING PERENNIAL PLANTS

Effective: January 1, 2014

Revised: July 31, 2013

Revise Article 254 of the Standard Specifications to read:

Article 254.05 Layout of Planting.

The Contractor shall place the marking flags and outline each area for mass or solid planting. The Engineer will contact the Roadside Development Unit at (847) 705-4171 prior to planting to verify the layout. Allow a minimum of seven (7) working days prior to installation for approval.

Article 254.06 Planting Procedures.

Disposal of sod and debris (rock, stones, concrete, bottles, plastic bags, etc.) shall be removed from the perennial planting bed as specified in Article 202.03.

(b) When planting perennials in bed areas shown on the plans or as directed by the Engineer, the following work shall be performed prior to placement of mulch:

(1) Spade a planting bed edge at approximately a 45 degree angle and to a depth of approximately 3-inches (75 mm) around the perimeter of the perennial bed. Remove any debris created in the spade edging process and dispose of as specified in Article 202.03.

(2) Pre-emergent Herbicide shall be used in the perennial beds prior to the placement of mulch. See specification for Weed Control, Pre-emergent Herbicide.

(3) Compost Furnish and Place shall be applied to the planting beds to a depth of 2-inch (100 mm) than tilled into the soil to a depth of 6-inches (150 mm) to amend the existing topsoil.

(4) Coarse Sand (FA2) 28 lbs/sq. ft. (140 kg/sq m) shall be placed on the planting beds to a depth of 2-inch (100 mm) then tilled into the soil to a depth of 6-inches (150 mm) to amend the existing topsoil.

254.08 Period of Establishment. Period of Establishment for the various types of perennial plants shall be as follows.

(b) Perennial plants must undergo a 30-day period of establishment. Additional watering shall be performed at least twice a week for four weeks following installation. Water shall be applied at the rate of 2 gallons per square foot. Should excess moisture prevail, the Engineer may delete any or all of the additional watering cycles. In severe weather, the Engineer may require additional watering.

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

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

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

At the end of the period of establishment, the Contractor will be permitted to replace any unacceptable plants and shall thoroughly weed all the beds.

254.09 Method of Measurement.

Pre-emergent Herbicide will be measured for payment as specified in Weed Control, Pre-emergent Granular Herbicide.

Compost Furnish and Place will be measured for payment as specified in Art. 211.07.

Coarse Sand (FA2) will be measured for payment as specified in Coarse Sand Placement.

254.10 Basis of Payment. This work will be paid for at the contract unit price per unit for PERENNIAL PLANTS, of the type and size specified.

Selective mowing stakes will be paid for at the contract unit price per each for SELECTIVE MOWING STAKES.

Pre-emergent Herbicide will be paid for as specified in WEED CONTROL, PRE-EMERGENT HERBICIDE.

Compost Furnish and Place will be paid for as specified in Art. 211.08.

Coarse Sand (FA2) will be paid for as specified in COARSE SAND PLACEMENT.

Payment for Shredded Mulch shall be included in contract unit price of the perennial plant pay item.

COARSE SAND PLACEMENT

Description: This work shall consist of furnishing, transporting, spreading, and incorporating Coarse Sand (FA 2) into the soil in areas shown on the plans and as directed by the Engineer.

Materials: Materials shall meet the requirements of the following Article of Section 1000-Materials:

Item	Article/Section
(a) Fine Aggregate.....	1003.04

Method: Coarse Sand shall not be placed until the area designated has been shaped, trimmed, and finished in accordance with Section 212 of the Standard Specifications and any required placement of Topsoil has been completed. Prior to Coarse Sand placement, the area shall be disked or raked to a minimum depth of 4 inches (100 mm) and all debris and loose stones removed. The grades and condition of the area must be approved by the Engineer prior to Coarse Sand placement.

After the Coarse Sand has been incorporated into the soil, any debris or piles of unincorporated material shall be immediately removed from the right-of-way and the area finished to the lines and grades shown on the plans and approved by the Engineer. Disposal of material shall be done in accordance with Article 202.03.

Method of Measurement: Coarse Sand Placement will be measured in square yards (square meters) at the location shown in the plans and as directed by the Engineer prior to incorporation into the soil.

Basis of Payment: This work will be paid for at the contract unit price per square yards for COARSE SAND PLACEMENT of the thickness specified. Payment shall include all costs for materials, equipment, and labor necessary to complete the work as specified.

GENERAL REQUIREMENTS FOR WEED CONTROL SPRAYING

Experience.

The Contractor shall have previous experience with the use of weed control chemicals in the ecological restoration/management of wetland and prairie areas. She/he shall have had at least three (3) season's experience in the use of their chemicals in spraying natural areas and demonstrate the ability to identify and differentiate between targeted weeds and vegetation to remain to the satisfaction of the Engineer. Most herbicide applications shall be made with hand-held equipment. The use of boom sprayers, vehicle mounted sprayers, and similar equipment shall be permitted as directed by the Engineer. The Contractor shall observe and comply with all sections of the Illinois Custom Spray Law, including licensing.

Equipment.

The equipment used shall consist of a vehicle-mounted tank, pump, spray bar and handgun, plus any other accessories needed to complete the specified work. Spraying shall be done through multiple low-pressure flooding or broad jet nozzles mounted on spray bars operated not more than 36" above the ground. If different sizes or types of nozzles are used to make up the spray pattern, the pressure, sizes and capacities shall be adjusted to provide a uniform rate of application for each segment of the spray pattern. Hand spray guns may be used for spraying areas around traffic control devices, lighting standard and similar inaccessible areas. Maximum speed of the spray vehicle during application of chemical shall be five (5) miles per hour.

Pumps used shall have a volume and pressure capacity range sufficient to deliver the mixture at a pressure to provide the required coverage and to keep the spray pattern full and steady without pulsation or excessive pressure as to cause fogging. Maximum pressure for application shall be 15 PSI. Quick acting shut-off valves and spring-loaded ball check valves shall be provided to stop the spray pattern with a minimum of nozzle drip. In areas where the spray vehicle must traverse the right-of-way, a four-wheel drive vehicle with flotation tires will be required to minimize damage to the ground surface.

Prior to beginning work, the Contractor shall obtain approval from the Engineer of the spraying equipment proposed for completing this work. The proposed equipment shall be in an operational condition and available for inspection by the Engineer at least two (2) weeks prior to the proposed starting time. If requested by the Engineer, the Contractor shall demonstrate the calibration of the equipment.

The equipment must provide consistently uniform coverage and keep the spray mixture sufficiently agitated or the work will be suspended until the equipment is repaired or replaced.

Spraying Areas.

This work includes roadsides and other types of right-of-way of various widths and gradients. Spray areas often extend more than thirty (30) feet from the edge of the roadway, requiring both spray bar and hand gun applications.

When the description of work requires weed control of a stated species, such as teasel, the chemical shall be applied only to locations where the stated species is present. When the

description of work requires general weed control within a bed or area, such as broadleaf weed control in turf, then the chemical shall be applied to the entire bed or area.

Exclusion of Spraying Areas.

Areas where weed control spraying is inappropriate or detrimental to the environment, desirable planting, or private property shall be excluded from the spray area.

Spraying will not be permitted over any drainage swales or waterways, or other areas where the chemical label prohibits application. Spraying within 150 feet of a natural area or site where endangered or threatened species occur.

Responsibility for Prevention of Damage to Private Property.

The Contractor shall, at all times, exercise extreme caution to prevent damage to residential plantings, flower or vegetable gardens, vegetable crops, farm crops, orchard or desirable plants adjacent to the roadside.

If the Contractor or Department receives a complaint, the Contractor shall address the complaint within ten (10) days after receiving a claim for damages, either in person or by letter. The Contractor, or his authorized representative, shall make a personal contact with the complainant within twenty (20) days. The Engineer shall also be notified by the Contractor of all claims for damage he received and shall keep the Engineer informed as to the progress in arriving at a settlement for such claims.

Communication with the Engineer.

The Contractor is required to communicate with the Engineer to receive all required approvals in a timely way and to assure that the Engineer can accurately document the work performed.

It shall be the Contractor's responsibility to assure that all chemical containers are opened and added to the spray mixture in the presence of the Engineer.

The Contractor shall obtain approval from the Engineer to proceed with spraying at each location 24 hours prior to the proposed spray operations.

WEED CONTROL, PRE-EMERGENT GRANULAR HERBICIDE

Description: This work shall consist of spreading a pre-emergent granular herbicide in place of weed barrier fabric 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.

Delete Article 253.11 and substitute the following:

Within 48 hours after planting, mulch shall be placed around all plants in the entire mulched bed or saucer area specified to a depth of 4 inches (100 mm). No weed barrier fabric will be required for tree and shrub planting. Pre-emergent Herbicide will be used instead of weed barrier fabric. The Pre-emergent Herbicide shall be applied prior to mulching. Mulch shall not be in contact with the base of woody stems or trunks.

Materials: The pre-emergent granular herbicide 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 application.

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 (112 kg/ha) or 2.3 lbs/1000 sq. ft. (11.2 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 measured for payment.

Basis of Payment: This work will be paid for at the contract unit price per pound (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

Scope: This work will include watering turf, trees, shrubs, vines and perennial plants at the rates specified and as directed by the Engineer.

Schedule: Watering will only begin after the successful completion of all period of establishment requirements. Water trees every 10 days throughout the growing season (April 1 to November 30). The Engineer may direct the Contractor to adjust the watering rate and frequency depending upon weather conditions.

Watering must be completed in a timely manner. Water trees before trees show signs of water stress. When the Engineer directs the Contractor to do supplemental watering, the Contractor must begin the watering operation within 24 hours of notice. A minimum of 10 units of water per day must be applied until the work is complete.

Should the Contractor fail to complete the work on a timely basis or within such extended times as may have been allowed by the Department, the Contractor shall be liable to the Department in the amount of \$50.00 per tree per day, \$25.00 per shrub per day, \$15.00 per vine per day, and \$15.00 per perennial per day not as penalty but as liquidated damages, for each calendar day or a portion thereof of overrun in the contract time or such extended time as may have been allowed.

In fixing the damages as set out herein, the desire is to establish a mode of calculation for the work since the Department's actual loss, in the event of delay, cannot be predetermined, would be difficult of ascertainment, and a matter of argument and unprofitable litigation. This said mode

is an equitable rule for measurement of the Department's actual loss and fairly takes into account the loss of the trees if the watering is delayed. The Department shall not be required to provide any actual loss in order to recover these liquidated damages provided herein, as said damages are very difficult to ascertain. Furthermore, no provision of this clause shall be construed as a penalty, as such is not the intention of the parties. A calendar day is every day shown on the calendar and starts at 12:00 midnight and ends at the following 12:00 midnight, twenty four hours later.

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

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

Trees and Large Shrubs:	35 gallons per
tree Medium Size Shrubs:	15 gallons per
shrub Vines:	3 gallons per vine
Perennial Plants:	10 gallons per square yard

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 vines if mulch and soil are not displaced by watering. Water shall trickle slowly into 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, measured 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.

SHREDDED HARDWOOD BARK MULCH

Description: The work under this item shall consist of furnishing, transporting, and placing shredded hardwood mulch into planting beds or around trees to the depth specified in areas as shown in the plans, as directed by the Engineer or as described herein.

Materials: Hardwood bark mulch shall be clean, finely shredded mixed hardwood bark, not to exceed two (2) inches in its largest dimension, free of foreign matter, sticks, stones, and clods. All hardwood bark mulch shall be processed through a hammermill.

A mulch sample and request for material inspection must be supplied to the Engineer for approval prior to performing any work 72 hours prior to application.

General Requirements: The Contractor shall supply and install shredded hardwood bark mulch to mulch around trees, shrubs and herbaceous plants in landscaped planting beds. Existing trees require a four (4) foot minimum diameter ring around the base of the tree. Annual areas shall be

mulched with pine bark fines. The grade, depth, and condition of the area must be approved by the Engineer prior to placement.

The Contractor shall remove all litter and plant debris, repair grade by raking and adding planter soil mix or pulverized topsoil as needed prior to mulching. Care shall be taken not to bury leaves, stems, or vines under mulch material.

All finished mulch areas shall be left smooth and level to maintain a uniform surface and appearance. After the mulch placement, any debris or piles of material shall be immediately removed from the right of way, including raking excess mulch out of turf areas. All work areas shall be clean of debris and mulch prior to leaving the site.

Submittals: A sample shall be provided prior to performing the work.

Construction Requirements: Place mulch manually around plants as follows:

Annuals: Spread one (1) inch of mulch lightly through annual plantings.

Perennials, bulbs, groundcovers, vines, grasses: Spread two (2) inches of mulch around plants. Ensure mulch is away from crowns of plants.

Shrubs, including roses: Spread three (3) inches of mulch around shrub. Ensure mulch is away from stems and crown of shrub.

Trees, shade and ornamental: Spread three (3) inches of mulch around trees. Do not pile mulch around trunk; ensure root flare is visible.

Mechanical or power mulch systems are not acceptable methods of placing shredded hardwood mulch.

Method of Measurement: Shredded hardwood bark mulch placed around existing trees will be measured in place and the area computed in square yards. Areas not meeting the depth specified shall not be measured for payment.

Basis of Payment: This work will be paid for at the contract unit price per square yard (square meter) for MULCH PLACEMENT, of the thickness specified for existing trees within the landscape improvement limits. Payment shall include all costs for materials, equipment and labor required to complete the work specified herein, including the cost of removing and disposing of any debris.

Placement of mulch for all new landscape plantings including new trees, shrubs, vines and perennials included as part of the work in other work items will not be measured separately for payment.

Pre-emergent herbicide, if required, shall be paid for separately.

LANDSCAPE EDGING

Description: This work shall consist of furnishing and installing aluminum landscape edging where indicated on the plans or as directed by the Engineer.

Materials: The materials for this work shall conform to the following requirements:

Aluminum Edging shall be 3/16” thick exposed top lip x 5-1/2” height x 16 feet long, extruded aluminum. The horizontal base shall have an upward facing angle profile designed to integrate restraint for strait-line and curvilinear application.

Finish to be Black Anodized.

Construction Methods: Edging shall be installed with 2’ of interlocking overlap between sections. Install per manufactures specifications with top of edging ¼” to ½” above finished grade. Finish grade to be compacted on either side of edging to maintain stability. Anchors shall be placed every 36” minimum with additional anchors provided as necessary to insure edging is securely fixed.

Method of Measurement: The work for LANDSCAPE EDGING will be measured for payment in feet, measured along the top of the edging as designated on the plans or as directed by the Engineer.

Basis of Payment: Landscape Edging will be paid for at the contract unit price per foot for LANDSCAPE EDGING, complete in place, including all materials, equipment, tools and labor.

TOPSOIL FURNISH AND PLACE, SPECIAL

Work under this item shall be performed in accordance with Section 200 of the Standard Specifications for Road and Bridge Construction except as modified herein.

Description: This work shall consist of furnishing, transporting, testing, preparing, and placing a mechanically pulverized and blended planter soil mix at locations shown on the plans or as directed by the Engineer.

Materials: Materials shall be according to the following except as modified herein:
Article/Section

(a) Fine Aggregate (Note 1).....	1003.06
(b) Topsoil.....	1081.05(a)

Note 1.The fine aggregate shall consist of natural sand.

General Requirements: The planter soil mix shall consist of two (2) parts pulverized topsoil and one (1) part fine aggregate (sand). The sand, in the amount required to produce an acceptable planter soil mix, shall be mechanically blended during the pulverization process. The planter soil mix shall be stored in stockpiles at the producer’s or supplier’s facility and be protected from erosion, absorption of excess water, and contamination at all times. Delivery to the job site shall only occur after the Engineer has given final approval.

The Contractor shall have the material tested following the guidelines presented below under Soil Testing and, if approved, this stockpile shall be the sole source for planting soil to be delivered to site. The test results and a Request for Inspection form should be sent to the Engineer prior to

delivering the material to site. This transmittal must also identify the location of the stockpile. If there are any changes in the source the Contractor shall notify the Engineer immediately. No additional time will be allowed for the completion of this project in order to substitute, test, and approve a new source of planting soil.

Topsoil shall be capable of supporting and germinating vegetation.

Soil Testing: Test report from a qualified laboratory verifying compliance with specifications and suitability of topsoil for use as a growth material. Test report shall indicate mechanical analysis (content by percent of clay, silt, fine gravel and sand) and chemical analysis, including pH, cation exchange capacity (CEC), organic matter, phosphorous, total and available potassium, essential nutrients, trace elements, and any harmful residual chemicals. Provide Testing Laboratory's recommendations for amending and fertilizing the soil, as well as any toxicity comments. If soil test results do not meet the above requirements, provide test results for alternate soils.

A sample of the topsoil proposed for this work shall be furnished a minimum of ten (10) days before delivery of topsoil to the job site. The sample submitted shall be in a sealed container, approximately one quart in size and appropriately labeled. The container shall be completely filled with uncompacted topsoil.

Mechanical and chemical analyses shall be performed on the planter soil mix sample and the results shall fall within the stated limits shown below. **Mechanical Analyses** (Note 1)

Particle Size Analysis (AASHTO T88)	<u>Minimum</u>	<u>Maximum</u>
Clay content (< 0.002 mm)	0 %	28 %
Silt content (0.002 to 0.05 mm)	45 %	77 %
Sand content (0.05 to 2 mm)	25 %	33 %
Gravel content (>2 mm)	0 %	5 %
Organic Content (AASHTO T194)	5 %	10 %

Chemical Analyses

General Components (Note 2)	<u>Minimum</u>	<u>Maximum</u>
pH value	5.5	7.5
Cation Exchange Capacity (meq/100g)	15	N/A
Soluble salt (mmho/cm)	0	1.7
Sodium (ppm)	0	200
Sulfur (ppm)	10	40
Primary Nutrients		
Phosphorous (ppm)	30	40
Potassium (ppm)	90	240
Secondary Nutrients		
Magnesium (ppm)	60	1000
Calcium (ppm)	600	5500
Micronutrients (Note 3)	<u>Minimum</u>	<u>Maximum</u>
Zinc (ppm)	1	10

Manganese (ppm)	12	40	
Boron (ppm)	1		4
Copper (ppm)	1		6
Iron (ppm)	15	200	

Note 1. Mechanical analysis testing on the QA split comparison sample will be granted an additional 10% tolerance on the upper and lower limits for determining approval by the Engineer.

Note 2. Any constituents added to the final mixture in an attempt to bring one or more of the General Component ingredients within tolerance will not be allowed and will be cause for the immediate rejection of the planter soil mix material in its entirety.

Note 3. Micronutrient testing on the QA split comparison sample will be granted an additional 20% tolerance on the upper and lower limits for determining final approval by the Engineer. Results outside the increased tolerance range will be subject to review and acceptance on a case by case basis as determined by the Engineer.

Delivery, Storage and Handling: Protect soil from absorbing excess water and from erosion at all times. Do not store materials unprotected from large rainfall events. Do not allow excess water to enter site prior.

Preparation and Placement:

1. Perform or coordinate final adjustments of any utility structure. Excavation and grading around tree roots, plant materials and buried utilities shall be done by hand. Refer to PROTECTION OF EXISTING TREES specification for required procedures in protected zones. Obtain utility locations prior to excavation.
2. Clean planting areas of all trash and debris before placement of topsoil. Remove and legally dispose of debris off site in accordance with Article 202.03. Repair to the satisfaction of the Engineer any portion of the geotechnical fabric or drainage layers prior to installation of amended topsoil.
3. After areas required to be landscaped have been brought to required subgrade, thoroughly till to minimum depth of 6 inches by scarifying, disking, harrowing, or other approved methods. Remove debris and stones larger than one inch in any dimension remaining on surface after tillage. Immediately prior to placing topsoil, scarify subgrade to a two-inch depth for bonding of topsoil with subsoil.
4. Spread topsoil evenly to minimum depth of six inches. Do not spread topsoil when frozen or excessively wet or dry. Correct all irregularities in finished surfaces to eliminate depressions. Protect finished topsoil areas from damage by vehicular or pedestrian traffic.
5. Apply fertilizer at rates and analysis determined by laboratory soil test of soils at job site and topsoil supplied. Apply fertilizer at rate of 3 pounds per 1000 square feet. Incorporate fertilizer, pH adjuster, and soil conditioners into soil to minimum depth of 6 inches. This may be done as part of the subgrade tillage operation specified above.

6. Install amended topsoil to the following depths:
 - a. Sod, Seed or Turf: 6 inches minimum
 - b. Vine / Perennial Beds: 12 inches minimum
 - c. Shrub Beds: 24 inches minimum
 - d. Tree Pits: 4 inches below bottom of root ball and expanded root balls (when poor soils are encountered)
7. Place, spread and rough grade specified planting soil to depths specified in all areas to be planted. Place topsoil mix in two level (2) lifts. The first lift shall contain 2/3 of the planter soil depth. After placing each lift, moisten the surface at a rate sufficient to hydraulically settle the soil, as determined by the Engineer. Allow water to thoroughly percolate through the soil before placing the next lift. Allow for settling, and place additional planting soil as necessary. Allow for placement and mixing of compost and sand, as determined by the Engineer, but place enough soil mix to meet finish grades within +/- 0.10 foot of design grades.
8. Rake smooth and finish grade all planted areas to create an even surface free of pockets where water may stand and to an elevation that will allow for planting installation at finish grades indicated on plans. The removal of excess material or the addition of planting soil may be required prior to landscaping. This shall be considered incidental to planting soil. Grading will be to a tolerance +/- .10 foot of design grades.
9. The surface of the topsoil after spreading and grading shall be free from clods, stones, sticks and debris, and shall conform to the lines, grades and the minimum thickness shown on the plans. One rolling of the entire surface shall be made.
10. All debris, litter, tire tracks, dirt, and unintended materials shall be removed, swept or washed off of all landscape, hard median surfaces, and pavement on a daily basis.

Topsoil Acceptance:

The Engineer retains the right to visually inspect topsoil on site before placement. The Engineer may ask that material suspected of not meeting specification be removed from the site, until the material can be mechanically tested.

The Contractor shall remove all topsoil and install material meeting this specification. The Contractor shall be responsible for all costs incurred to remove deficient material and install acceptable planting soil. No additional time will be provided in the contract to perform remedial work.

Method of Measurement: TOPSOIL FURNISH AND PLACE, SPECIAL will be measured in place to the depth specified in cubic yards (cubic meters) and the volume computed by the method of average end areas. Payment will not be based on load tickets.

Existing material removed for the placement of new topsoil shall be measured for payment separately. Removal and disposal of unstable and/or unsuitable materials will be paid for at the contract unit price for REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL. Removal and re-use of existing soil shall be paid for at the contract unit price for EARTH EXCAVATION or TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL.

Basis of Payment: This work will be paid for at the contract unit price per cubic yards (cubic meters) for TOPSOIL FURNISH AND PLACE, SPECIAL, of the thickness specified. Payment shall include all costs for materials, testing soils, furnishing, stockpiling, raking, rolling, disking and tilling, transporting of materials, all labor and equipment necessary, disposal and incidentals required to complete the work as specified herein and to the satisfaction of the Engineer.

TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL

Work under this item shall be performed in accordance with Section 200 of the Standard Specifications for Road and Bridge Construction except as modified herein.

Description: This work shall consist of excavating, storing, testing, preparing, and placing re-used topsoil including finish grading to the depth specified in the planting areas as shown in the plans or as directed by the Engineer.

Materials: Delete Article 1081.05 (a) Topsoil and revise as follows:

Topsoil. Topsoil shall be loamy soil from the A horizon of soil profiles of local soils. Loamy soil and the A horizon soil profile are defined in the Geotechnical Manual. Loamy soil shall contain between 20 and 30 percent sand, 25 and 60 percent silt, 5 and 20 percent clay. The loamy soil shall have an organic content between four and ten percent according to AASHTO T 194. It shall be friable and relatively free from large roots, sticks, weeds, brush, or stones larger than 1 in. (25 mm) in diameter, or other litter and waste products. At least 90 percent shall pass the No. 10 (2.00 mm) sieve according to Illinois Modified AASHTO T 27, and the pH shall be between 5.5 and 7.0 according to ASTM D 4972.

The Contractor shall have the material tested following the guidelines presented below under Soil Testing. The test results must identify each on-site stockpile location.

Topsoil shall be capable of supporting and germinating vegetation.

Soil Testing: Test report from a qualified laboratory verifying compliance with specifications and suitability of topsoil for use as a growth material. Test report shall indicate mechanical analysis (content by percent of clay, silt, fine gravel and sand) and chemical analysis, including pH, cation exchange capacity (CEC), organic matter, phosphorous, total and available potassium, essential nutrients, trace elements, and any harmful residual chemicals. Provide Testing Laboratory's recommendations for amending and fertilizing the soil, as well as any toxicity comments. If soil test results do not meet the above requirements, provide test results for alternate soils.

Three (3) samples of the topsoil from each proposed stockpile for this work shall be furnished a minimum of ten (10) days before delivery of topsoil to the job site. The sample submitted shall be in a sealed container, approximately one quart in size and appropriately labeled. The container shall be completely filled with uncompacted topsoil.

Delivery, Storage and Handling: Protect soil from absorbing excess water and from erosion at all times. Do not store materials unprotected from large rainfall events. Do not allow excess water to enter site prior.

Preparation and Placement:

11. Perform or coordinate final adjustments of any utility structure. Excavation and grading around tree roots, plant materials and buried utilities shall be done by hand. Refer to PROTECTION OF EXISTING TREES specification for required procedures in protected zones. Obtain utility locations prior to excavation.
12. Clean planting areas of all trash and debris before placement of topsoil. Remove and legally dispose of debris off site in accordance with Article 202.03. Repair to the satisfaction of the Engineer any portion of the geotechnical fabric or drainage layers prior to installation of amended topsoil.
13. After areas required to be landscaped have been brought to required subgrade, thoroughly till to minimum depth of 6 inches by scarifying, disking, harrowing, or other approved methods. Remove debris and stones larger than one inch in any dimension remaining on surface after tillage. Immediately prior to placing topsoil, scarify subgrade to a two inch depth for bonding of topsoil with subsoil.
14. Spread topsoil evenly to minimum depth of six inches. Do not spread topsoil when frozen or excessively wet or dry. Correct all irregularities in finished surfaces to eliminate depressions. Protect finished topsoil areas from damage by vehicular or pedestrian traffic.
15. Apply fertilizer at rates and analysis determined by laboratory soil test of soils at job site and topsoil supplied. Apply fertilizer at rate of 3 pounds per 1000 square feet. Incorporate fertilizer, pH adjuster, and soil conditioners into soil to minimum depth of 6 inches. This may be done as part of the subgrade tillage operation specified above.
16. Install amended topsoil to the following depths:
 - a. Sod, Seed or Turf: 6 inches minimum
 - b. Vine / Perennial Beds: 12 inches minimum
 - c. Shrub Beds: 24 inches minimum
 - d. Tree Pits: 4 inches below bottom of root ball and expanded root balls (when poor soils are encountered)
17. Place, spread and rough grade specified planting soil to depths specified in all areas to be planted. Place topsoil mix in two level (2) lifts. The first lift shall contain 2/3 of the planter soil depth. After placing each lift, moisten the surface at a rate sufficient to hydraulically settle the soil, as determined by the Engineer. Allow water to thoroughly percolate through the soil before placing the next lift. Allow for settling, and place additional planting soil as necessary. Allow for placement and mixing of compost and sand, as determined by the Engineer, but place enough soil mix to meet finish grades within +/- 0.10 foot of design grades.
18. Rake smooth and finish grade all planted areas to create an even surface free of pockets where water may stand and to an elevation that will allow for planting installation at finish grades indicated on plans. The removal of excess material or the addition of planting soil may be required prior to landscaping. This shall be considered incidental to planting soil. Grading will be to a tolerance +/- .10 foot of design grades.

19. The surface of the topsoil after spreading and grading shall be free from clods, stones, sticks and debris, and shall conform to the lines, grades and the minimum thickness shown on the plans. One rolling of the entire surface shall be made.
20. All debris, litter, tire tracks, dirt, and unintended materials shall be removed, swept or washed off of all landscape, hard median surfaces, and pavement on a daily basis.

Topsoil Acceptance:

The Engineer retains the right to visually inspect topsoil on site before placement. The Engineer may ask that material suspected of not meeting specification be removed from the site, until the material can be mechanically tested.

The Contractor shall remove all topsoil and install material meeting this specification. The Contractor shall be responsible for all costs incurred to remove deficient material and install acceptable planting soil. No additional time will be provided in the contract to perform remedial work.

Method of Measurement: TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL will be measured in place to the depth specified in cubic yards (cubic meters) and the volume computed by the method of average end areas.

Existing material removed for the placement of new topsoil shall be measured for payment separately. Removal and disposal of unstable and/or unsuitable materials will be paid for at the contract unit price for NON-SPECIAL WASTE DISPOSAL.

Basis of Payment: This work will be paid for at the contract unit price per cubic yards (cubic meters) for TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL, of the thickness specified. Payment shall include all costs for materials, testing soils, furnishing, stockpiling, raking, rolling, disking and tilling, transporting of materials, all labor and equipment necessary, disposal and incidentals required to complete the work as specified herein and to the satisfaction of the Engineer.

INTENTIONALLY BLANK

PLANTINGS

This work shall be completed in accordance with Sections 253 (Planting Woody Plants) and 254 (Planting Perennial Plants) of the Standard Specifications insofar as applicable and the following provisions.

Part I. General

I. Description of Work

- A. Provide all exterior planting as shown on the drawings or inferable there from and/or as specified in accordance with the requirements of the Contract Documents.
- B. These specifications include standards necessary for and incidental to the execution and completion of planting, including hauling and spreading of topsoil, and finished grading as indicated on the prepared drawings and specified herein.
- C. Protection of existing features. During construction, protect all existing trees, shrubs, and other specified vegetation, site features and improvements, structures, and utilities specified herein and/or on submitted drawings. Removal or destruction of existing plantings is prohibited unless specifically authorized by the owner.

II. Applicable Standards

- A. *American National Standards for Tree Care Operations, ANSIA300*. American National Standards Institute. 11 West 42" Street, New York, N.Y. 10036.
- B. *American Standard for Nursery Stock, ANSI Z60. 1*. American Nursery and Landscape Association, 1250 Eye Street. NW, Suite 500, Washington, D.C. 20005.
- C. *Hortus Third*, The Staff of the L.H. Bailey Hortorium. 1976. MacMillan Publishing Co., New York. All standards shall include the latest additions and amendments as of the date of advertisement for bids.

III. Qualifications

- A. Landscape planting and related work shall be performed by a company with a minimum of five years' experience specializing in this type of work. The Landscape Architect shall approve all contractors and their sub-contractors who will be performing any landscape work included in this section of the specification.

IV. Requirements of Regulatory Agencies

- A. Certificates of inspection shall accompany the invoice for each shipment of plants as may be required by law for transportation. File certificates with the Landscape Architect prior to acceptance of the material. Inspection by federal or state authorities at place of growth does not preclude rejection of the plants at the site.

V. Submittals

- A. Manufacturer's Data: Submit copies of the manufacturer's and/or source data for all materials specified, including soils.
- B. Nursery Sources: Submit a list of all nurseries that will supply plants, along with a list of the plants they will provide and the location of the nursery.

VI. Utility Verification

- A. The contractor shall contact the local utility companies for verification of the location of all underground utility lines in the area of the work. The contractor shall be responsible for all damage resulting from neglect or failure to comply with this requirement.
- B. Verify locations and finished grades of utilities including drainage and irrigation systems installed by others. In the vicinity of utilities, hand-excavate to minimize the possibility of damage to underground utilities. Protect above-ground utility stubs, footings, or fixtures from damage by landscape construction.

VII. Job Conditions

- A. Prior to beginning work, and regularly for the duration of landscape operations, the Contractor shall examine and verify the conditions and readiness of the job site and shall notify the General Contractor of unsatisfactory conditions. The Contractor shall not proceed with the work until unsatisfactory conditions have been corrected or resolved.
- B. Where soil preparation occurs in close proximity to other site improvements, adequate protection shall be given to all features prior to commencing work. Any items damaged during soil preparation operations shall be promptly repaired to their original condition at no addition to the Contract Price.
- C. Notify Engineer at least seven (7) working days prior to installation of plant material.
- D. A complete list of plants, including sizes, quantities and other requirements is shown on the drawings and in the bid form. In the event that quantity discrepancies or material omissions occur in the plant list, the planting plans shall govern.

Part 2. Materials

I. Plants

Plants shall be true to species and variety specified and nursery-grown in accordance with good horticultural practices under climatic conditions similar to those in the locality of the project for at least two years. They shall have been freshly dug (during the most recent favorable harvest season).

- A. All plant names and descriptions shall be as defined in *Hortus Third*.
- B. All plants shall be grown and harvested in accordance with the *American Standard for Nursery Stock*.
- C. Unless approved by the landscape architect, plants shall have been grown at a latitude not more than 325 km (200 miles) north or south of the latitude of the project unless the provenance of the plant can be documented to be compatible with the latitude and cold hardiness zone of the planting location.
- D. Unless specifically noted, all plants shall be of specimen quality, exceptionally heavy, symmetrical, and so trained or favored in development and appearance as to be unquestionably and outstandingly superior in form, compactness, and symmetry. They shall be sound, healthy, vigorous, well branched, and densely foliated when in leaf; free of disease and insects, eggs, or larvae; and shall have healthy, well-developed root systems. They shall be free from physical damage or other conditions that would prevent vigorous growth.
- E. Trees with multiple leaders, unless specified, will be rejected. Trees with a damaged or crooked leader, bark abrasions, sunscald, disfiguring knots, insect damage, or cuts of limbs over 20 mm (3/4 in.) in diameter that are not completely closed will be rejected.
- F. Plants shall conform to the measurements specified, except that plants larger than those specified may be used if approved by the landscape architect. Use of larger plants shall not increase the contract price. If larger plants are approved, the root ball shall be increased in proportion to the size of the plant.

- G. Caliper measurements shall be taken on the trunk 150 mm (6 in.) above the natural ground line for trees up to and including 100 mm (4 in.) in caliper, and 300 mm (12 in.) above the natural ground line for trees over 100 mm (4 in.) in caliper. Height and spread dimensions specified refer to the main body of the plant and not from branch tip to branch tip. Plants shall be measured when branches are in their normal position. If a range of sizes is given, no plant shall be less than the minimum size, and no less than 50 percent of the plants shall be as large as the maximum size specified. Measurements specified are minimum sizes acceptable after pruning, where pruning is required. Plants that meet measurements but do not possess a standard relationship between height and spread, according to the *American Standards for Nursery Stock*, shall be rejected.
- H. Substitutions of plant materials will not be permitted unless authorized in writing by the landscape architect. If proof is submitted in writing that a plant specified is not obtainable, consideration will be given to the nearest available size or similar variety, with a corresponding adjustment of the contract price.
- I. The plant list at the end of this section, or on the drawing, is for the contractor's information only, and no guarantee is expressed or implied that quantities therein are correct or that the list is complete. The contractor shall ensure that all plant materials shown on the drawings are included in his or her bid.
- J. All plants shall be labeled by plant name. Labels shall be attached securely to all plants, bundles, and containers of plant materials when delivered. Plant labels shall be durable and legible, with information given in weather-resistant ink or embossed process lettering.
- K. Selection and Tagging
1. Plants shall be subject to inspection for conformity to specification requirements and approval by the landscape architect at their place of growth and upon delivery. Such approval shall not impair the right of inspection and rejection during progress of the work.
 2. A written request for the inspection of plant material at their place of growth shall be submitted to the landscape architect at least ten calendar days prior to digging. This request shall state the place of growth and the quantity of plants to be inspected. The landscape architect may refuse inspection at this time if, in his or her judgment, sufficient quantities of plants are not available for inspection.
 3. All field grown deciduous trees shall be marked to indicate the trees north orientation in the nursery. Place a 1 -in. diameter spot of white paint onto the north side of the tree trunk within the bottom 12 inches of the trunk.
- L. Balled and Burlapped (B&B) Plant Materials
1. Trees designated B&B shall be properly dug with firm, natural balls of soil retaining as many fibrous roots as possible, in sizes and shapes as specified in the American Standard for Nursery Stock. Balls shall be firmly wrapped with nonsynthetic, rottable burlap and secured with nails and heavy, nonsynthetic, rottable twine. The root collar shall be apparent at surface of ball. Trees with loose, broken, processed, or manufactured root balls will not be accepted, except with special written approval before planting.
 2. Container grown deciduous and/or evergreen shrubs will be acceptable in lieu of balled and burlapped shrubs subject to specified limitations for container grown stock. Size of container grown material must conform to size/height requirements on the plant list.
- M. Container Plants
1. Plants grown in containers shall be of appropriate size for the container as specified in the most recent edition of the American Standard for Nursery Stock and be free of circling roots on the exterior and interior of the root ball.
 2. Container plants shall have been grown in the container long enough to have established roots throughout the growing medium.
- N. Immediately after harvesting plants, protect from drying and damage until shipped and delivered to the planting site. Rootballs shall be checked regularly and watered sufficiently to maintain root viability.
- O. Transportation and Storage of Plant Material
1. Branches shall be tied with rope or twine only, and in such a manner that no damage will occur to the bark or branches.

2. During transportation of plant material, the contractor shall exercise care to prevent injury and drying out of the trees. Should the roots be dried out, large branches broken, balls of earth broken or loosened, or areas of bark torn, the landscape architect may reject the injured tree(s) and order them replaced at no additional cost to the owner. All loads of plants shall be covered at all times with tarpaulin or canvas. Loads that are not protected will be rejected.
3. All bareroot stock sent from the storage facility shall be adequately covered with wet soil, sawdust, woodchips, moss, peat, straw, hay, or other acceptable moisture-holding medium, and shall be covered with a tarpaulin or canvas. Loads that are not protected in the above manner may be rejected.
4. Plants must be protected at all times from sun or drying winds. Those that cannot be planted immediately on delivery shall be kept in the shade, well protected with soil, wet mulch, or other acceptable material, and kept well watered. Plants shall not remain unplanted any longer than three days after delivery. Plants shall not be bound with wire or rope at any time so as to damage the bark or break branches. Plants shall be lifted and handled with suitable support of the soil ball to avoid damaging it.

II. Materials for Planting

- A. Fertilizer: shall be an emulsion specifically manufactured for agricultural use, which provides a protective film over plant surfaces. Anti-desiccants shall be delivered in containers of the manufacturer and shall be mixed according to the manufacturer's directions. Submit manufacturer literature for approval.
- B. Herbicide: shall be applied at a rate of 3 lbs./1000 sf as available from ACI for all shrub beds.
- C. Guying Material: shall be #10 gauge galvanized steel for trees under 5" caliper. For trees over 5" caliper, seven-strand cadmium plated steel with galvanized "eye" thimbles and galvanized clamps shall be used. Turnbuckles shall be 5/16", eye and eye, with 4" takeup. Hose shall be new, 2-ply reinforced rubber hose, minimum 1/2" I.D.
- D. Tree Wrap: shall be burlap tree wrap, 4" wide.
- E. Twine: shall be soft nursery jute.

Part 3. Execution

I. Excavation in Planting Areas

- A. Locations for plants and/or outlines of areas to be planted are to be staked out at the site. Locate and mark all subsurface utility lines. Approval of the stakeout by the landscape architect is required before excavation begins.
- B. In areas beyond the critical root zone of existing trees to remain, where soil is to be added to the existing grade or areas where soil is to be graded, tilled or amended, remove all existing sod, weeds or other vegetative growth including the surface root mat, thatch and plant tops prior to the start of the work. In areas within the critical root zone of existing trees remove existing vegetation using selective techniques that do the least damage to the existing tree root structure while removing enough of the existing plant mass so as to not interfere with the drainage and biological functions of the new soil. The landscape architect shall approve all means and methods of work within the critical root zone of all existing trees to remain.
- C. Tree and Shrub Pits
 1. Tree and shrub pits are to be excavated to a depth that allows plant root balls to sit on stable native soil, with tops of root balls 1 in above adjacent finish grades. Tree holes to be at least 3 times the spread diameter of the root ball. Use shovel to rough up sides of exposed walls.
 2. If the planting area under any tree is initially dug too deep, the soil added to bring it up to the correct level should be thoroughly tamped.
 3. Subgrade soils shall be separated from the topsoil, removed from the area, and not used as backfill. Excavations shall not be left uncovered or unprotected overnight.
- D. Perennial Beds
 1. Remove enough existing native soil to accommodate 8" depth of Amended Planting Soil.

2. Existing soil may be acceptable for amendment if it meets the requirements for Sandy Loam Topsoil described above.
- E. Turf Areas
 1. Remove enough existing native soil to accommodate 6" depth of Topsoil with organic matter amendment.
 2. Existing soil may be acceptable for amendment if it meets the requirements for Sandy Loam Topsoil described above.
- F. Detrimental soil conditions: The landscape architect is to be notified, in writing, of soil conditions encountered, including poor drainage that the contractor considers detrimental to the growth of plant material. When detrimental conditions are uncovered, planting shall be discontinued until instructions to resolve the conditions are received from the landscape architect.
- G. Obstructions: If rock, underground construction work, utilities, tree roots, or other obstructions are encountered in the excavation of planting areas, alternate locations for any planting shall be determined by the landscape architect.

II. Planting Operations

1. Plants shall be set on flat-tamped or unexcavated pads at the same relationship to finished grade as they were to the ground from which they were dug, unless otherwise noted on the drawings. Plants must be set plumb and braced in position until topsoil or planting mix has been placed and tamped around the base of the root ball. Improper compacting of the soil around the root ball may result in the tree settling or leaning. Plants shall be set so that they will be at the same depth and so that the root ball does not shift or move laterally one year later.
2. Determine the elevation of the root flare and ensure that it is planted at 1 in. above finish grade. This may require that the plant be set higher than the grade in the nursery.
 - a. Lift plants only from the bottom of the root balls or with belts or lifting harnesses of sufficient width not to damage the root balls. Do not lift trees by their trunk or use the trunk as a lever in positioning or moving the tree in the planting area.
 - b. Remove plastic, paper, or fiber pots from containerized plant material. Pull roots out of the root mat, and cut circling roots with a sharp knife. Loosen the potting medium and shake away from the root mat. Immediately after removing the container, install the plant such that the roots do not dry out. Pack planting mix around the exposed roots while planting.
 - c. Cut ropes or strings from the top of shrub root balls and trees smaller than 3 in. caliper after plant has been set. Remove burlap or cloth wrapping and any wire baskets from around top half of balls. Do not turn under and bury portions of burlap at top of ball.
 - d. Do not immediately remove the ropes and burlap from trees larger than 3 in. caliper. Return to each tree three months after planting (six months for fall-planted material), and cut all ropes around the trunks and tops of the root balls of these trees.
 - e. Completely remove any waterproof or water-repellant strings or wrappings from the root ball and trunk before backfilling.
 - f. Set balled and burlapped trees in the hole with the north marker facing north unless otherwise approved by the landscape architect.
 - g. Place Amended Planting Soil as described above into the area around the plant, tamping lightly to reduce settlement.
 - h. If approved for amendment, place 3 of organic matter on top of existing soil and rototill into existing topsoil.
 - i. Ensure that the backfill immediately around the base of the root ball is tamped with foot pressure sufficient to prevent the root ball from shifting or leaning.
 - j. Thoroughly water all plants immediately after planting. Apply water by hose directly to the root ball and the adjacent soil.
 - k. Remove all tags, labels, strings, etc. from all plants after approval is given from the Resident Engineer.
 - l. Remove any excess soil, debris, and planting material from the job site at the end of each workday.
 - m. Form watering saucers 3 in. height immediately outside the area of the root ball of each tree.

III. Wrapping

- A. Immediately after planting the Engineer will inspect the trees for injury to trunks, evidence of insect infestation and improper pruning.
- B. In Fall only, immediately after inspection the Contractor will wrap the trunks of all trees spirally with the specified materials.
 - a. Overlap $\frac{1}{2}$ the width of the tree wrap strip and cover the trunk from the base to the height of the first major branches.
- C. Secure tree wrap in place with twine wound spirally downward in opposite direction of tree wrap, tied around the tree in at least three (3) places in addition to the top and bottom.
- D. Contractor shall remove tree wrap the following Spring.

IV. Guying

- A. Guying of trees shall be at the option of the Landscape Contractor; however, all trees shall be plump and straight through final inspection and warranty.
- B. When guying of trees is deemed necessary to insure proper planting and positioning of the tree, it should be done immediately after lawn seeding or sodding operations and prior to acceptance. When high winds or other conditions which may affect tree survival or appearance occur, the Engineer may require immediate guying.

V. Pruning

- A. Plants shall not be heavily pruned at the time of planting. Pruning is required at planting time only to correct defects in the tree structure, including removal of injured branches, double leaders, waterspouts, suckers, and interfering branches. Healthy lower branches and interior small twigs should not be removed except as necessary to clear walks and roads. In no case should more than one-quarter of the branching structure be removed. Retain the normal or natural shape of the plant.
- B. All pruning shall be completed using clean, sharp tools. All cuts shall be clean and smooth, with the bark intact with no rough edges or tears.
- C. Except in circumstances dictated by the needs of specific pruning practices, tree paint shall not be used. The use of tree paint shall be only upon approval of the landscape architect. Tree paint, when required, shall be paint specifically formulated and manufacturing for horticultural use.
- D. Pruning of large trees shall be done from a hydraulic man-lift such that it is not necessary to climb the tree.

VI. Maintenance of Trees, Shrubs, and Perennial Plants

- A. Maintenance shall begin immediately after each plant is planted and continue until its acceptance has been confirmed by the landscape architect.
- B. Maintenance shall consist of pruning, watering, cultivating, weeding, mulching, tightening, resetting plants to proper grades or upright position, restoring of the planting saucer, and furnishing and applying such sprays or other materials as necessary to keep plantings free of insects and diseases and in vigorous condition.
- C. Planting areas and plants shall be protected at all times against trespassing and damage of all kinds for the duration of the maintenance period. If a plant becomes damaged or injured, it shall be treated or replaced as directed by the landscape architect at no additional cost.
- D. Watering: Contractor shall irrigate as required to maintain vigorous and healthy tree growth. Overwatering or flooding shall not be allowed. The contractor shall monitor, adjust, and use existing irrigation facilities, if available, and furnish any additional material, equipment, or water to ensure adequate irrigation.
- E. During periods of restricted water usage, all governmental regulations (permanent and temporary) shall be followed. The contractor may have to transport water from ponds or other sources, at no additional expense to the owner when irrigation systems are unavailable.

VII. Care of Existing Trees

- a. Selectively prune existing trees in designated areas, under Landscape Architect's direction. Remove sucker shoots, dead, rubbing, and damaged branching.
- b. Fertilize designated existing trees with 2 to 3 lbs. of Type B plant fertilizer per inch of trunk diameter for trees less than 6" diameter and 3 to 5 lbs. for trees greater than 6" diameter.

- i. Fertilize in early spring before growth begins or in late October.
- ii. Fertilize by broadcast spreading fertilizer over area within dripline of tree at rates specified above.
- c. Water existing trees every two (2) weeks until acceptance. Water thoroughly with a fine mist sprinkler head, soaker hose, or hose at a low flow rate over the entire drip line area as required to allow water to penetrate to a depth of 12" to 18".

VIII. Acceptance

- A. The Engineer shall inspect all work for acceptance upon written request of the contractor. The request shall be received at least ten calendar days before the anticipated date of inspection.
- B. Acceptance of plant material shall be for general conformance to specified size, character, and quality and shall not relieve the contractor of responsibility for full conformance to the contract documents, including correct species.
- C. Upon completion and re-inspection of all repairs or renewals necessary for earth excavating in the judgment of the Engineer, the Engineer shall certify in writing that the work has been accepted.

IX. Acceptance in Part

- A. Work may be accepted in parts when the landscape architect and contractor deem that practice to be in their mutual interest. Approval must be given in writing by the landscape architect to the contractor verifying that the work is to be completed in parts. Acceptance of work in parts shall not waive any other provision of this contract.

X. Period of Establishment

- A. Period of establishment will be in accordance to Article 254.09 of the Standard Specifications.

AGGREGATE SUBGRADE IMPROVEMENT (D-1)

Effective: February 22, 2012

Revised: April 1, 2016

Add the following Section to the Standard Specifications:

"SECTION 303. AGGREGATE SUBGRADE IMPROVEMENT

303.01 Description. This work shall consist of constructing an aggregate subgrade improvement.

303.02 Materials. Materials shall be according to the following.

Item	Article/Section
(a) Coarse Aggregate	1004.07
(b) Reclaimed Asphalt Pavement (RAP) (Notes 1, 2 and 3)	1031

Note 1. Crushed RAP, from either full depth or single lift removal, may be mechanically blended with aggregate gradation CS 01 but shall not exceed 40 percent by weight of the total product. The top size of the Coarse RAP shall be less than 4 in. (100 mm) and well graded.

Note 2. RAP having 100 percent passing the 1 1/2 in (37.5 mm) sieve and being well graded, may be used as capping aggregate in the top 3 in. (75 mm) when aggregate gradation CS 01 is used in lower lifts. When RAP is blended with any of the coarse aggregates, the blending shall be done with mechanically calibrated feeders. The final product shall not contain more than 40 percent by weight of RAP.

Note 3. The RAP used for aggregate subgrade improvement shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications".

303.03 Equipment. The vibratory machine shall be according to Article 1101.01, or as approved by the Engineer. The calibration for the mechanical feeders shall have an accuracy of ± 2.0 percent of the actual quantity of material delivered.

303.04 Soil Preparation. The stability of the soil shall be according to the Department's Subgrade Stability Manual for the aggregate thickness specified.

303.05 Placing Aggregate. The maximum nominal lift thickness of aggregate gradation CS 01 shall be 24 in. (600 mm).

303.06 Capping Aggregate. The top surface of the aggregate subgrade shall consist of a minimum 3 in. (75 mm) of aggregate gradations CA 06 or CA 10. When Reclaimed Asphalt Pavement (RAP) is used, it shall be crushed and screened where 100 percent is passing the 1 1/2 in. (37.5 mm) sieve and being well graded. RAP that has been fractionated to size will not be permitted for use in capping. Capping aggregate will not be required when the aggregate subgrade improvement is used as a cubic yard pay item for undercut applications. When RAP is blended with any of the coarse aggregates, the blending shall be done with mechanically calibrated feeders.

303.07 Compaction. All aggregate lifts shall be compacted to the satisfaction of the Engineer. If the moisture content of the material is such that compaction cannot be obtained, sufficient water shall be added so that satisfactory compaction can be obtained.

303.08 Finishing and Maintenance of Aggregate Subgrade Improvement. The aggregate subgrade improvement shall be finished to the lines, grades, and cross sections shown on the plans, or as directed by the Engineer. The aggregate subgrade improvement shall be maintained in a smooth and compacted condition.

303.09 Method of Measurement. This work will be measured for payment according to Article 311.08.

303.10 Basis of Payment. This work will be paid for at the contract unit price per cubic yard (cubic meter) for AGGREGATE SUBGRADE IMPROVEMENT or at the contract unit price per square yard (square meter) for AGGREGATE SUBGRADE IMPROVEMENT, of the thickness specified.

Add the following to Section 1004 of the Standard Specifications:

"1004.07 Coarse Aggregate for Aggregate Subgrade Improvement. The aggregate shall be according to Article 1004.01 and the following.

- (a) Description. The coarse aggregate shall be crushed gravel, crushed stone, or crushed concrete. The top 12 inches of the aggregate subgrade improvement shall be 3 inches of capping material and 9 inches of crushed gravel, crushed stone or crushed concrete. In applications where greater than 36 inches of subgrade material is required, rounded gravel, meeting the CS01 gradation, may be used beginning at a depth of 12 inches below the bottom of pavement.
- (b) Quality. The coarse aggregate shall consist of sound durable particles reasonably free of deleterious materials. Non-mechanically blended RAP may be allowed up to a maximum of 5.0 percent.
- (c) Gradation.

- (1) The coarse aggregate gradation for total subgrade thicknesses of 12 in. (300 mm) or greater shall be CS 01.

COARSE AGGREGATE SUBGRADE GRADATIONS					
Grad No.	Sieve Size and Percent Passing				
	8"	6"	4"	2"	#4
CS 01	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20

COARSE AGGREGATE SUBGRADE GRADATIONS (Metric)					
Grad No.	Sieve Size and Percent Passing				
	200 mm	150 mm	100 mm	50 mm	4.75 mm
CS 01	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20

- (2) The 3 in. (75 mm) capping aggregate shall be gradation CA 6 or CA 10.

FRICION AGGREGATE (D-1)

Effective: January 1, 2011

Revised: April 29, 2016

Revise Article 1004.03(a) of the Standard Specifications to read:

“1004.03 Coarse Aggregate for Hot-Mix Asphalt (HMA). The aggregate shall be according to Article 1004.01 and the following.

- (a) Description. The coarse aggregate for HMA shall be according to the following table.

Use	Mixture	Aggregates Allowed
Class A	Seal or Cover	<u>Allowed Alone or in Combination</u> ^{5/} : Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Crushed Concrete

Use	Mixture	Aggregates Allowed
HMA Low ESAL	Stabilized Subbase Shoulders or	<u>Allowed Alone or in Combination</u> ^{5/} : Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{1/} Crushed Concrete
HMA High ESAL Low ESAL	Binder IL-19.0 or IL-19.0L SMA Binder	<u>Allowed Alone or in Combination</u> ^{5/ 6/} : Crushed Gravel Carbonate Crushed Stone ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Concrete ^{3/}
HMA High ESAL Low ESAL	C Surface and Leveling Binder IL-9.5 or IL-9.5L SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination</u> ^{5/} : Crushed Gravel Carbonate Crushed Stone ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{4/} Crushed Concrete ^{3/}
HMA High ESAL	D Surface and Leveling Binder IL-9.5 SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination</u> ^{5/} : Crushed Gravel Carbonate Crushed Stone (other than Limestone) ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{4/} Crushed Concrete ^{3/}
		<u>Other Combinations Allowed:</u>
		<i>Up to...</i> <i>With...</i>
		25% Limestone Dolomite
		50% Limestone Any Mixture D aggregate other than Dolomite

Use	Mixture	Aggregates Allowed	
		75% Limestone	Crushed Slag (ACBF) or Crushed Sandstone
HMA High ESAL	E Surface IL-9.5 SMA Ndesign 80 Surface	<u>Allowed Alone or in Combination</u> ^{5/ 6/} : Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag No Limestone.	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		50% Dolomite ^{2/}	Any Mixture E aggregate
		75% Dolomite ^{2/}	Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone
75% Crushed Gravel ^{2/} or Crushed Concrete ^{3/}	Crushed Sandstone, Crystalline Crushed Stone, Crushed Slag (ACBF), or Crushed Steel Slag		
HMA High ESAL	F Surface IL-9.5 SMA Ndesign 80 Surface	<u>Allowed Alone or in Combination</u> ^{5/ 6/} : Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag No Limestone.	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		50% Crushed Gravel ^{2/} , Crushed Concrete ^{3/} , or Dolomite ^{2/}	Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone

- 1/ Crushed steel slag allowed in shoulder surface only.
- 2/ Carbonate crushed stone (limestone) and/or crushed gravel shall not be used in SMA Ndesign 80. In SMA Ndesign 50, carbonate crushed stone shall not be blended with any of the other aggregates allowed alone in Ndesign 50 SMA binder or Ndesign 50 SMA surface.
- 3/ Crushed concrete will not be permitted in SMA mixes.
- 4/ Crushed steel slag shall not be used as leveling binder.
- 5/ When combinations of aggregates are used, the blend percent measurements shall be by volume.”
- 6/ Combining different types of aggregate will not be permitted in SMA Ndesign 80.”

HMA MIXTURE DESIGN REQUIREMENTS (D-1)

Effective: January 1, 2013

Revised: January 1, 2018

1) Design Composition and Volumetric Requirements

Revise the table in Article 406.06(d) of the Standard Specifications to read:

“MINIMUM COMPACTED LIFT THICKNESS	
Mixture Composition	Thickness, in. (mm)
IL-4.75	3/4 (19)
SMA-9.5, IL-9.5, IL-9.5L	1 1/2 (38)
SMA-12.5	2 (50)
IL-19.0, IL-19.0L	2 1/4 (57)”

Revise the table in Article 1004.03(c) of the Standard Specifications to read:

“Use	Size/Application	Gradation No.
Class A-1, 2, & 3	3/8 in. (10 mm) Seal	CA 16
Class A-1	1/2 in. (13 mm) Seal	CA 15
Class A-2 & 3	Cover	CA 14
HMA High ESAL	IL-19.0 IL-9.5	CA 11 ^{1/} CA 16, CA 13 ^{3/}
HMA Low ESAL	IL-19.0L IL-9.5L Stabilized Subbase or Shoulders	CA 11 ^{1/} CA 16
SMA ^{2/}	1/2 in. (12.5mm) Binder & Surface IL 9.5 Surface	CA13 ^{3/} , CA14 or CA16 CA16, CA 13 ^{3/}

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

2/ The coarse aggregates used shall be capable of being combined with stone sand, slag sand, or steel slag sand meeting the FA/FM 20 gradation and mineral filler to meet the approved mix design and the mix requirements noted herein.

3/ CA 13 shall be 100 percent passing the 1/2 in. (12.5mm) sieve.

Revise Article 1004.03(e) of the Supplemental Specifications to read:

“(e) Absorption. For SMA the coarse aggregate shall also have water absorption ≤ 2.0 percent.”

Revise the last paragraph of Article 1102.01 (a) (5) of the Standard Specifications to read:

“IL-4.75 and Stone Matrix Asphalt (SMA) mixtures which contain aggregate having absorptions greater than or equal to 2.0 percent, or which contain steel slag sand, shall have minimum surge bin storage plus haul time of 1.5 hours.”

Revise the nomenclature table in Article 1030.01 of the Standard Specifications to read:

“High ESAL	IL-19.0 binder; IL-9.5 surface; IL-4.75; SMA-12.5, SMA-9.5
Low ESAL	IL-19.0L binder; IL-9.5L surface; Stabilized Subbase (HMA) ^{1/} ; HMA Shoulders ^{2/}

1/ Uses 19.0L binder mix.

2/ Uses 19.0L for lower lifts and 9.5L for surface lift.”

Revise Article 1030.02 of the Standard Specifications and Supplemental Specifications to read:

“**1030.02 Materials.** Materials shall be according to the following.

Item	Article/Section
(a) Coarse Aggregate	1004.03
(b) Fine Aggregate	1003.03
(c) RAP Material	1031
(d) Mineral Filler	1011
(e) Hydrated Lime	1012.01
(f) Slaked Quicklime (Note 1)	
(g) Performance Graded Asphalt Binder (Note 2)	1032
(h) Fibers (Note 3)	
(i) Warm Mix Asphalt (WMA) Technologies (Note 4)	

Note 1. Slaked quicklime shall be according to ASTM C 5.

Note 2. The asphalt binder shall be an SBS PG 76-28 when the SMA is used on a full-depth asphalt pavement and SBS PG 76-22 when used as an overlay, except where modified herein. The asphalt binder shall be an Elvaloy or SBS PG 76-22 for IL-4.75, except where modified herein. The elastic recovery shall be a minimum of 80.

Note 3. A stabilizing additive such as cellulose or mineral fiber shall be added to the SMA mixture according to Illinois Modified AASHTO M 325. The stabilizing additive shall meet the Fiber Quality Requirements listed in Illinois Modified AASHTO M 325. Prior to approval and use of fibers, the Contractor shall submit a notarized certification by the producer of these materials stating they meet these requirements. Reclaimed Asphalt Shingles (RAS) may be used in Stone Matrix Asphalt (SMA) mixtures designed with an SBA polymer modifier as a fiber additive if the mix design with RAS included meets AASHTO T305 requirements. The RAS shall be from a certified source that produces either Type I or Type 2. Material shall meet requirements noted herein and the actual dosage rate will be determined by the Engineer.

Note 4. Warm mix additives or foaming processes shall be selected from the current Bureau of Materials and Physical Research Approved List, “Warm Mix Asphalt Technologies”.”

Revise Article 1030.04(a)(1) of the Standard Specifications and the Supplemental Specifications to read:

“ (1) High ESAL Mixtures. The Job Mix Formula (JMF) shall fall within the following

limits.

High ESAL, MIXTURE COMPOSITION (% PASSING) ^{1/}										
Sieve Size	IL-19.0 mm		SMA ^{4/} IL-12.5 mm		SMA ^{4/} IL-9.5 mm		IL-9.5 mm		IL-4.75 mm	
	min	max	min	max	min	max	min	max	min	max
1 1/2 in. (37.5 mm)										
1 in. (25 mm)		100								
3/4 in. (19 mm)	90	100		100						
1/2 in. (12.5 mm)	75	89	80	100		100		100		100
3/8 in. (9.5 mm)				65	90	100	90	100		100
#4 (4.75 mm)	40	60	20	30	36	50	34	69	90	100
#8 (2.36 mm)	20	42	16	24 ^{5/}	16	32 ^{5/}	34 ^{6/}	52 ^{2/}	70	90
#16 (1.18 mm)	15	30					10	32	50	65
#30 (600 μm)			12	16	12	18				
#50 (300 μm)	6	15					4	15	15	30
#100 (150 μm)	4	9					3	10	10	18
#200 (75 μm)	3	6	7.0	9.0 ^{3/}	7.5	9.5 ^{3/}	4	6	7	9 ^{3/}
Ratio Dust/Asphalt Binder		1.0		1.5		1.5		1.0		1.0

- 1/ Based on percent of total aggregate weight.
- 2/ The mixture composition shall not exceed 44 percent passing the #8 (2.36 mm) sieve for surface courses with Ndesign = 90.
- 3/ Additional minus No. 200 (0.075 mm) material required by the mix design shall be mineral filler, unless otherwise approved by the Engineer.
- 4/ The maximum percent passing the #635 (20 μm) sieve shall be ≤ 3 percent.
- 5/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted above the percentage stated on the table.
- 6/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted below 34 percent.

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

“(1) High ESAL Mixtures. The target value for the air voids of the HMA shall be 4.0

percent and for IL-4.75 it shall be 3.5 percent at the design number of gyrations. The VMA and VFA of the HMA design shall be based on the nominal maximum size of the aggregate in the mix, and shall conform to the following requirements.

VOLUMETRIC REQUIREMENTS High ESAL				
Ndesign	Voids in the Mineral Aggregate (VMA), % minimum			Voids Filled with Asphalt Binder (VFA), %
	IL-19.0	IL-9.5	IL-4.75 ^{1/}	
50	13.5	15.0	18.5	65 – 78 ^{2/}
70			65 - 75	
90				

1/ Maximum Draindown for IL-4.75 shall be 0.3 percent

2/ VFA for IL-4.75 shall be 72-85 percent”

Replace Article 1030.04(b)(3) of the Standard Specifications with the following:

“(3) SMA Mixtures.

Volumetric Requirements SMA ^{1/}			
Ndesign	Design Air Voids Target %	Voids in the Mineral Aggregate (VMA), % min.	Voids Filled with Asphalt (VFA), %
80 ^{4/}	3.5	17.0 ^{2/}	75 - 83
		16.0 ^{3/}	

1/ Maximum draindown shall be 0.3 percent. The draindown shall be determined at the JMF asphalt binder content at the mixing temperature plus 30 °F.

2/ Applies when specific gravity of coarse aggregate is ≥ 2.760.

3/ Applies when specific gravity of coarse aggregate is < 2.760.

4/ Blending of different types of aggregate will not be permitted.

For surface course, the coarse aggregate can be crushed steel slag, crystalline crushed stone or crushed sandstone. For binder course, coarse aggregate shall be crushed stone (dolomite), crushed gravel, crystalline crushed stone, or crushed sandstone.

Add to the end of Article 1030.05 (d) (2) a. of the Standard Specifications:

“During production, the Contractor shall test SMA mixtures for draindown according to AASHTO T305 at a frequency of 1 per day of production.”

Delete last sentence of the second paragraph of Article 1102.01(a) (4) b. 2.

Add to the end of Article 1102.01 (a) (4) b. 2.:

“As an option, collected dust (baghouse) may be used in lieu of manufactured mineral filler according to the following:

(a.) Sufficient collected dust (baghouse) is available for production of the SMA mix for the entire project.

(b.) A mix design was prepared based on collected dust (baghouse).

2) Design Verification and Production

Revise Article 1030.04 (d) of the Standard Specifications to read:

“(d) Verification Testing. High ESAL, IL-4.75, and SMA mix designs submitted for verification will be tested to ensure that the resulting mix designs will pass the required criteria for the Hamburg Wheel Test (IL mod AASHTO T-324) and the Tensile Strength Test (IL mod AASHTO T-283). The Department will perform a verification test on gyratory specimens compacted by the Contractor. If the mix fails the Department’s verification test, the Contractor shall make the necessary changes to the mix and resubmit compacted specimens to the Department for verification. If the mix fails again, the mix design will be rejected.

All new and renewal mix designs will be required to be tested, prior to submittal for Department verification and shall meet the following requirements:

Hamburg Wheel Test criteria. The maximum allowable rut depth shall be 0.5 in. (12.5 mm). The minimum number of wheel

(1) passes at the 0.5 in. (12.5 mm) rut depth criteria shall be based on the high temperature binder grade of the mix as specified in the mix requirements table of the plans.

Illinois Modified AASHTO T 324 Requirements ^{1/}

Asphalt Binder Grade	# Repetitions	Max Rut Depth (mm)
PG 70 -XX (or higher)	20,000	12.5
PG 64 -XX (or lower)	10,000	12.5

- 1/ When produced at temperatures of 275 ± 5 °F (135 ± 3 °C) or less, loose Warm Mix Asphalt shall be oven aged at 270 ± 5 °F (132 ± 3 °C) for two hours prior to gyratory compaction of Hamburg Wheel specimens.

Note: For SMA Designs (N-80) the maximum rut depth is 6.0 mm at 20,000 repetitions.
 For IL 4.75mm Designs (N-50) the maximum rut depth is 9.0mm at 15,000 repetitions.

- (2) Tensile Strength Criteria. The minimum allowable conditioned tensile strength shall be 60 psi (415 kPa) for non-polymer modified performance graded (PG) asphalt binder and 80 psi (550 kPa) for polymer modified PG asphalt binder. The maximum allowable unconditioned tensile strength shall be 200 psi (1380 kPa).”

Production Testing. Revise first paragraph of Article 1030.06(a) of the Standard Specifications to read:

“(a) High ESAL, IL-4.75, WMA, and SMA Mixtures. For each contract, a 300 ton (275 metric tons) test strip, except for SMA mixtures it will be 400 ton (363 metric ton), will be required at the beginning of HMA production for each mixture at the beginning of each construction year according to the Manual of Test Procedures for Materials “Hot Mix Asphalt Test Strip Procedures”. At the request of the Producer, the Engineer may waive the test strip if previous construction during the current construction year has demonstrated the constructability of the mix using Department test results.”

Add the following after the sixth paragraph in Article 1030.06 (a) of the Standard Specifications:

“The Hamburg Wheel test shall also be conducted on all HMA mixtures from a sample taken within the first 500 tons (450 metric tons) on the first day of production or during start up with a split reserved for the Department. The mix sample shall be tested according to the Illinois Modified AASHTO T 324 and shall meet the requirements specified herein. Mix production shall not exceed 1500 tons (1350 metric tons) or one day’s production, whichever comes first, until the testing is completed and the mixture is found to be in conformance. The requirement to cease mix production may be waived if the plant produced mixture demonstrates conformance prior to start of mix production for a contract.

If the mixture fails to meet the Hamburg Wheel criteria, no further mixture will be accepted until the Contractor takes such action as is necessary to furnish a mixture meeting the criteria”

Method of Measurement:

Add the following after the fourth paragraph of Article 406.13 (b):

“The plan quantities of SMA mixtures shall be adjusted using the actual approved binder and surface Mix Design’s G_{mb} .”

Basis of Payment.

Replace the fourth paragraph of Article 406.14 of the Standard Specifications with the following:

“Stone matrix asphalt will be paid for at the contract unit price per ton (metric ton) for POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, STONE MATRIX ASPHALT, of the mixture composition and Ndesign specified; and POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, STONE MATRIX ASPHALT, of the mixture composition and Ndesign specified.”

RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES (D-1)

Effective: November 1, 2012

Revise: January 1, 2018

Revise Section 1031 of the Standard Specifications to read:

“SECTION 1031. RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES

1031.01 Description. Reclaimed asphalt pavement and reclaimed asphalt shingles shall be according to the following.

- (a) Reclaimed Asphalt Pavement (RAP). RAP is the material resulting from cold milling or crushing an existing hot-mix asphalt (HMA) pavement. RAP will be considered processed FRAP after completion of both crushing and screening to size. The Contractor shall supply written documentation that the RAP originated from routes or airfields under federal, state, or local agency jurisdiction.
- (b) Reclaimed Asphalt Shingles (RAS). Reclaimed asphalt shingles (RAS). RAS is from the processing and grinding of preconsumer or post-consumer shingles. RAS shall be a clean and uniform material with a maximum of 0.5 percent unacceptable material, as defined in Central Bureau of Materials Policy Memorandum, “Reclaimed Asphalt Shingle (RAS) Sources”, by weight of RAS. All RAS used shall come from a Central Bureau of Materials approved processing facility where it shall be ground and processed to 100 percent passing the 3/8 in. (9.5 mm) sieve and 90 percent passing the #4 (4.75 mm) sieve. RAS shall meet the testing requirements specified herein. In addition, RAS shall meet the following Type 1 or Type 2 requirements.
 - (1) Type 1. Type 1 RAS shall be processed, preconsumer asphalt shingles salvaged from the manufacture of residential asphalt roofing shingles.
 - (2) Type 2. Type 2 RAS shall be processed post-consumer shingles only, salvaged from residential, or four unit or less dwellings not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP).

1031.02 Stockpiles. RAP and RAS stockpiles shall be according to the following.

- (a) RAP Stockpiles. The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. Additional processed RAP (FRAP) shall be stockpiled in a separate working pile, as designated in the QC Plan, and only added to the sealed stockpile when test results for the working pile are complete and are found to meet tolerances specified herein for the original sealed FRAP stockpile. Stockpiles shall be sufficiently separated to prevent intermingling at the base. All stockpiles (including unprocessed RAP and FRAP) shall be identified by signs indicating the type as listed below (i.e. "Non- Quality, FRAP -#4 or Type 2 RAS", etc...).
- (1) Fractionated RAP (FRAP). FRAP shall consist of RAP from Class I, HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in FRAP shall be crushed aggregate and may represent more than one aggregate type and/or quality, but shall be at least C quality. All FRAP shall be processed prior to testing and sized into fractions with the separation occurring on or between the #4 (4.75 mm) and 1/2 in. (12.5 mm) sieves. Agglomerations shall be minimized such that 100 percent of the RAP in the coarse fraction shall pass the maximum sieve size specified for the mix the FRAP will be used in.
 - (2) Restricted FRAP (B quality) stockpiles shall consist of RAP from Class I, HMA (High ESAL), or HMA (High ESAL). If approved by the Engineer, the aggregate from a maximum 3.0 in. (75 mm) single combined pass of surface/binder milling will be classified as B quality. All millings from this application will be processed into FRAP as described previously.
 - (3) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I, HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in this RAP shall be crushed aggregate and may represent more than one aggregate type and/or quality, but shall be at least C quality. This RAP may have an inconsistent gradation and/or asphalt binder content prior to processing. All conglomerate RAP shall be processed (FRAP) prior to testing. Conglomerate RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.
 - (4) Conglomerate "D" Quality (DQ). Conglomerate DQ RAP stockpiles shall consist of RAP from HMA shoulders, bituminous stabilized subbases or HMA (Low ESAL)/HMA (Low ESAL) IL-19.0L binder mixture. The coarse aggregate in this RAP may be crushed or round but shall be at least D quality. This RAP may have an inconsistent gradation and/or asphalt binder content. Conglomerate DQ RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.
 - (5) Non-Quality. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Non-Quality".

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

- (b) RAS Stockpiles. Type 1 and Type 2 RAS shall be stockpiled separately and shall be sufficiently separated to prevent intermingling at the base. Each stockpile shall be signed indicating what type of RAS is present.
- However, a RAS source may submit a written request to the Department for approval to blend mechanically a specified ratio of Type 1 RAS with Type 2 RAS. The source will not be permitted to change the ratio of the blend without the Department prior written approval. The Engineer's written approval will be required, to mechanically blend RAS with any fine aggregate produced under the AGCS, up to an equal weight of RAS, to improve workability. The fine aggregate shall be "B Quality" or better from an approved Aggregate Gradation Control System source. The fine aggregate shall be one that is approved for use in the HMA mixture and accounted for in the mix

design and during HMA production.

Records identifying the shingle processing facility supplying the RAS, RAS type, and lot number shall be maintained by project contract number and kept for a minimum of three years.

1031.03 Testing. FRAP and RAS testing shall be according to the following.

- (a) FRAP Testing. When used in HMA, the FRAP shall be sampled and tested either during processing or after stockpiling. It shall also be sampled during HMA production.
 - (1) During Stockpiling. For testing during stockpiling, washed extraction samples shall be run at the minimum frequency of one sample per 500 tons (450 metric tons) for the first 2000 tons (1800 metric tons) and one sample per 2000 tons (1800 metric tons) thereafter. A minimum of five tests shall be required for stockpiles less than 4000 tons (3600 metric tons).
 - (2) Incoming Material. For testing as incoming material, washed extraction samples shall be run at a minimum frequency of one sample per 2000 tons (1800 metric tons) or once per week, whichever comes first.
 - (3) After Stockpiling. For testing after stockpiling, the Contractor shall submit a plan for approval to the District proposing a satisfactory method of sampling and testing the RAP/FRAP pile either in-situ or by restockpiling. The sampling plan shall meet the minimum frequency required above and detail the procedure used to obtain representative samples throughout the pile for testing.

Before extraction, each field sample of FRAP, shall be split to obtain two samples of test sample size. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall extract the other test sample according to Department procedure. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

- (b) RAS Testing. RAS shall be sampled and tested during stockpiling according to Central Bureau of Materials Policy Memorandum, "Reclaimed Asphalt Shingle (RAS) Sources". The Contractor shall also sample as incoming material at the HMA plant.
 - (1) During Stockpiling. Washed extraction and testing for unacceptable materials shall be run at the minimum frequency of one sample per 200 tons (180 metric tons) for the first 1000 tons (900 metric tons) and one sample per 1000 tons (900 metric tons) thereafter. A minimum of five samples are required for stockpiles less than 1000 tons (900 metric tons). Once a ≤ 1000 ton (900 metric ton), five-sample/test stockpile has been established it shall be sealed. Additional incoming RAS shall be in a separate working pile as designated in the Quality Control plan and only added to the sealed stockpile when the test results of the working pile are complete and are found to meet the tolerances specified herein for the original sealed RAS stockpile.
 - (2) Incoming Material. For testing as incoming material at the HMA plant, washed extraction shall be run at the minimum frequency of one sample per 250 tons (227 metric tons). A minimum of five samples are required for stockpiles less than 1000 tons (900 metric tons). The incoming material test results shall meet the tolerances specified herein.

The Contractor shall obtain and make available all test results from start of the initial stockpile sampled and tested at the shingle processing facility in accordance with the facility's QC Plan.

Before extraction, each field sample shall be split to obtain two samples of test sample size. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall extract the other test sample according to Department procedures. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

1031.04 Evaluation of Tests. Evaluation of test results shall be according to the following.

- (a) Evaluation of FRAP Test Results. All test results shall be compiled to include asphalt binder content, gradation and, when applicable (for slag), G_{mm} . A five test average of results from the original pile will be used in the mix designs. Individual extraction test results run thereafter, shall be compared to the average used for the mix design, and will be accepted if within the tolerances listed below.

Parameter	FRAP
No. 4 (4.75 mm)	± 6 %
No. 8 (2.36 mm)	± 5 %
No. 30 (600 µm)	± 5 %
No. 200 (75 µm)	± 2.0 %
Asphalt Binder	± 0.3 %
G_{mm}	± 0.03 ^{1/}

- 1/ For stockpile with slag or steel slag present as determined in the current Manual of Test Procedures Appendix B 21, "Determination of Reclaimed Asphalt Pavement Aggregate Bulk Specific Gravity".

If any individual sieve and/or asphalt binder content tests are out of the above tolerances when compared to the average used for the mix design, the FRAP stockpile shall not be used in Hot-Mix Asphalt unless the FRAP representing those tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

The Contractor shall maintain a representative moving average of five tests to be used for Hot-Mix Asphalt production.

With the approval of the Engineer, the ignition oven may be substituted for extractions according to the ITP, "Calibration of the Ignition Oven for the Purpose of Characterizing Reclaimed Asphalt Pavement (RAP)" or Illinois Modified AASHTO T-164-11, Test Method A.

- (b) Evaluation of RAS Test Results. All of the test results, with the exception of percent unacceptable materials, shall be compiled and averaged for asphalt binder content and gradation. A five test average of results from the original pile will be used in the mix designs. Individual test results run thereafter, when compared to the average used for the mix design, will be accepted if within the tolerances listed below.

Parameter	RAS
No. 8 (2.36 mm)	± 5 %
No. 16 (1.18 mm)	± 5 %
No. 30 (600 µm)	± 4 %
No. 200 (75 µm)	± 2.5 %
Asphalt Binder Content	± 2.0 %

If any individual sieve and/or asphalt binder content tests are out of the above tolerances when compared to the average used for the mix design, the RAS shall not be used in Hot-Mix Asphalt unless the RAS representing those tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

- (c) Quality Assurance by the Engineer. The Engineer may witness the sampling and splitting conduct assurance tests on split samples taken by the Contractor for quality control testing a minimum of once a month.

The overall testing frequency will be performed over the entire range of Contractor samples for asphalt binder content and gradation. The Engineer may select any or all split samples for assurance testing. The test results will be made available to the Contractor as soon as they become available.

The Engineer will notify the Contractor of observed deficiencies.

Differences between the Contractor's and the Engineer's split sample test results will be considered acceptable if within the following limits.

Test Parameter	Acceptable Limits of Precision	
	FRAP	RAS
% Passing: ^{1/}		
1/2 in.	5.0%	
No. 4	5.0%	
No. 8	3.0%	4.0%
No. 30	2.0%	4.0%
No. 200	2.2%	4.0%
Asphalt Binder Content	0.3%	3.0%
G _{mm}	0.030	

1/ Based on washed extraction.

In the event comparisons are outside the above acceptable limits of precision, the Engineer will immediately investigate.

(d) Acceptance by the Engineer. Acceptable of the material will be based on the validation of the Contractor's quality control by the assurance process.

1031.05 Quality Designation of Aggregate in RAP and FRAP.

(a) RAP. The aggregate quality of the RAP for homogeneous, conglomerate, and conglomerate "D" quality stockpiles shall be set by the lowest quality of coarse aggregate in the RAP stockpile and are designated as follows.

- (1) RAP from Class I, HMA (High ESAL), or (Low ESAL) IL-9.5L surface mixtures are designated as containing Class B quality coarse aggregate.
- (2) RAP from HMA (Low ESAL) IL-19.0L binder mixture is designated as Class D quality coarse aggregate.
- (3) RAP from Class I, HMA (High ESAL) binder mixtures, bituminous base course mixtures, and bituminous base course widening mixtures are designated as containing Class C quality coarse aggregate.
- (4) RAP from bituminous stabilized subbase and BAM shoulders are designated as containing Class D quality coarse aggregate.

(b) FRAP. If the Engineer has documentation of the quality of the FRAP aggregate, the Contractor shall use the assigned quality provided by the Engineer.

If the quality is not known, the quality shall be determined as follows. Fractionated RAP stockpiles containing plus #4 (4.75 mm) sieve coarse aggregate shall have a maximum tonnage of 5,000 tons (4,500 metric tons). The Contractor shall obtain a representative sample witnessed by the

Engineer. The sample shall be a minimum of 50 lb (25 kg). The sample shall be extracted according to Illinois Modified AASHTO T 164 by a consultant laboratory prequalified by the Department for the specified testing. The consultant laboratory shall submit the test results along with the recovered aggregate to the District Office. The cost for this testing shall be paid by the Contractor. The District will forward the sample to the Central Bureau of Materials Aggregate Lab for MicroDeval Testing, according to ITP 327. A maximum loss of 15.0 percent will be applied for all HMA applications. The fine aggregate portion of the fractionated RAP shall not be used in any HMA mixtures that require a minimum of "B" quality aggregate or better, until the coarse aggregate fraction has been determined to be acceptable thru a MicroDeval Testing.

1031.06 Use of FRAP and/or RAS in HMA. The use of FRAP and/or RAS shall be the Contractor's option when constructing HMA in all contracts.

(a) FRAP. The use of FRAP in HMA shall be as follows.

- (1) Coarse Aggregate Size (after extraction). The coarse aggregate in all FRAP shall be equal to or less than the nominal maximum size requirement for the HMA mixture to be produced.
- (2) Steel Slag Stockpiles. FRAP stockpiles containing steel slag or other expansive material, as determined by the Department, shall be homogeneous and will be approved for use in HMA (High ESAL and Low ESAL) mixtures regardless of lift or mix type.
- (3) Use in HMA Surface Mixtures (High and Low ESAL). FRAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall have coarse aggregate that is Class B quality or better. FRAP shall be considered equivalent to limestone for frictional considerations unless produced/screened to minus 3/8 inch.
- (4) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. FRAP stockpiles for use in HMA binder mixtures (High and Low ESAL), HMA base course, and HMA base course widening shall be FRAP in which the coarse aggregate is Class C quality or better.
- (5) Use in Shoulders and Subbase. FRAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be FRAP, Restricted FRAP, conglomerate, or conglomerate DQ.

(b) RAS. RAS meeting Type 1 or Type 2 requirements will be permitted in all HMA applications as specified herein.

(c) FRAP and/or RAS Usage Limits. Type 1 or Type 2 RAS may be used alone or in conjunction with FRAP in HMA mixtures up to a maximum of 5.0 percent by weight of the total mix.

When FRAP is used alone or FRAP is used in conjunction with RAS, the percent of virgin asphalt binder replacement (ABR) shall not exceed the amounts indicated in the table below for a given N Design.

Max Asphalt Binder Replacement for FRAP with RAS Combination

HMA Mixtures ^{1/ 2/ 4/}	Maximum % ABR		
	Binder/Leveling Binder	Surface	Polymer Modified ^{3/}
30L	50	40	30
50	40	35	30
70	40	30	30
90	40	30	30
4.75 mm N-50			40

SMA N-80			30
----------	--	--	----

- 1/ For Low ESAL HMA shoulder and stabilized subbase, the percent asphalt binder replacement shall not exceed 50 % of the total asphalt binder in the mixture.
- 2/ When the binder replacement exceeds 15 % for all mixes, except for SMA and IL-4.75, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 % binder replacement using a virgin asphalt binder grade of PG64-22 will be reduced to a PG58-28). When constructing full depth HMA and the ABR is less than 15 %, the required virgin asphalt binder grade shall be PG64-28.
- 3/ When the ABR for SMA or IL-4.75 is 15 % or less, the required virgin asphalt binder shall be SBS PG76-22 and the elastic recovery shall be a minimum of 80. When the ABR for SMA or IL-4.75 exceeds 15%, the virgin asphalt binder grade shall be SBS PG70-28 and the elastic recovery shall be a minimum of 80.
- 4/ When FRAP or RAS is used alone, the maximum percent asphalt binder replacement designated on the table shall be reduced by 10 %.

1031.07 HMA Mix Designs. At the Contractor's option, HMA mixtures may be constructed utilizing RAP/FRAP and/or RAS material meeting the detailed requirements specified herein.

(a) FRAP and/or RAS. FRAP and /or RAS mix designs shall be submitted for verification. If additional FRAP or RAS stockpiles are tested and found to be within tolerance, as defined under "Evaluation of Tests" herein, and meet all requirements herein, the additional FRAP or RAS stockpiles may be used in the original design at the percent previously verified.

(b) RAS. Type 1 and Type 2 RAS are not interchangeable in a mix design. The RAP, FRAP and RAS stone specific gravities (G_{sb}) shall be according to the "Determination of Aggregate Bulk (Dry) Specific Gravity (G_{sb}) or Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)" procedure in the Department's Manual of Test Procedures for Materials.

1031.08 HMA Production. HMA production utilizing FRAP and/or RAS shall be as follows.

To remove or reduce agglomerated material, a scalping screen, gator, crushing unit, or comparable sizing device approved by the Engineer shall be used in the RAS and FRAP feed system to remove or reduce oversized material. .

If during mix production, corrective actions fail to maintain FRAP, RAS or QC/QA test results within control tolerances or the requirements listed herein the Contractor shall cease production of the mixture containing FRAP or RAS and conduct an investigation that may require a new mix design.

(a) RAS. RAS shall be incorporated into the HMA mixture either by a separate weight depletion system or by using the RAP weigh belt. Either feed system shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes. The portion of RAS shall be controlled accurately to within ± 0.5 percent of the amount of RAS utilized. When using the weight depletion system, flow indicators or sensing devices shall be provided and interlocked with the plant controls such that the mixture production is halted when RAS flow is interrupted.

(b) HMA Plant Requirements. HMA plants utilizing FRAP and/or RAS shall be capable of automatically recording and printing the following information.

(1) Dryer Drum Plants.

- a. Date, month, year, and time to the nearest minute for each print.
- b. HMA mix number assigned by the Department.
- c. Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- d. Accumulated dry weight of RAS and FRAP in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- e. Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.
- f. Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.
- g. Residual asphalt binder in the RAS and FRAP material as a percent of the total mix to the nearest 0.1 percent.
- h. Aggregate RAS and FRAP moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAS and FRAP are printed in wet condition.)
- i. When producing mixtures with FRAP and/or RAS, a positive dust control system shall be utilized.
- j. Accumulated mixture tonnage.
- k. Dust Removed (accumulated to the nearest 0.1 ton (0.1 metric ton))

(2) Batch Plants.

- a. Date, month, year, and time to the nearest minute for each print.
- b. HMA mix number assigned by the Department.
- c. Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram).
- d. Mineral filler weight to the nearest pound (kilogram).
- f. RAS and FRAP weight to the nearest pound (kilogram).
- g. Virgin asphalt binder weight to the nearest pound (kilogram).
- h. Residual asphalt binder in the RAS and FRAP material as a percent of the total mix to the nearest 0.1 percent.

The printouts shall be maintained in a file at the plant for a minimum of one year or as directed by the Engineer and shall be made available upon request. The printing system will be inspected by the Engineer prior to production and verified at the beginning of each construction season thereafter.

1031.09 RAP in Aggregate Surface Course and Aggregate Wedge Shoulders, Type B. The use of RAP or FRAP in aggregate surface course and aggregate shoulders shall be as follows.

- (a) Stockpiles and Testing. RAP stockpiles may be any of those listed in Article 1031.02, except "Non-

Quality” and “FRAP”. The testing requirements of Article 1031.03 shall not apply. RAP used shall be according to the current Central Bureau of Materials Policy Memorandum, “Reclaimed Asphalt Pavement (RAP) for Aggregate Applications”.

- (c) Gradation. The RAP material shall meet the gradation requirements for CA 6 according to Article 1004.01(c), except the requirements for the minus No. 200 (75 µm) sieve shall not apply. The sample for the RAP material shall be air dried to constant weight prior to being tested for gradation.”

DRAINAGE AND INLET PROTECTION UNDER TRAFFIC (DISTRICT 1)

Effective: April 1, 2011

Revised: April 2, 2011

Add the following to Article 603.02 of the Standard Specifications:

- “(i) Temporary Hot-Mix Asphalt (HMA) Ramp (Note 1) 1030
- (j) Temporary Rubber Ramps (Note 2)

Note 1. The HMA shall have maximum aggregate size of 3/8 in. (95 mm).

Note 2. The rubber material shall be according to the following.

Property	Test Method	Requirement
Durometer Hardness, Shore A	ASTM D 2240	75 ±15
Tensile Strength, psi (kPa)	ASTM D 412	300 (2000) min
Elongation, percent	ASTM D 412	90 min
Specific Gravity	ASTM D 792	1.0 - 1.3
Brittleness, °F (°C)	ASTM D 746	-40 (-40)”

Revise Article 603.07 of the Standard Specifications to read:

“603.07 Protection Under Traffic. After the casting has been adjusted and the Class PP concrete has been placed, the work shall be protected by a barricade and two lights according to Article 701.17(e)(3)b.

When castings are under traffic before the final surfacing operation has been started, properly sized temporary ramps shall be placed around the drainage and/or utility castings according to the following methods.

- (a) Temporary Asphalt Ramps. Temporary hot-mix asphalt ramps shall be placed around the casting, flush with its surface and decreasing to a featheredge in a distance of 2 ft (600 mm) around the entire surface of the casting.
- (b) Temporary Rubber Ramps. Temporary rubber ramps shall only be used on roadways with permanent posted speeds of 40 mph or less and when the height of the casting to be protected meets the proper sizing requirements for the rubber ramps as shown below.

Dimension	Requirement
Inside Opening	Outside dimensions of casting + 1 in. (25 mm)
Thickness at inside edge	Height of casting ± 1/4 in. (6 mm)
Thickness at outside edge	1/4 in. (6 mm) max.

Width, measured from inside opening to outside edge	8 1/2 in. (215 mm) min
---	------------------------

Placement shall be according to the manufacturer's specifications.

Temporary ramps for castings shall remain in place until surfacing operations are undertaken within the immediate area of the structure. Prior to placing the surface course, the temporary ramp shall be removed. Excess material shall be disposed of according to Article 202.03."

COARSE AGGREGATE FOR BACKFILL, TRENCH BACKFILL AND BEDDING (D-1)

Effective: November 1, 2011

Revised: November 1, 2013

This work shall be according to Section 1004.05 of the Standard Specifications except for the following:

Reclaimed Asphalt Pavement (RAP) maybe blended with gravel, crushed gravel, crushed stone crushed concrete, crushed slag, chats, crushed sand stone or wet bottom boiler slag. The RAP used shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications". The RAP shall be uniformly graded and shall pass the 1.0 in. (25 mm) screen. When RAP is blended with any of the coarse aggregate listed above, the blending shall be done mechanically with calibrated feeders. The feeders shall have an accuracy of ± 2.0 percent of the actual quantity of material delivered. The final blended product shall not contain more than 40 percent by weight RAP.

The coarse aggregate listed above shall meet CA 6 and CA 10 gradations prior to being blended with the processed and uniformly graded RAP. Gradation deleterious count shall not exceed 10% of total RAP and 5% of other by total weight.

GROUND TIRE RUBBER (GTR) MODIFIED ASPHALT BINDER (D-1)

Effective: June 26, 2006

Revised: April 1, 2016

Add the following to the end of article 1032.05 of the Standard Specifications:

"(c) Ground Tire Rubber (GTR) Modified Asphalt Binder. A quantity of 10.0 to 14.0 percent GTR (Note 1) shall be blended by dry unit weight with a PG 64-28 to make a GTR 70-28 or a PG 58-28 to make a GTR 64-28. The base PG 64-28 and PG 58-28 asphalt binders shall meet the requirements of Article 1032.05(a). Compatible polymers may be added during production. The GTR modified asphalt binder shall meet the requirements of the following table.

Test	Asphalt Grade GTR 70-28	Asphalt Grade GTR 64-28
Flash Point (C.O.C.), AASHTO T 48, °F (°C), min.	450 (232)	450 (232)
Rotational Viscosity, AASHTO T 316 @ 275 °F (135 °C), Poises, Pa·s, max.	30 (3)	30 (3)
Softening Point, AASHTO T 53, °F (°C), min.	135 (57)	130 (54)

Elastic Recovery, ASTM D 6084, Procedure A (sieve waived) @ 77 °F, (25 °C), aged, ss, 100 mm elongation, 5 cm/min., cut immediately, %, min.	65	65
--	----	----

Note 1. GTR shall be produced from processing automobile and/or light truck tires by the ambient grinding method. GTR shall not exceed 1/16 in. (2 mm) in any dimension and shall contain no free metal particles or other materials. A mineral powder (such as talc) meeting the requirements of AASHTO M 17 may be added, up to a maximum of four percent by weight of GTR to reduce sticking and caking of the GTR particles. When tested in accordance with Illinois modified AASHTO T 27, a 50 g sample of the GTR shall conform to the following gradation requirements:

Sieve Size	Percent Passing
No. 16 (1.18 mm)	100
No. 30 (600 µm)	95 ± 5
No. 50 (300 µm)	> 20

Add the following to the end of Note 1. of article 1030.03 of the Standard Specifications:

“A dedicated storage tank for the Ground Tire Rubber (GTR) modified asphalt binder shall be provided. This tank must be capable of providing continuous mechanical mixing throughout by continuous agitation and recirculation of the asphalt binder to provide a uniform mixture. The tank shall be heated and capable of maintaining the temperature of the asphalt binder at 300 °F to 350 °F (149 °C to 177 °C). The asphalt binder metering systems of dryer drum plants shall be calibrated with the actual GTR modified asphalt binder material with an accuracy of ± 0.40 percent.”

Revise 1030.02(c) of the Standard Specifications to read:

“(c) RAP Materials (Note 5)1031”

Add the following note to 1030.02 of the Standard Specifications:

Note 5. When using reclaimed asphalt pavement and/or reclaimed asphalt shingles, the maximum asphalt binder replacement percentage shall be according to the most recent special provision for recycled materials.

SIGN SHOP DRAWING SUBMITTAL

Effective: January 22, 2013

Revised: July 1, 2015

720.02TS

Add the following paragraph to Article 720.03 of the Standard Specifications:

Shop drawings will be required, according to Article 105.04, for all Arterials/Expressways signs except standard highway signs covered in the MUTCD. Shop drawings shall be submitted to the Engineer for review and approval prior to fabrication. The shop drawings shall include dimensions, letter sizing, font type, colors and materials.

STORM SEWER (WATER MAIN REQUIREMENTS)

This work shall consist of constructing storm sewers meeting water main requirements.

Storm Sewer (Water Main Requirements) shall be used at locations where lateral separation between the sewer and water main or water service line is less than 10 feet (3.1 m) and the water main invert is less than 18 inches (457 mm) above the storm sewer crown. Also, Storm Sewer (Water Main Requirements) shall be used where the sewer crosses above the water main or water service line with 18 inches (457 mm) minimum vertical separation.

The storm sewer shall be constructed of

Ductile iron pipe, Class 52 with bell and rubber gasket joint or
Concrete pressure pipe conforming to the latest AWWA Standard C300, C301, C303, of the
Standard Specifications for Water and Sewer Main Construction in Illinois and Section 550
of the Standard Specifications. The pipe joints shall be "O" ring joints conforming to ASTM C-361.

This work shall be done according to the applicable portions of Sections 550 and 561 of the Standard Specifications.

Method of Measurement. This work will be measured for payment according to Article 550.09 of the Standard Specifications.

Basis of Payment. This work will be paid for at the contract unit price per foot (meter) for STORM SEWER (WATER MAIN REQUIREMENTS), of the diameter specified.

ADJUSTMENTS AND RECONSTRUCTIONS

Effective: March 15, 2011

Revise the first paragraph of Article 602.04 to read:

"602.04 Concrete. Cast-in-place concrete for structures shall be constructed of Class SI concrete according to the applicable portions of Section 503. Cast-in-place concrete for pavement patching around adjustments and reconstructions shall be constructed of Class PP-1 concrete, unless otherwise noted in the plans, according to the applicable portions of Section 1020."

Revise the third, fourth and fifth sentences of the second paragraph of Article 602.11(c) to read:

"Castings shall be set to the finished pavement elevation so that no subsequent adjustment will be necessary, and the space around the casting shall be filled with Class PP-1 concrete, unless otherwise noted in the plans, to the elevation of the surface of the base course or binder course. HMA surface or binder course material shall not be allowed. The pavement may be opened to traffic according to Article 701.17(e)(3)b."

Revise Article 603.05 to read:

"603.05 Replacement of Existing Flexible Pavement. After the castings have been adjusted, the surrounding space shall be filled with Class PP-1 concrete, unless otherwise noted in the plans, to the elevation of the surface of the base course or binder course. HMA surface or binder course material shall not be allowed. The pavement may be opened to traffic according to Article 701.17(e)(3)b."

Revise Article 603.06 to read:

"603.06 Replacement of Existing Rigid Pavement. After the castings have been adjusted, the

pavement and HMA that was removed, shall be replaced with Class PP-1 concrete, unless otherwise noted in the plans, not less than 9 in. (225 mm) thick. The pavement may be opened to traffic according to Article 701.17(e)(3)b.

The surface of the Class PP concrete shall be constructed flush with the adjacent surface.”

Revise the first sentence of Article 603.07 to read:

“**603.07 Protection Under Traffic.** After the casting has been adjusted and the Class PP concrete has been placed, the work shall be protected by a barricade and two lights according to Article 701.17(e)(3)b.”

TELEVISION INSPECTION OF SEWER, SPECIAL

All newly installed storm sewer mains within the project limits shall be inspected by closed circuit TV before acceptance. The entire length between manholes of sewer sections shall be televised. FAU 1321 (Irving Park Road) Section No. 10-00055-00-WR Village of Streamwood, Cook County, IL Contract No. 61F41. The Contractor shall submit two copies of the color digital record (in DVD format) of the sewer and 2 copies of the televising report to the Engineer, showing distance between manholes, location of connections, direction of flow and direction of TV camera during televising. Prior to televising, the Contractor shall flush and clean all sewers. If the sewers are found not to be clean during televising, the Contractor will be required to flush and clean and re-televising said sewers found not to be clean. Unless otherwise specified, sewers must be straight between manholes. They may be tested for straightness by flashing a light from manhole to manhole, lamping, or by other suitable means. All televising shall be recorded from manhole to manhole. The timing of the televising of sewers is of the utmost importance. No roadway work will be allowed until the video records have been viewed and accepted with the approval of the Engineer. Pre-construction televising will be required of the existing storm sewer throughout all areas of construction. Post-construction televising will be required for newly installed storm sewer.

Basis of Payment:

The cost of televising storm sewer shall be paid for at the contract unit price per foot for TELEVISION INSPECTION OF SEWER, SPECIAL, which price shall include all materials, equipment and labor required for the successful televising of all sewer sections. If the inspected sewers are not acceptable, the problems found shall be repaired and the TV test repeated until satisfactory at no additional cost to the Village.

TEST HOLES

Description.

This item shall consist of excavation for the purpose of locating existing utilities at locations where conflict is possible with proposed construction.

Construction Requirements.

Test holes will be dug at locations authorized by the Engineer. The Contractor shall be responsible for notifying the utility concerned. After the Engineer has verified the location of the utility, the test hole shall be backfilled with either the excavated material or crushed limestone with CA-7 gradation, as directed by the Engineer. Any excess material shall be disposed of in accordance with Article 202.03.

Basis of Payment.

This item shall not be paid for separately, but shall be included in the contract unit price for STORM SEWERS of the type and diameter specified. No separate payment will be made for stone used to backfill the test holes.

MANHOLES, TYPE A, 8' DIAMETER, TYPE 1, CLOSED LID, RESTRICTOR PLATE

Description: This work shall consist of constructing a 8'-Diameter Type-A manhole with restrictor in accordance with Sections 602 and 1006 of the Standard Specifications and the Plans and/or as directed by the Engineer.

Construction Requirements: Construction shall conform to the details shown in the Plans, all applicable IDOT Standard Drawings and all application portions of the Sections 602 and 1006 of the Standard Specifications. The manhole shall include the restrictor plates of the type and size shown on the Manhole with Restrictor Plate Detail in the plans. The work should include the steel plate, angles and fasteners which shall be galvanized. The Contractor shall provide shop drawings for approval prior to manufacturing.

Method of Measurement: This work will be measured for payment, complete in place and accepted, in units of each.

Basis of Payment: This work will be paid for at the contract unit price per each MANHOLES, TYPE A, 8'-DIAMETER, TYPE 1, CLOSED LID RESTRICTOR PLATE installed. Price shall include but not be limited to all frames, grades, lids, sand cushion, steps, flat slap tops, al excavation and backfilling and all other labor, equipment and materials necessary to complete the work as specified herein.

CONNECTION TO EXISTING SEWER

Description.

This item shall consist of the construction of proposed storm sewer connection to existing storm sewers or existing drainage structures at locations shown on the plans and as directed by the Engineer.

The new opening in the existing drainage structure or storm sewer shall be made in a manner to minimize any structural damage to the storm sewer. Any damage to the existing drainage structure or storm sewer shall be repaired to the Engineer's satisfaction at no additional cost to the Department.

A storm sewer connection to an existing drainage structure shall be sealed with class SI concrete or brick and suitable mortar to the satisfaction of the Engineer.

The storm sewer structure connection to the existing storm sewer shall be sealed with class SI concrete or brick and suitable mortar, per applicable portions of District One Detail BD-07 Detail "C", to the satisfaction of the Engineer.

Basis of Payment:

This work will be paid for at the contract unit price, per EACH for CONNECTION TO EXISTING SEWER

FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)

Description.

This work consists of furnishing labor, material and equipment to adjust frames and lids on the drainage and utility structures within the pavement prior to milling, and adjusting to final grade prior to placing the surface course. Any individual rings for storm sewer adjustments under 3" in height must be IDOT approved plastic or rubber with steel shims. All sanitary sewer adjusted structures shall have concrete rings. The work shall be performed in accordance with IDOT District One Detail BD-08 as directed by the Engineer.

This work shall be measured for payment per EACH.

Basis of Payment:

This work will be paid for at the contract unit price, per EACH for FRAMES AND LIDS TO BE ADJUSTED (SPECIAL).

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

Description: This work shall consist of all labor materials and equipment to adjust Sanitary Manholes to the final surface elevation of the improvements. The work shall be performed in accordance with Section 602 of the Standard Specifications for Road and Bridge Construction (latest edition), Division IV of the Standard Specifications for Water and Sewer Main Construction in Illinois (latest edition).

Revise Article 602.07 to read:

“Each disrupted manhole cone and barrel section joint shall require a double layer of butyl rope and also be externally sealed with a 6” or 9” wide (minimum) sealing band of rubber and mastic. The band shall have an outer layer of rubber or polyethylene with an under layer of rubberized mastic (with a protective film), meeting the requirements of ASTM C-877, type II or type III. Prior to assembly, said joints shall be free of any aggregates or moisture.

A maximum of 8” of adjusting rings (2 total rings) is allowed in any adjustment, which shall be set in butyl rope. The frame and chimney of the cone section shall be required to be sealed with a chimney seal. Only “Adaptor-Seal” or “Infa-Shield” will be allowed.”

Revise the second sentence of the second paragraph in Article 602.11(c) to read:

“After the structures have been adjusted, the casting shall be set in butyl rope.”

Method of Measurement: This work shall be measured per each sanitary manhole to be adjusted.

Basis of Payment: This work shall be paid for at the contract unit price per each for SANITARY MANHOLES TO BE ADJUSTED WITH NEW TYPE 1 FRAME, CLOSED LID, which includes all necessary labor, tools, equipment, and materials necessary to bring the existing structure frame and lid up to proposed grade.

SANITARY MANHOLES TO BE RECONSTRUCTED WITH NEW TYPE 1 FRAME, CLOSED LID

Description: This work shall consist of all labor materials and equipment to reconstruct Sanitary Manholes to the final surface elevation of the improvements. The work shall be performed in accordance with Section 602 of the Standard Specifications for Road and Bridge Construction (latest edition), Division IV of the Standard Specifications for Water and Sewer Main Construction in Illinois (latest edition).

Revise Article 602.07 to read:

“Each disrupted manhole cone and barrel section joint shall require a double layer of butyl rope and also be externally sealed with a 6” or 9” wide (minimum) sealing band of rubber and mastic. The band shall have an outer layer of rubber or polyethylene with an under layer of rubberized mastic (with a protective film), meeting the requirements of ASTM C-877, type II or type III. Prior to assembly, said joints shall be free of any aggregates or moisture.

A maximum of 8” of adjusting rings (2 total rings) is allowed in any adjustment, which shall be set in butyl rope. The frame and chimney of the cone section shall be required to be sealed with a chimney seal. Only “Adaptor-Seal” or “Infa-Shield” will be allowed.”

Revise the second sentence of the second paragraph in Article 602.11(c) to read:

“After the structures have been adjusted, the casting shall be set in butyl rope.”

Method of Measurement: This work shall be measured per each sanitary manhole to be adjusted.

Basis of Payment: This work shall be paid for at the contract unit price per each for SANITARY

MANHOLES TO BE RECONSTRUCTED WITH NEW TYPE 1 FRAME, CLOSED LID, which includes all necessary labor, tools, equipment, and materials necessary to bring the existing structure frame and lid up to proposed grade.

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES

Description. This work shall consist of the removal and disposal of regulated substances according to Section 669 of the Standard Specifications as revised below.

Contract Specific Sites. The excavated soil and groundwater within the areas listed below shall be managed as either “uncontaminated soil”, hazardous waste, special waste or non-special waste. For stationing, the lateral distance is measured from centerline and the farthest distance is the offset distance or construction limit, whichever is less.

Site 2359V-29 (Vacant Land)

- Station 504+90 to Station 505+75 (CL IL 19), 0 to 50 feet RT, (Vacant Land, PESA site 2359V-29, 800 block of W. Irving Park Road, Streamwood). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameters: Arsenic, and Manganese.
- Station 506+75 to Station 507+50 (CL IL 19), 0 to 50 feet RT, (Vacant Land, PESA site 2359V-29, 800 block of W. Irving Park Road, Streamwood). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Manganese.

Site 2359V-30 (Hoosier Grove Park)

- Station 506+00 to Station 506+80 (CL IL 19), 0 to 50 feet LT, (Hoosier Grove Park, PESA site 2359V-30, 700 W. Irving Park Road, Streamwood). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Manganese.
- Station 507+75 to Station 509+05 (CL IL 19), 0 to 60 feet LT, (Hoosier Grove Park, PESA site 2359V-30, 700 W. Irving Park Road, Streamwood). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameters: Arsenic and Manganese.
- Station 509+05 to Station 510+25 (CL IL 19), 0 to 60 feet LT, (Hoosier Grove Park, PESA site 2359V-30, 700 W. Irving Park Road, Streamwood). This material meets the criteria of Article 669.09(a)(3) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Benzo(a)pyrene.
- Station 512+05 to Station 513+70 (CL IL 19), 0 to 55 feet LT, (Hoosier Grove Park, PESA site 2359V-30, 700 W. Irving Park Road, Streamwood). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Manganese.
- Station 513+70 to Station 514+00 (CL IL 19), 0 to 50 feet LT, (Hoosier Grove Park, PESA site 2359V-30, 700 W. Irving Park Road, Streamwood). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameters: Manganese.

Site 2359V-31 (Residences)

- Station 507+50 to Station 507+95 (CL IL 19), 0 to 50 feet RT, (Residences, PESA site 2359V-31, 900-927 Oak Ridge Drive, 3-6 Osprey Court, and 2-8 Evergreen Drive, Streamwood). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Manganese.
- Station 507+95 to Station 520+00 (CL IL 19), 0 to 50 feet RT, (Residences, PESA site 2359V-31, 900-927 Oak Ridge Drive, 3-6 Osprey Court, and 2-8 Evergreen Drive, Streamwood). This material meets

the criteria of Article 669.09(a)(3) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameters: Benzo(a)pyrene, and Manganese.

- Station 521+15 to Station 522+90 (CL IL 19), 0 to 50 feet RT, (Residences, PESA site 2359V-31, 900-927 Oak Ridge Drive, 3-6 Osprey Court, and 2-8 Evergreen Drive, Streamwood). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Manganese.

Site 2359V-32 (Residences and Vacant Land)

- Station 514+00 to Station 515+60 (CL IL 19), 0 to 50 feet LT, (Residences and Vacant Land, PESA site 2359V-32, 500 block of W. Irving Park Road, 78-88 Brookstone Drive, and 100 Whispering Drive, Streamwood). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 515+60 to Station 517+50 (CL IL 19), 0 to 50 feet LT, (Residences and Vacant Land, PESA site 2359V-32, 500 block of W. Irving Park Road, 78-88 Brookstone Drive, and 100 Whispering Drive, Streamwood). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Manganese.
- Station 517+50 to Station 519+50 (CL IL 19), 0 to 50 feet LT, (Residences and Vacant Land, PESA site 2359V-32, 500 block of W. Irving Park Road, 78-88 Brookstone Drive, and 100 Whispering Drive, Streamwood). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Manganese.
- Station 519+50 to Station 521+50 (CL IL 19), 0 to 50 feet LT, (Residences and Vacant Land, PESA site 2359V-32, 500 block of W. Irving Park Road, 78-88 Brookstone Drive, and 100 Whispering Drive, Streamwood). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Manganese.

Site 2359V-33 (Residences and Vacant Land)

- Station 521+50 to Station 523+25 (CL IL 19), 0 to 50 feet LT, (Residences and Vacant Land, PESA site 2359V-33, 00 block of W. Irving Park Road, 2-69 Colonial Court, 100-269 Brittany Drive, and 101A-103 Winchester Drive, Streamwood). This material meets the criteria of Article 669.09(a)(3) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameters: Benzo(a)pyrene, and Manganese.
- Station 524+95 to Station 529+80 (CL IL 19), 0 to 50 feet LT, (Residences and Vacant Land, PESA site 2359V-33, 00 block of W. Irving Park Road, 2-69 Colonial Court, 100-269 Brittany Drive, and 101A-103 Winchester Drive, Streamwood). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Manganese.
- Station 531+95 to Station 535+40 (CL IL 19), 0 to 50 feet LT, (Residences and Vacant Land, PESA site 2359V-33, 00 block of W. Irving Park Road, 2-69 Colonial Court, 100-269 Brittany Drive, and 101A-103 Winchester Drive, Streamwood). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Manganese.
- Station 538+20 to Station 539+65 (CL IL 19), 0 to 50 feet LT, (Residences and Vacant Land, PESA site 2359V-33, 00 block of W. Irving Park Road, 2-69 Colonial Court, 100-269 Brittany Drive, and 101A-103 Winchester Drive, Streamwood). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Manganese.
- Station 539+65 to Station 541+55 (CL IL 19), 0 to 50 feet LT, (Residences and Vacant Land, PESA site 2359V-33, 00 block of W. Irving Park Road, 2-69 Colonial Court, 100-269 Brittany Drive, and 101A-103 Winchester Drive, Streamwood). This material meets the criteria of Article 669.09(a)(3) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Benzo(a)pyrene.
- Station 541+55 to Station 543+40 (CL IL 19), 0 to 50 feet LT, (Residences and Vacant Land, PESA site 2359V-33, 00 block of W. Irving Park Road, 2-69 Colonial Court, 100-269 Brittany Drive, and 101A-103 Winchester Drive, Streamwood). This material meets the criteria of Article 669.09(a)(1) and shall

be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Benzo(a)pyrene.

- Station 543+40 to Station 543+65 (CL IL 19), 0 to 50 feet LT, (Residences and Vacant Land, PESA site 2359V-33, 00 block of W. Irving Park Road, 2-69 Colonial Court, 100-269 Brittany Drive, and 101A-103 Winchester Drive, Streamwood). This material meets the criteria of Article 669.09(a)(3) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Benzo(a)pyrene.

Site 2359V-34 (Vacant Land and Ponds)

- Station 524+65 to Station 525+85 (CL IL 19), 0 to 50 feet RT, (Vacant Land and Ponds, PESA site 2359V-34, 100 Merry Oaks Road, Streamwood). This material meets the criteria of Article 669.09(a)(3) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameters: Benzo(a)pyrene, and Manganese.
- Station 525+85 to Station 527+55 (CL IL 19), 0 to 50 feet RT, (Vacant Land and Ponds, PESA site 2359V-34, 100 Merry Oaks Road, Streamwood). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Manganese.

Site 2359V-35 (Commercial Building)

- Station 530+45 to Station 531+90 (CL IL 19), 0 to 50 feet RT, (Commercial Building, PESA site 2359V-35, 403 W. Irving Park Road, Streamwood). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Manganese.

Site 2359V-40 (Safari Childcare)

- Station 541+15 to Station 542+15 (CL IL 19), 0 to 50 feet RT, (Safari Childcare, PESA site 2359V-40, 83 W. Irving Park Road, Streamwood). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Manganese.
- Station 542+15 to Station 543+30 (CL IL 19), 0 to 50 feet RT, (Safari Childcare, PESA site 2359V-40, 83 W. Irving Park Road, Streamwood). This material meets the criteria of Article 669.09(a)(3) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameters: Benzo(a)pyrene, and Manganese.

Site 2359V-42 (Mak's Auto Repair)

- Station 543+65 to Station 544+40 (CL IL 19), 0 to 50 feet LT, (Mak's Auto Repair, PESA site 2359V-42, 948 S. Bartlett Road, Streamwood). This material meets the criteria of Article 669.09(a)(3) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Benzo(a)pyrene.
- Station 544+40 to Station 545+35 (CL IL 19), 0 to 90 feet LT, (Mak's Auto Repair, PESA site 2359V-42, 948 S. Bartlett Road, Streamwood). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Manganese.

Site 2359V-43 (River Rand Auto)

- Station 543+30 to Station 545+35 (CL IL 19), 0 to 80 feet RT, (River Rand Auto, PESA site 2359V-43, 1000 S. Bartlett Road, Streamwood). This material meets the criteria of Article 669.09(a)(3) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameters: Benzo(a)pyrene, and Manganese.
- Station 545+00 to Station 545+35 (CL IL 19), 80 to 155 feet RT, (River Rand Auto, PESA site 2359V-43, 1000 S. Bartlett Road, Streamwood). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameters: Arsenic and Manganese.

Site 2359V-47 (7-11)

- Station 545+35 to Station 546+50 (CL IL 19), 0 to 110 feet LT, (7-11, PESA site 2359V-47, 2 E. Irving Park Road, Streamwood). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Manganese.
- Station 546+50 to Station 547+60 (CL IL 19), 0 to 50 feet LT, (7-11, PESA site 2359V-47, 2 E. Irving Park Road, Streamwood). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameters: Benzo(a)pyrene, and Manganese.

Site 2359V-48 (Walgreens)

- Station 545+35 to Station 546+50 (CL IL 19), 0 to 110 feet RT, (Walgreens, PESA site 2359V-48, 13 E. Irving Park Road, Streamwood). This material meets the criteria of Article 669.09(a)(3) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameters: Benzo(a)pyrene, and Manganese.
- Station 546+50 to Station 547+50 (CL IL 19), 0 to 60 feet RT, (Walgreens, PESA site 2359V-48, 13 E. Irving Park Road, Streamwood). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Manganese.
- Station 547+50 to Station 549+65 (CL IL 19), 0 to 60 feet RT, (Walgreens, PESA site 2359V-48, 13 E. Irving Park Road, Streamwood). This material meets the criteria of Article 669.09(a)(3) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Benzo(a)pyrene.
- Station 549+65 to Station 550+85 (CL IL 19), 0 to 60 feet RT, (Walgreens, PESA site 2359V-48, 13 E. Irving Park Road, Streamwood). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Manganese.
- Station 550+85 to Station 551+15 (CL IL 19), 0 to 50 feet RT, (Walgreens, PESA site 2359V-48, 13 E. Irving Park Road, Streamwood). This material meets the criteria of Article 669.09(b)(1) and shall be managed in accordance with Article 669.09.

Site 2359V-50 (Commercial Building)

- Station 547+60 to Station 547+85 (CL IL 19), 0 to 50 feet LT, (Commercial Building, PESA site 2359V-50, 14 E. Irving Park Road, Streamwood). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameters: Benzo(a)pyrene, and Manganese.
- Station 547+85 to Station 549+20 (CL IL 19), 0 to 50 feet LT, (Commercial Building, PESA site 2359V-50, 14 E. Irving Park Road, Streamwood). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameters: Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene, and Manganese.

Site 2359V-51 (Vacant Land)

- Station 550+55 to Station 553+00 (CL IL 19), 0 to 50 feet LT, (Vacant Land, PESA site 2359V-51, 68 E. Irving Park Road, Streamwood). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance with Article 669.09. Contaminants of concern sampling parameter: Manganese.

Site 2359V-52 (O'Reilly Auto Parts)

- Station 551+15 to Station 553+00 (CL IL 19), 0 to 50 feet RT, (O'Reilly Auto Parts, PESA site 2359V-52, 25 E. Irving Park Road, Streamwood). This material meets the criteria of Article 669.09(b)(1) and shall be managed in accordance with Article 669.09.

Revise Section 669 of the Standard Specifications to read:

“SECTION 669. REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES

669.01 Description. This work shall consist of the transportation and proper disposal of contaminated soil and groundwater. This work shall also consist of the removal, transportation, and proper disposal of underground storage tanks (UST), their content and associated underground piping to the point where the piping is above the ground, including determining the content types and estimated quantities.

669.02 Equipment. The Contractor shall notify the Engineer of the delivery of all excavation, storage, and transportation equipment to a work area location. The equipment shall comply with OSHA and American Petroleum Institute (API) guidelines and shall be furnished in a clean condition. Clean condition means the equipment does not contain any residual material classified as a non-special waste, non-hazardous special waste, or hazardous waste. Residual materials include, but are not limited to, petroleum products, chemical products, sludges, or any other material present in or on equipment.

Before beginning any associated soil or groundwater management activity, the Contractor shall provide the Engineer with the opportunity to visually inspect and approve the equipment. If the equipment contains any contaminated residual material, decontamination shall be performed on the equipment as appropriate to the regulated substance and degree of contamination present according to OSHA and API guidelines. All cleaning fluids used shall be treated as the contaminant unless laboratory testing proves otherwise.

669.03 Pre-construction Submittals. Prior to beginning this work, or working in areas with regulated substances, the Contractor shall submit a Regulated Substance Pre-Construction Plan (RSPCP) to the Engineer for review and approval using form BDE 2730. The form shall be signed by an Illinois licensed Professional Engineer or Professional Geologist.

As part of the RSPCP, the qualifications of Contractor(s) or firm(s) performing the following work shall be listed.

- (a) On-Site Monitoring. Qualification for on-site monitoring of regulated substance work and on-site monitoring of UST removal requires either pre-qualification in Hazardous Waste by the Department or demonstration of acceptable project experience in remediation and special waste operations for contaminated sites in accordance with applicable Federal, State, or local regulatory requirements.

Qualification for each individual performing on-site monitoring requires a minimum of one-year of experience in similar activities as those required for the project.

- (b) Underground Storage Tank. Qualification for underground storage tank (UST) work requires licensing and certification with the Office of the State Fire Marshall (OSFM) and possession of all permits required to perform the work. A copy of the permit shall be provided to the Engineer prior to tank removal.

The qualified Contractor(s) or firm(s) shall also document it does not have any current or former ties with any of the properties contained within, adjoining, or potentially affecting the work.

The Engineer will require up to 30 calendar days for review of the RSPCP. The review may involve rejection or revision and resubmittal; in which case, an additional 30 days will be required for each subsequent review. Work shall not commence until the RSPCP has been approved by

the Engineer. After approval, the RSPCP shall be revised as necessary to reflect changed conditions in the field.

CONSTRUCTION REQUIREMENTS

669.04 Contaminated Soil and/or Groundwater Monitoring. Prior to beginning excavation, the Contractor shall mark the limits of removal for approval by the Engineer. Once excavation begins, the work and work area involving regulated substances shall be monitored by qualified personnel. The qualified personnel shall be on-site continuously during excavation and loading of material containing regulated substances. The qualified personnel shall be equipped with either a photoionization detector (PID) (minimum 10.6eV lamp), or a flame ionization detector (FID), and other equipment, as appropriate, to monitor for potential contaminants associated with volatile organic compounds (VOCs) or semi-volatile organic compounds (SVOCs). The PID or FID meter shall be calibrated on-site and background level readings taken and recorded daily, and as field and weather conditions change. Any field screen reading on the PID or FID in excess of background levels indicates the potential presence of contaminated material requiring handling as a non-special waste, special waste, or hazardous waste. PID or FID readings may be used as the basis of increasing the limits of removal with the approval of the Engineer but shall in no case be used to decrease the limits.

The qualified personnel shall document field activities using form BDE 2732 (Regulated Substances Monitoring Daily Record) including the name(s) of personnel conducting the monitoring, weather conditions, PID or FID calibration records, a list of equipment used on-site, a narrative of activities completed, photo log sheets, manifests and landfill tickets, monitoring results, how regulated substances were managed and other pertinent information.

Samples will be collected in accordance with the RSPCP. Samples shall be analyzed for the contaminants of concern (COCs), including pH, based on the property's land use history, the encountered abnormality and/or the parameters listed in the maximum allowable concentration (MAC) for chemical constituents in uncontaminated soil established pursuant to Subpart F of 35 Ill. Adm. Code 1100.605. The analytical results shall serve to document the level of contamination.

Samples shall be grab samples (not combined with other locations). The samples shall be taken with decontaminated or disposable instruments. The samples shall be placed in sealed containers and transported in an insulated container to the laboratory. The container shall maintain a temperature of 39 °F (4 °C). All samples shall be clearly labeled. The labels shall indicate the sample number, date sampled, collection location and depth, and any other relevant observations.

The laboratory shall use analytical methods which are able to meet the lowest appropriate practical quantitation limits (PQL) or estimated quantitation limit (EQL) specified in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods", EPA Publication No. SW-846; "Methods for the Determination of Organic Compounds in Drinking Water", EPA, EMSL, EPA-600/4-88/039; and "Methods for the Determination of Organic Compounds in Drinking Water, Supplement III", EPA 600/R-95/131, August 1995. For parameters where the specified cleanup objective is below the acceptable detection limit (ADL), the ADL shall serve as the cleanup objective. For other parameters the ADL shall be equal to or below the specified cleanup objective.

669.05 Contaminated Soil and/or Groundwater Management and Disposal. The management and disposal of contaminated soil and/or groundwater shall be according to the following:

- (a) Soil Analytical Results Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels exceed the most stringent maximum allowable concentration (MAC) for chemical constituents in uncontaminated soil established pursuant to Subpart F of 35 Illinois Administrative Code 1100.605, the soil shall be managed as follows:
- (1) When analytical results indicate inorganic chemical constituents exceed the most stringent MAC but they are still considered within area background levels by the Engineer, the excavated soil can be utilized within the construction limits as fill, when suitable. If the soils cannot be utilized within the construction limits, they shall be managed and disposed of off-site as a non-special waste, special waste, or hazardous waste as applicable.
 - (2) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for a Metropolitan Statistical Area (MSA) County, the excavated soil can be utilized within the construction limits as fill, when suitable, or managed and disposed of off-site as “uncontaminated soil” at a clean construction and demolition debris (CCDD) facility or an uncontaminated soil fill operation (USFO) within an MSA County provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.
 - (3) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, or the MAC within the Chicago corporate limits, the excavated soil can be utilized within the construction limits as fill, when suitable, or managed and disposed of off-site as “uncontaminated soil” at a CCDD facility or an USFO within an MSA County excluding Chicago or within the Chicago corporate limits provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.
 - (4) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, the excavated soil can be utilized within the construction limits as fill, when suitable, or managed and disposed of off-site as “uncontaminated soil” at a CCDD facility or an USFO within an MSA County excluding Chicago provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.
 - (5) When the Engineer determines soil cannot be managed according to Articles 669.05(a)(1) through (a)(4) above, the soil shall be managed and disposed of off-site as a non-special waste, special waste, or hazardous waste as applicable.
- (b) Soil Analytical Results Do Not Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels do not exceed the most stringent MAC, the excavated soil can be utilized within the construction limits or managed and disposed off-site as “uncontaminated soil” according to Article 202.03. However, the excavated soil cannot be taken to a CCDD facility or an USFO for any of the following reasons.
- (1) The pH of the soil is less than 6.25 or greater than 9.0.

(2) The soil exhibited PID or FID readings in excess of background levels.

- (c) Soil Analytical Results Exceed Most Stringent MAC but Do Not Exceed Tiered Approach to Corrective Action Objectives (TACO) Residential. When the soil analytical results indicate that detected levels exceed the most stringent MAC but do not exceed TACO Tier 1 Soil Remediation Objectives for Residential Properties pursuant to 35 IAC 742 Appendix B Table A, the excavated soil can be utilized within the right-of-way or managed and disposed off-site as “uncontaminated soil” according to Article 202.03. However, the excavated soil cannot be taken to a CCDD facility or an USFO.
- (d) Groundwater. When groundwater analytical results indicate the detected levels are above Appendix B, Table E of 35 Illinois Administrative Code 742, the most stringent Tier 1 Groundwater Remediation Objectives for Groundwater Component of the Groundwater Ingestion Route for Class 1 groundwater, the groundwater shall be managed off-site as a special waste. The groundwater shall be containerized and trucked to an off-site treatment facility or may be discharged to a sanitary sewer or combined sewer when permitted by the local sewer authority. Groundwater discharged to a sewer shall be pre-treated to remove particulates and measured with a calibrated flow meter to comply with applicable discharge limits. A copy of the permit shall be provided to the Engineer prior to discharging groundwater to the sewer.

All groundwater encountered within trenches may be managed within the trench and allowed to infiltrate back into the ground. If the groundwater cannot be managed within the trench it must be removed as a special or hazardous waste. The Contractor is prohibited from managing groundwater within the trench by discharging it through any existing or new storm sewer. The Contractor shall install backfill plugs within the area of groundwater contamination.

One backfill plug shall be placed down gradient to the area of groundwater contamination. Backfill plugs shall be installed at intervals not to exceed 50 ft (15 m). Backfill plugs are to be 4 ft (1.2 m) long, measured parallel to the trench, full trench width and depth. Backfill plugs shall not have any fine aggregate bedding or backfill, but shall be entirely cohesive soil or any class of concrete. The Contractor shall provide test data that the material has a permeability of less than 10^{-7} cm/sec according to ASTM D 5084, Method A or per another test method approved by the Engineer.

The Contractor shall use due care when transferring contaminated material from the area of origin to the transporter. Should releases of contaminated material to the environment occur (i.e., spillage onto the ground, etc.), the Contractor shall clean-up spilled material and place in the appropriate storage containers as previously specified. Clean-up shall include, but not be limited to, sampling beneath the material staging area to determine complete removal of the spilled material.

The Contractor shall be responsible for transporting and disposing all material classified as a non-special waste, special waste, or hazardous waste from the job site to an appropriately permitted landfill facility. The transporter and the vehicles used for transportation shall comply with all federal, state, and local rules and regulations governing the transportation of non-special waste, special waste, or hazardous waste.

All equipment used by the Contractor to haul contaminated material to the landfill facility shall be lined with a 6 mil (150 micron) polyethylene liner and securely covered during transportation. The Contractor shall obtain all documentation including any permits and/or licenses required to transport the contaminated material to the disposal facility.

The Contractor shall provide engineered barriers, when required, and shall include materials sufficient to completely line excavation surfaces, including sloped surfaces, bottoms, and sidewall faces, within the areas designated for protection.

The Engineer shall coordinate with the Contractor on the completion of all documentation. The Contractor shall make all arrangements for collection and analysis of landfill acceptance testing. The Contractor shall coordinate for waste disposal approval with the disposal facility. After the Contractor completes these activities and upon receipt of authorization from the Engineer, the Contractor shall initiate the disposal process.

The Contractor shall provide the Engineer with all transport-related documentation within two days of transport or receipt of said document(s). The Engineer shall maintain the file for all such documentation. For management of special or hazardous waste, the Contractor shall provide the Engineer with documentation the Contractor (or subcontractor, if a subcontractor is used for transportation) is operating with a valid Illinois special waste transporter permit at least two weeks before transporting the first load of contaminated material.

The Contractor shall schedule and arrange the transport and disposal of each load of contaminated material produced. The Contractor shall make all transport and disposal arrangements so no contaminated material remains within the project area at the close of business each day. Exceptions to this specification require prior approval from the Engineer within 24 hours of close of business. The Contractor shall be responsible for all other pre-disposal/transport preparations necessary daily to accomplish management activities.

Any waste generated as a special or hazardous waste from a non-fixed facility shall be manifested off-site using the Department's county generator number. An authorized representative of the Department shall sign all manifests for the disposal of the contaminated material and confirm the Contractor's transported volume. Any waste generated as a non-special waste may be managed off-site without a manifest, a special waste transporter, or a generator number.

The Contractor shall select a landfill mandated by definition of the contaminant within the State of Illinois. The Department will review and approve or reject the facility proposed by the Contractor to use as a landfill. The Contractor shall verify whether the selected disposal facility is compliant with those applicable standards as mandated by definition of the contaminant and whether the disposal facility is presently, has previously been, or has never been, on the United States Environmental Protection Agency (U.S. EPA) National Priorities List or the Resource Conservation and Recovery Act (RCRA) List of Violating Facilities. The Contractor shall be responsible for coordinating permits with the IEPA. The use of a Contractor selected landfill shall in no manner delay the construction schedule or alter the Contractor's responsibilities as set forth.

669.06 Non-Special Waste Certification. An authorized representative of the Department shall sign and date all non-special waste certifications. The Contractor shall be responsible for providing the Engineer with the required information that will allow the Engineer to certify the waste is not a special waste.

(a) Definition. A waste is considered a non-special waste as long as it is not:

- (1) a potentially infectious medical waste;
- (2) a hazardous waste as defined in 35 IAC 721;
- (3) an industrial process waste or pollution control waste that contains liquids, as determined using the paint filter test set forth in subdivision (3)(A) of subsection (m) of 35 IAC 811.107;
- (4) a regulated asbestos-containing waste material, as defined under the National Emission Standards for Hazardous Air Pollutants in 40 CFR 61.141;
- (5) a material containing polychlorinated biphenyls (PCB's) regulated pursuant to 40 CFR Part 761;
- (6) a material subject to the waste analysis and recordkeeping requirements of 35 IAC 728.107 under land disposal restrictions of 35 IAC 728;
- (7) a waste material generated by processing recyclable metals by shredding and required to be managed as a special waste under Section 22.29 of the Environmental Protection Act; or
- (8) an empty portable device or container in which a special or hazardous waste has been stored, transported, treated, disposed of, or otherwise handled.

(b) Certification Information. All information used to determine the waste is not a special waste shall be attached to the certification. The information shall include but not be limited to:

- (1) the means by which the generator has determined the waste is not a hazardous waste;
- (2) the means by which the generator has determined the waste is not a liquid;
- (3) if the waste undergoes testing, the analytic results obtained from testing, signed and dated by the person responsible for completing the analysis;
- (4) if the waste does not undergo testing, an explanation as to why no testing is needed;
- (5) a description of the process generating the waste; and
- (6) relevant material safety data sheets.

669.07 Temporary Staging. The Contractor shall excavate and dispose of all waste material as mandated by the contaminants without temporary staging. If circumstances require temporary staging, he/she shall request in writing, approval from the Engineer.

When approved, the Contractor shall prepare a secure location within the project area capable of housing containerized waste materials. The Contractor shall contain all waste material in leak-

proof storage containers such as lined roll-off boxes or 55 gal (208 L) drums, or stored in bulk fashion on storage pads. The design and construction of such storage pad(s) for bulk materials shall be subject to approval by the Engineer. The Contractor shall place the staged storage containers on an all-weather gravel-packed, asphalt, or concrete surface. The Contractor shall maintain a clearance both above and beside the storage units to provide maneuverability during loading and unloading. The Contractor shall provide any assistance or equipment requested by the Engineer for authorized personnel to inspect and/or sample contents of each storage container. All containers and their contents shall remain intact and undisturbed by unauthorized persons until the manner of disposal is determined. The Contractor shall keep the storage containers covered, except when access is requested by authorized personnel of the Department. The Engineer shall authorize any additional material added to the contents of any storage container before being filled.

The Contractor shall ensure the staging area is enclosed (by a fence or other structure) to ensure direct access to the area is restricted, and he/she shall procure and place all required regulatory identification signs applicable to an area containing the waste material. The Contractor shall be responsible for all activities associated with the storage containers including, but not limited to, the procurement, transport, and labeling of the containers. The Contractor shall clearly mark all containers in permanent marker or paint with the date of waste generation, location and/or area of waste generation, and type of waste (e.g., decontamination water, contaminated clothing, etc.). The Contractor shall place these identifying markings on an exterior side surface of the container. The Contractor shall separately containerize each contaminated medium, i.e. contaminated clothing is placed in a separate container from decontamination water. Containers used to store liquids shall not be filled in excess of 80 percent of the rated capacity. The Contractor shall not use a storage container if visual inspection of the container reveals the presence of free liquids or other substances that could classify the material as a hazardous waste in the container.

The Department will not be responsible for any additional costs incurred, if mismanagement of the staging area, storage containers, or their contents by the Contractor results in excess cost expenditure for disposal or other material management requirements.

669.08 Underground Storage Tank Removal. For the purposes of this section, an underground storage tank (UST) includes the underground storage tank, piping, electrical controls, pump island, vent pipes and appurtenances.

Prior to removing an UST, the Engineer shall determine whether the Department is considered an "owner" or "operator" of the UST as defined by the UST regulations (41 Ill. Adm. Code Part 176). Ownership of the UST refers to the Department's owning title to the UST during storage, use or dispensing of regulated substances. The Department may be considered an "operator" of the UST if it has control of, or has responsibility for, the daily operation of the UST. The Department may however voluntarily undertake actions to remove an UST from the ground without being deemed an "operator" of the UST.

In the event the Department is deemed not to be the "owner" or "operator" of the UST, the OSFM removal permit shall reflect who was the past "owner" or "operator" of the UST. If the "owner" or "operator" cannot be determined from past UST registration documents from OSFM, then the OSFM removal permit will state the "owner" or "operator" of the UST is the Department. The Department's Office of Chief Counsel (OCC) will review all UST removal permits prior to

submitting any removal permit to the OSFM. If the Department is not the "owner" or "operator" of the UST then it will not register the UST or pay any registration fee.

The Contractor shall be responsible for obtaining all permits required for removing the UST, notification to the OSFM, using an OSFM certified tank contractor, removal and disposal of the UST and its contents, and preparation and submittal of the OSFM Site Assessment Report in accordance with 41 Ill. Adm. Code Part 176.330.

The Contractor shall contact the Engineer and the OSFM's office at least 72 hours prior to removal to confirm the OSFM inspector's presence during the UST removal. Removal, transport, and disposal of the UST shall be according to the applicable portions of the latest revision of the "American Petroleum Institute (API) Recommended Practice 1604".

The Contractor shall collect and analyze tank content (sludge) for disposal purposes. The Contractor shall remove as much of the regulated substance from the UST system as necessary to prevent further release into the environment. All contents within the tank shall be removed, transported and disposed of, or recycled. The tank shall be removed and rendered empty according to IEPA definition.

The Contractor shall collect soil samples from the bottom and sidewalls of the excavated area in accordance with 35 Ill. Adm. Code Part 734.210(h) after the required backfill has been removed during the initial response action, to determine the level of contamination remaining in the ground, regardless if a release is confirmed or not by the OSFM on-site inspector.

In the event the UST is designated a leaking underground storage tank (LUST) by the OSFM's inspector, or confirmation by analytical results, the Contractor shall notify the Engineer and the DESU. Upon confirmation of a release of contaminants from the UST and notifications to the Engineer and DESU, the Contractor shall report the release to the Illinois Emergency Management Agency (IEMA) (e.g., by telephone or electronic mail) and provide them with whatever information is available ("owner" or "operator" shall be stated as the past registered "owner" or "operator", or the IDOT District in which the UST is located and the DESU Manager);

The Contractor shall perform the following initial response actions if a release is indicated by the OSFM inspector:

- (a) Take immediate action to prevent any further release of the regulated substance to the environment, which may include removing, at the Engineer's discretion, and disposing of up to 4 ft (1.2 m) of the contaminated material, as measured from the outside dimension of the tank
- (b) Identify and mitigate fire, explosion and vapor hazards;
- (c) Visually inspect any above ground releases or exposed below ground releases and prevent further migration of the released substance into surrounding soils and groundwater; and
- (d) Continue to monitor and mitigate any additional fire and safety hazards posed by vapors and free product that have migrated from the UST excavation zone and entered into subsurface structures (such as sewers or basements).

The UST excavation shall be backfilled according to applicable portions of Sections 205, 208, and 550 with a material that will compact and develop stability. The material shall be approved prior to placement. All uncontaminated concrete and soil removed during tank extraction may be used to backfill the excavation, at the discretion of the Engineer.

After backfilling the excavation, the site shall be graded and cleaned.

669.09 Regulated Substance Final Construction Report. Not later than 90 days after completing this work, the Contractor shall submit a Regulated Substance Final Construction Report (RSFCR) to the Engineer using form BDE 2733 and required attachments. The form shall be signed by an Illinois licensed Professional Engineer or Professional Geologist.

669.10 Method of Measurement. Non-special waste, special waste, and hazardous waste soil will be measured for payment according to Article 202.07(b) when performing earth excavation, Article 502.12(b) when excavating for structures, or by computing the volume of the trench using the maximum trench width permitted and the actual depth of the trench.

Groundwater containerized and transported off-site for management, storage, and disposal will be measured for payment in gallons (liters).

Backfill plugs will be measured in cubic yards (cubic meters) in place, except the quantity for which payment will be made shall not exceed the volume of the trench, as computed by using the maximum width of trench permitted by the Specifications and the actual depth of the trench, with a deduction for the volume of the pipe.

Engineered Barriers will be measured for payment in square yards (square meters).

669.11 Basis of Payment. The work of preparing, submitting and administering a Regulated Substances Pre-Construction Plan will be paid for at the contract lump sum price for REGULATED SUBSTANCES PRE-CONSTRUCTION PLAN.

On-site monitoring of regulated substances, including completion of form BDE 2732 for each day of work, will be paid for at the contract unit price per calendar day, or fraction thereof, for ON-SITE MONITORING OF REGULATED SUBSTANCES.

The installation of engineered barriers will be paid for at the contract unit price per square yard (square meter) for ENGINEERED BARRIER.

The work of removing a UST, soil excavation, soil and content sampling, and the excavated soil, UST content, and UST disposal will be paid for at the contract unit price per each for UNDERGROUND STORAGE TANK REMOVAL.

The transportation and disposal of soil and other materials from an excavation determined to be contaminated will be paid for at the contract unit price per cubic yard (cubic meter) for NON-SPECIAL WASTE DISPOSAL, SPECIAL WASTE DISPOSAL, or HAZARDOUS WASTE DISPOSAL.

The transportation and disposal of groundwater from an excavation determined to be contaminated will be paid for at the contract unit price per gallon (liter) for SPECIAL WASTE GROUNDWATER DISPOSAL or HAZARDOUS WASTE GROUNDWATER DISPOSAL. When

groundwater is discharged to a sanitary or combined sewer by permit, the cost will be paid for according to Article 109.05.

Backfill plugs will be paid for at the contract unit price per cubic yard (cubic meter) for BACKFILL PLUGS.

Payment for temporary staging, if required, will be paid for according to Article 109.04.

Payment for accumulated stormwater removal and disposal will be according to Article 109.04. Payment will only be allowed if appropriate stormwater and erosion control methods were used.

Payment for decontamination, labor, material, and equipment for monitoring areas beyond the specified areas, with the Engineer's prior written approval, will be according to Article 109.04.

The sampling and testing associated with this work will be paid for as follows.

- (a) BETX Soil/Groundwater Analysis. When the contaminants of concern are gasoline only, soil or groundwater samples shall be analyzed for benzene, ethylbenzene, toluene, and xylenes (BETX). The analysis will be paid for at the contract unit price per each for BETX SOIL ANALYSIS and/or BETX GROUNDWATER ANALYSIS using EPA Method 8021B.
- (b) BETX-PNAS Soil/Groundwater Analysis. When the contaminants of concern are middle distillate and heavy ends, soil or groundwater samples shall be analyzed for BETX and polynuclear aromatics (PNAS). The analysis will be paid for at the contract unit price per each for BETX-PNAS SOIL ANALYSIS and/or BETX-PNAS GROUNDWATER ANALYSIS using EPA Method 8021B for BETX and EPA Method 8310 for PNAS.
- (c) Priority Pollutants Soil Analysis. When the contaminants of concern are used oils, soil samples shall be analyzed for priority pollutant VOCs, priority pollutants SVOCs, and priority pollutants metals. The analysis will be paid for at the contract unit price per each for PRIORITY POLLUTANTS SOIL ANALYSIS using EPA Method 8260B for VOCs, EPA Method 8270C for SVOCs, and using an ICP instrument and EPA Methods 6010B and 7471A for metals.
- (d) Priority Pollutant Groundwater Analysis. When the contaminants of concern are used oils, non-petroleum material, or unknowns, groundwater samples shall be analyzed for priority pollutant VOCs, priority pollutants SVOCs, and priority pollutants metals. The analysis will be paid for at the contract unit price per each for PRIORITY POLLUTANTS GROUNDWATER ANALYSIS using EPA Method 8260B for VOCs, EPA Method 8270C for SVOCs, and EPA Methods 6010B and 7470A for metals.
- (e) Target Compound List (TCL) Soil Analysis. When the contaminants of concern are unknowns or non-petroleum material, soil samples shall be analyzed for priority pollutant VOCs, priority pollutants SVOCs, priority pollutants metals, pesticides, and Resource Conservation and Recovery Act (RCRA) metals by the toxicity characteristic leaching procedure (TCLP). The analysis will be paid for at the contract unit price per each for TCL SOIL ANALYSIS using EPA Method 8260B for VOCs, EPA Method 8270C for SVOCs, EPA Method 8081 for pesticides, and ICP instrument and EPA Methods 6010B, 7471A, 1311 (extraction), 6010B, and 7470A for metals.

- (f) Soil Disposal Analysis. When the waste material for disposal requires sampling for disposal acceptance, the samples shall be analyzed for TCLP VOCs, SVOCs, RCRA metals, pH, ignitability, and paint filter test. The analysis will be paid for at the contract unit price per each for SOIL DISPOSAL ANALYSIS using EPA Methods 1311 (extraction), 8260B for VOCs, 8270C for SVOCs, 6010B and 7470A for RCRA metals, 9045C for pH, 1030 for ignitability, and 9095A for paint filter.

The work of preparing, submitting and administering a Regulated Substances Final Construction Report will be paid for at the contract lump sum price REGULATED SUBSTANCES FINAL CONSTRUCTION REPORT.”

80407

WATER DISTRIBUTION SYSTEM

Description: This work shall consist of the installation of new water main pipe and appurtenances in accordance with the plans and details or as directed by the Engineer. All work shall be performed in accordance with the requirements of the Village of Streamwood, the latest edition of the Standard Specifications for Water and Sewer Construction in Illinois, and Sections 561, 562, 563, 564, and 565 of the Standard Specifications (SSRBC), except as modified herein.

The Contractor shall provide all labor, material, and equipment required to furnish and install water mains and appurtenances, and all other improvements shown on the plans as required to perform the work and as specified herein. Construction staking for the installation of water mains and appurtenances shall be performed by the Contractor. Mobilization activities and construction staking required for the installation of water mains shall be considering incidental to the contract, with no additional compensation to be made.

At least 30 days prior to installation of water mains covered in these specifications, the Contractor is required to submit to the Village of Streamwood and the Engineer shop drawings/catalog descriptions of all items to be installed showing locations, dimensions, and details, including piping sizes, pipe materials, fittings, valves, basins, hydrants, and other appurtenances.

Detailed drawings of any proposed deviation from the Plans due to actual field conditions or other causes shall be included with the foregoing submittal as soon as practical. The shop drawings shall have a schedule of materials on each drawing defining all items mentioned above. All catalog and descriptive data shall note where the specific item is to be installed and a cross reference made on the Plans. The manufacturer shall certify to a minimum of five (5) years of experience specializing in manufacturing of products specified herein.

The Contractor shall establish and maintain quality control of all equipment and construction operations involved under this item. To assure compliance with contract requirements, the Contractor shall maintain records of his quality control for all items listed below.

1. Check for damage to and defects in materials.
2. Check for proper storage of materials and provide a systematic listing of these items and their location.
3. Check to see that shop drawings on all piping systems have been submitted and are approved.
4. Check to see that all piping materials conform to approved shop drawings.
5. Review requirements of Drawings and specifications and check layouts.

A copy of these records shall be kept at the jobsite and shall be available at all times for the Engineer's review.

The Plans show the general arrangement of the water distribution systems. Whenever the Contractor deems it necessary to deviate from the arrangements shown, the Contractor shall submit to the Engineer in writing a request for the deviation, along with drawings showing the proposed new arrangement. Deviation shall not be made until approval of new arrangements is obtained. Wherever piping arrangements are shown or required to be modified to accommodate the equipment approved for installation, the Contractor shall prepare and submit for approval detailed shop drawings of the new arrangement. Only new and unused materials shall be installed in the work specified herein.

The Plans are not intended to show every fitting, offset, or similar item. Piping systems shall include all unions, fittings, anchors, valves, gaskets, bracing, or other appurtenances necessary for the proper installation of the water distribution systems, but shall include not less than that shown in the Plans.

All water main pipe and appurtenances shall be carefully examined for defects and no piece shall be laid which is known to be defective. If any defective piece should be discovered after having been laid, it shall be removed and replaced with a sound piece, in a satisfactory manner, by the Contractor at no additional

cost to the Village. All items shall be thoroughly cleaned before they are placed, shall be kept clean until they are accepted in the completed work, and when laid shall conform accurately to the lines and elevations shown on the Plans, or as specified.

Materials: Specification references made herein for manufactured materials such as pipe, hydrants, valves, fittings, and other appurtenances refer to designation of the American Water Works Association (AWWA), of the American National Standards Institute (ANSI), or of the American Society for Testing and Materials (ASTM).

All manufactured items shall be standard commercial products of reputable manufacturers. Where materials are shown on the Plans or listed but not specifically covered by a standard or specification, the Contractor shall furnish best commercial grades of material or articles subject to the approval of the Engineer. When two or more articles of the same material or equipment are required, similar articles of the same size shall be products of a single manufacturer.

1. Water Main Pipe: Provide ductile iron pipe materials in sizes 4-inch and greater unless otherwise indicated on the Plans.
 - a. Ductile iron pipe shall be per ANSI 21.51 (AWWA C151).
 - b. Pipe thickness shall be per ANSI A21.50 (AWWA C150), thickness Class 52.
 - c. Pipe lining shall be cement-mortar type per ANSI A21.4 (AWWA C104).
 - d. Joints: Push-On or Mechanical Joint per ANSI A21.11 (AWWA C111).
 - e. Fittings: ANSI 21.10 (AWWA C110) for standard body, or ANSI A21.53 (AWWA C153) for compact body. All fittings shall be compact body type unless otherwise indicated on the Plans. All bends, tees, and fittings must be restrained, mechanical joint type.
 - f. Bolts and threaded rods shall be type A-304 stainless steel, with nuts and washers of series 300 stainless steel per ASTM A194.
 - g. Coatings: Asphaltic coating in accordance with ANSI A21.51 (AWWA C151) for pipe, ANSI A21.53 (AWWA C153) for compact fittings, and ANSI A21.10 (AWWA C110) for standard fittings.
 - h. Flanges: Flanged joints and fittings will only be used where it is indicated on the plans for installation of specific fittings and appurtenances. Where required, ductile iron pipe with flanged joints shall conform to ANSI A21.15 (AWWA C115). Flanged joints shall meet the requirements of ANSI B16.1, Class 125 drilling pattern.
2. Polyethylene Encasement: All buried ductile iron pipe and fittings shall be encased in polyethylene conforming to the requirements of ANSI A21.5 (AWWA C105). The polyethylene encasement shall be provided by the ductile iron pipe manufacturer and installed per the manufacturer's recommendation.
 - a. Thickness: Linear Low-density polyethylene film (minimum 8 mils) or High-density cross laminated polyethylene film (minimum 4 mils).
 - b. Markings: The following information shall be clearly marked on the sheet at minimum increments of 2-feet along its length:
 - i. Manufacturer's name or trademark.
 - ii. Year of Manufacture.
 - iii. Min. film thickness and material type (LLDPE or HDCLPE).
 - iv. Applicable range of nominal pipe diameter size(s).
 - v. Warning - Corrosion Protection - Repair Any Damage.
3. Thrust Restraint: All water main pipe shall be restrained at tees, plugged or capped ends, hydrants, and bends equal to or greater than 11.25 degrees; or as indicated on the Plans.
 - a. Provide restrained joint pipe and fittings or concrete thrust blocks at locations indicated on the Plans.
 - b. Install thrust blocks at all fittings and bends where connections are made to existing water mains, or as indicated on the Plans. Thrust blocks shall be installed at such connections even if restrained joint pipe is used.
 - c. Restrained joint devices shall be wedge type with locking segments shaped to pipe barrel that do not create stress points on the pipe. Acceptable products shall be Meg-A-Lug type manufactured by EBAA Iron, Inc. as follows:
 - i. Series 1100 for Mechanical Joint pipe.

- ii. Series 1700 Harness for Push-on pipe.
 - iii. Series 3800 for plain end pipe couplings.
 - iv. No substitutions.
4. Conductivity Appurtenances:
- a. Provide wedges of serrated silicon bronze or #10-copper cable and tapping devices specifically designed for this purpose.
 - b. Use devices provided by the pipe manufacturer.
 - c. Standard mechanical joints or pipe restraining fittings are not acceptable devices for conductivity.
5. Flange Adaptors: Provide a ductile iron flange adapter dual ring system with bolt circles compatible with ANSI B16.1, Class 125 drilling pattern.
- a. Provide restrained adapter with individual actuated gripping wedges that use torque limiting screws to insure proper initial set.
 - b. Set screw "only" restraining adaptors are not acceptable.
 - c. Provide system that allows joint deflection of up to 5 degrees.
 - d. Provide a fluoropolymer coating to the wedge and wedge assembly and powder coating to the restraint body.
 - e. Flange adaptors shall be Series 2100 Megaflange by EBAA Iron.
6. Transition Couplings: Provide transition couplings for connections into existing cast iron or between dissimilar pipe materials.
- a. Couplings shall be ductile iron body with stainless steel bolts and fusion-bonded epoxy coating.
 - b. Couplings shall be suitable for the diameter and material of the existing pipe.
 - c. Pipe shall be restrained at coupling connection.
 - d. Acceptable Products:
 - i. Hymax (Krausz)
 - ii. Romac Industries.
7. Water Main Valves: 4-inch to 16-inch
- a. Valves shall be in accordance with AWWA C515 ductile iron body, bronze fitted, resilient wedge and seat type, with non-rising stem and O-ring packing.
 - b. Provide 2-inch square operating nut, counter-clockwise opening, and non-rising stem unless otherwise indicated. Provide operator type and configurations as indicated on the drawings.
 - c. End connections shall be restrained mechanical joint type meeting the requirements of AWWA C111 unless otherwise indicated on the Plans.
 - d. The body and bonnet shall be coated with fusion bonded epoxy both interior and exterior, complying with AWWA C550 and be NSF 61 approved.
 - e. Acceptable products:
 - i. Mueller A-2361
 - ii. No substitutions.
8. Water Main Line Stops and Inserting Valves: Shall provide a means to install a line stop or valve into a pressurized pipe with no interruption of flow through the pipe and no reduction of line pressure.
- a. Ductile iron or stainless steel body and using a resilient wedge to seat against the water main pipe interior surface.
 - b. Rated for a minimum 150 psi working pressure.
 - c. Valves shall have a 2-inch square operating nut, counter-clockwise opening, and non-rising stem.
 - d. Installation will require cutting and removing a portion of the water main pipe wall. Pipe cutting and removal of pipe material shall be completed with water main operating under continuous pressure. Install per the instructions of the manufacturer.

- e. Installer shall be trained by, or accepted by, the insertion device manufacturer as a qualified installer; or installer shall have written proof and references of at least 3 years of experience and/or a minimum of 30 successful installations of the insertion device type to be installed for this Project.
 - f. Acceptable valve manufacturers:
 - i. Hydra-Stop
9. Fire Hydrants:
- a. All hydrants shall include an auxiliary valve, valve box, 6-inch ductile iron pipe hydrant lead, and valve box stabilizer supplied with the fire hydrant.
 - b. Hydrants shall be in accordance with AWWA C502.
 - c. Hydrants shall be painted as follows:
 - i. Color: Safety Red.
 - d. Provide hydrant with two (2) hose nozzles, and one (1) steamer nozzle with National Standard threads, a National Standard operating nut, and an above-ground breakaway flange.
 - i. Mechanical joint shoe for depths of bury greater than 6 feet, with a minimum 24" long stub and a maximum 36" long stub with Megalug joints. Flange shoe for depths of less than 6 feet.
 - e. Provide a 6-inch auxiliary resilient seat type gate valve with restrained type joints between the fire hydrant, the valve, and the tee fitting.
 - f. Fire Hydrants shall be Mueller Super Centurion A-423 with 5-¼" main valve opening. No substitutions will be allowed.
 - g. Valve box stabilizers shall be provided on all hydrant auxiliary valves. Stabilizers shall be from Valve Box Stabilizer, Inc., Joliet, IL.
 - h. Provide valve boxes with the word "WATER" embossed on the lid. Valve boxes shall be Mueller H-10304.
10. Service Connections
- a. Service connections shall include saddles, corporation stops, curb stops, service boxes, and water service tubing.
 - b. All water service lines of 2-inch diameter and smaller shall be constructed of Type K soft temper seamless copper tubing in accordance to ASTM B88 and AWWA Specification 7S-CR, with compression type fittings.
 - c. Service connections to water main for services 2-inch in diameter and less shall be with:
 - i. A Mueller H-15000 corporation stop valve with flare fitting.
 - ii. No substitutions.
 - d. Curb stop for each service 2-inch diameter or less shall be:
 - i. Mueller H-15154 curb stop.
 - ii. Mueller H-15164 curb stop for irrigation lines.
 - iii. No substitutions.
 - e. Service connections to ductile iron water main shall be direct tap.
 - f. Service connections to existing cast iron water main shall require a service saddles suitable for the water main that is being connected to. Service saddles shall be Cascade CS22.
 - g. Provide Minneapolis pattern curb boxes; Mueller H-10302 for 1-inch water services, and Mueller H-10304 for 1½-inch and 2-inch water services.
 - h. Service connections to the water main for services 3-inch in diameter or larger shall be made with ductile iron pipe and fittings conforming to the water main pipe specification. Services 3-inch diameter and larger shall have gate valves conforming to the water main gate valve specification, with valves installed inside of a vault.

General: Village of Streamwood Public employees only shall operate any existing water distribution appurtenances (i.e. water valves, fire hydrants, etc.) unless otherwise approved by the Village. A minimum forty-eight (48) hours advance notice to the Village of Streamwood Public is required for any water service disruptions.

All shut downs are to be coordinated with the Village of Streamwood and will require notification via door hangers to all residences and businesses affected by the shutdown. A representative from the Village of Streamwood must be present at all connections to existing water mains. All shutdowns must be limited to four (4) hours maximum per day and may only be made during times as allowed by the Village of Streamwood unless an emergency shutdown is necessary and is directed by the Village.

Connections to existing water mains shall be with non-pressure connections except where pressure connections are shown on the Plans or required by conditions at the time of construction. The maximum time allowable per each connection for water pressure shut off is two (2) hours.

New water main that is to be installed shall be sequenced in such a way so as to maintain the existing main in service until the new main is installed and has passed all required testing. The Contractor shall submit a sequencing plan that shall be reviewed and approved by the Engineer prior to commencing water main work. The Contractor shall make only one connection at a time unless approved by the Engineer.

Excavation and Backfill: Excavation and Backfill shall be in accordance with Section 20 of the Standard Specification for Water and Sewer Main Construction in Illinois, except as modified in the Plans and Special Provisions. Unless otherwise shown or directed, all water mains and water service lines shall be laid to minimum depth of 5'-6" measured from the ground surface or established grade to the top of the pipe. In areas subject to subsequent excavation or fill, the pipes shall be laid to grades as indicated on the Plans.

The trench shall be dug to the depth and alignment required for proper installation of the pipe. The Contractor shall not advance trench excavation more than 50 feet ahead of completed pipe installation except as approved by the Engineer. The Contractor shall proceed with caution in the excavation and preparation of the trench so that the exact location of underground structures and piping, both known and unknown, may be determined.

The maximum trench widths at the top of pipelines shall be as indicated on the Plans. The trench width may vary with and depend upon the depth of the trench and the nature of the excavated material encountered, but in any case shall be of ample width to permit the pipe to be laid and jointed properly and the backfill to be placed and compacted properly.

The trench, unless otherwise specified, shall have a flat bottom conforming to the grade to which the pipe is laid. The pipe shall be laid on sound aggregate bedding of CA-11 or CA-13 material meeting the requirements of Section 1004 of the SSRBC, no less than four (4) inches in depth, true to grade, and shall have a firm bearing for the full length of pipe. Any part of the trench over excavated shall be corrected with trench backfill material and thoroughly compacted.

For water main pipe located under roadway pavement, driveways, sidewalks, curb and gutter, or within three (3) feet of any paved areas; crushed CA-6 granular backfill shall be used and shall be mechanically compacted. Care shall be taken during backfilling operations so that any adjacent newly placed concrete will not be disturbed as a result of vibration due to compaction equipment.

Braced and Sheeted Trenches: Whenever necessary to prevent caving, excavations in sand, gravel, sandy soil or other unstable materials shall be adequately sheeted and braced. Provide and maintain sheeting, shoring, and bracing necessary for protection of the Work, adjacent property, and for the safety of personnel. The trench shall be so braced and drained that workmen may work therein safely and efficiently. The Contractor shall note that excavations shall conform to the latest OSHA requirements for excavations.

Where sheeting and bracing are used, the trench width shall be increased accordingly. Trench sheeting shall remain in place until the pipe has been laid, tested for defects, and repaired if necessary, and the backfill around it compacted to a depth of two feet over the top of the pipe.

Remove temporary sheeting and bracing after backfilling to an elevation which will prohibit caving. Fill voids left by the withdrawal of sheeting with compacted sand. No extra payment will be made for the supports left in place without the direction of the Engineer.

The Engineer may direct that supports in trenches be cut off at any specific elevation to protect adjacent facilities or property. Do not leave supports within 4 feet of the ground or pavement surface in place without the permission of the Engineer.

Over Excavation Backfill Requirement: The Contractor shall over excavate unsuitable soils found at or below the bottom of the trench to meet firm subsoil or as determined by the Engineer. In cases where the trench excavation is carried beyond or below the lines and grades as indicated in the Plans or given by the Engineer, the Contractor shall, at no additional cost, backfill all such excavated space with CA-1 granular material in layers not to exceed eight (8) inches in thickness and compact each layer solidly in place. The backfill material shall then be compacted to a minimum of 95% Standard Proctor density or that necessary to prevent settlement. Compaction of granular materials within three feet of the walls of a structure shall be accomplished by the use of hand operated compaction equipment.

Trenching by Machine or by Hand: The use of trench digging machinery will be permitted except in places where operation of same will cause damage to trees, buildings or existing structures above or below ground, in which case hand methods shall be employed. Use of heavy compaction equipment within three feet of the walls of a structure will not be allowed.

Manner of Handling Pipe and Accessories in the Trench: Proper implements, tools and facilities satisfactory to the Engineer shall be provided and used by the Contractor for the safe and convenient completion of the work. All pipe fittings, valves and hydrants shall be carefully lowered into the trench, piece by piece, by means of derrick, ropes or other suitable tools or equipment in such manner as to prevent damage to pipe or pipe coating. Under no circumstances shall pipe or accessories be dropped or dumped into the trench.

Dewatering: The Contractor shall at times during construction provide pumping, bailing, wellpoints, and construct ditches and dikes required to dewater and drain ground water, sewage, or storm water in order to promptly remove and properly dispose of all water entering the excavations or other parts of the Work until all Work to be performed therein has been completed. No water containing suspended solids shall be discharged into storm sewers. The proposed method for controls of groundwater shall be submitted to the Engineer for approval.

Preventing Trench Water from Entering Pipe: At times when the pipe laying is not in progress, the open ends of the pipe shall be closed by approved means, and no trench water shall be permitted to enter the pipe.

Protection of Pipe: Adequate provision shall be made for the safety, storage and protection of all water pipe prior to actual installation in the trench. Care shall be taken to prevent damage to the pipe castings, both inside and out. Provisions shall be made to keep the inside of the pipe clean throughout its storage period and to keep mud and/or other debris from being deposited therein. All pipe shall be thoroughly cleaned on the inside before laying of the pipe. Proper equipment shall be used for the safe handling, conveying and laying of the pipe. All pipe shall be carefully lowered into the trench, piece by piece, by means of a derrick, ropes, or other suitable tools or equipment, in such manner as to prevent damage to water main materials and protective coatings and linings. Under no circumstances shall water main materials be dropped or dumped into the trench.

Laying of Pipe: Laying of pipe shall be accomplished to line and grade in the trench only after it has been dewatered and the foundation and/or bedding has been prepared. Mud, silt, gravel and other foreign material shall be kept out of the pipe and off the jointing the surface.

Contractor shall verify that excavations are required grade, dry and not over-excavated. Prior to installation

ream pipe and tube ends and remove burrs, scale and dirt, on inside and outside before assembly.

All pipe laid shall be retained in position so as to maintain alignment and joint closure until sufficient backfill has been completed to adequately hold the pipe in place. All pipes shall be laid to conform to the prescribed lines and grades shown on the Plans, with the limits that follow.

In making joints, all portions of the joining materials and the socket and spigot ends of the joining pipe shall be wiped clean of all foreign materials. The actual assembly of the jointing shall be in accordance with the manufacturer's installation instructions and/or as directed by the Engineer.

Pipe Restraining Systems: At all dead ends or where fittings create alignment changes greater than 11 degrees, concrete thrust blocks or restrained joint pipe and/or devices shall be installed as indicated on the Plans. This work shall be considered incidental to the water main work, with no additional compensation allowed.

1. Provide protection from movement of water main piping, plugs, caps, tees, valves, hydrants, and bends of 11.25 degrees or greater.
 - a. Provide restrained joint fittings and concrete thrust blocks where shown on the Plans and where connections are made to existing water mains. All mechanical joint fittings must be restrained joint type.
 - b. Install thrust blocks at all fittings and bends where connections are made to existing water mains, or as indicated on the Plans. Thrust blocks shall be installed at such connections even if restrained joint pipe is used.
2. Concrete thrust blocks:
 - c. Provide precast concrete thrust blocking with a compressive strength of 3,000 psi in 28 days. Concrete for thrust blocks shall be in accordance with Section 1020 of the SSRBC.
 - d. Locate thrust blocking between solid ground and the fitting to be anchored.
 - e. Unless otherwise shown or directed by the Engineer, place the base and thrust bearing sides of thrust blocking directly against undisturbed earth.
 - f. Sides of thrust blocking not subject to thrust may be placed against forms.
 - g. Place thrust blocking so the fitting joints will be accessible for repair.
3. Restrained type pipe and fittings:
 - h. Provide restrained joint pipe to distance indicated on the Plans, and not less than a minimum of three standard pipe lengths on each side of a bend or fitting to be restrained.

Horizontal and Vertical Separation: Maintain adequate separation between water mains and water service lines from sanitary sewer, storm sewers, combined sewers, building sewer service connections, and drains in accordance with the "Standard Specifications for Water and Sewer Main Construction in Illinois" and Section 653.119 of the Illinois Environmental Protection Agency Title 35.

4. Horizontal Separation: Water mains shall be installed at least ten (10) feet horizontally from any existing or proposed storm or sanitary sewer line. Where it has been indicated on the Plans that horizontal separation is less than ten (10) feet; the water main invert must be at least 18 inches above the crown of the sewer and the water main must be laid in a separate trench, or both the water main and sewer shall be constructed of water main quality materials.
5. Vertical Separation: Whenever a water main must cross storm sewers, drain lines, or sanitary sewers, the water main shall be installed at such an elevation that the invert of the water main is eighteen (18) inches above the crown of the drain or sewer. This vertical separation shall be maintained for that portion of the water main located within ten (10) feet horizontally of any sewer or drain crossed. Said ten (10) feet is to be measured at the normal distance from the water main to the drain or sewer.
6. At locations indicated on the Plans where the water main is less than 18" above the sewer or passes under the sewer, both the water main and sewer shall be constructed of water main quality pipe materials for a minimum of ten (10) feet on each side of the water main. A vertical separation of at least eighteen (18) inches between the invert of the sewer and crown of the water main must be maintained where the water main crosses under the sewer.

Line Stops: The Contractor shall provide temporary line stops in order to isolate sections of water main to facilitate the installation or testing of new water mains, or to maintain water service. Line stops shall be installed as indicated on the Plans or as directed by the Engineer. Where plugs or caps are not a sufficient means of isolating sections of water main, line inserts shall be installed which are suitable to the size, pipe material, and operating pressure of the existing water mains. All line insert devices and methods shall be approved by the Village of Streamwood and installed per the manufacture's instructions.

Permissible Deflections of Joints: Whenever necessary to deflect pipe from a straight line either in a vertical or horizontal plane to avoid obstructions or where long radius curves are permitted; the degree of deflection shall be no greater than recommended by AWWA C600 and the pipe manufacturer, and shall be approved by the Engineer.

Temporary Caps and Plugs: Plugs shall be inserted into the joints of all dead end pipes, valves, tees or crosses. No ends shall be left open during construction activities. This work shall be considered incidental to the water main work requiring the plug or cap.

Testing and disinfection of water mains: Pressure testing of the water mains shall be in accordance with Section 41-2.14 of the "Standard Specifications for Water and Sewer Main Construction in Illinois", and as required by this Section. All water mains shall be disinfected and tested according to the requirements of the "Standards for Disinfecting Water Mains," AWWA C601, and as required by this Section. This work will not be measured or paid for separately but shall be included in the cost of the water main and no additional compensation will be allowed.

7. Hydrostatic Testing: All newly laid water main pipe shall be subjected to a hydrostatic pressure of 150 psi.
 - i. Submit for approval method for disposal of water from hydrostatic tests and from disinfection procedures, as approved in advance by the Engineer.
 - j. Where any section of water main is provided with concrete thrust blocking, do not make hydrostatic tests until at least 5 days after installation of concrete thrust blocking, unless otherwise approved by the Engineer.
 - k. Subject the new water mains and service lines, including valves and fire hydrants, to a hydrostatic pressure of 150 psi.
 - l. Before applying the specified test pressure, all air shall be expelled from the pipe.
 - m. All testing shall be done before the transfer of service lines to the new water main.
 - n. Hold the test pressure for a duration of two (2) hours without pressure loss or further pressure application.
 - i. If a pressure drop is recorded, the test is to be continued for a duration of two (2) hours. Allowable makeup water will be determined by the Village representative according to the AWWA standard for allowable leakage per 1,000 feet in gallons per hour (GPH).

Pipe Size	3"	4"	6"	8"	10"	12"	16"
GPH	0.28	0.37	0.55	0.74	0.92	1.10	1.47
 - ii. If makeup water is less than the following allowable amounts, the test is complete with a passing result (Linear footage/1000):
 - iii. If at any time after the test begins a drop of 5 psi or more is recorded, the test is complete with a failing result regardless of the allowable makeup water.
 - o. Any cracked or defective pipes, fittings, valves, or hydrants discovered in consequence of the pressure test shall be removed and replaced. If the pipeline fails to meet the requirements of the hydrostatic testing, the Contractor shall find the cause for the failure and make repairs or replacement, and repeat the test until results are satisfactory. Any replaced items or re-testing shall be at no additional cost to the contract.
8. Leakage Testing: The Contractor shall perform a metered leakage test after the pressure testing has been satisfactory completed.
 - b. Duration of each leakage test shall be a minimum of 24 hours.
 - c. During the test, subject water lines to the normal operating water pressure of the Village's water system.

- d. Install water meter approved by the Engineer. Provide double check valve assembly (DCA) for backflow protection between water meter and existing water main.
- e. Maximum allowable leakage (makeup water) shall not exceed the number of gallons per hour (gph) as determined by the following formula:

$$L = SD(P^{0.5})/148,000$$

Where:

L = Allowable leakage, in gallons per hour

S = Length of the pipe section tested, in feet

D = Diameter of water main, in inches

P = Average test pressure, in pounds per square inch (gage)

- f. Should any test of pipe disclose leakage greater than the maximum allowable amount, locate and repair the defective joint or joints and then repeat the 24-hour metered leakage test until the leakage is within the specified allowance, and at no additional cost to the Owner.
2. Preliminary Flushing: Prior to disinfection, the main shall be flushed as thoroughly as possible.
- a. Flush main until water runs clear.
 - b. Provide a minimum flushing velocity of 2.5 feet per second in the water main.
 - c. Where no fire hydrant exists on the end of the main, the plug (or cap) on the end of the main must be tapped with opening in the end for flushing purposes. After acceptance, install threaded plug into tap.
 - i. 8"-12" mains: 2-1/2-inch tap.
 - ii. 16" mains: 3-inch tap.
 - iii. Larger than 16" use temporary fire hydrants.
 - iv. Contractor has the option to use temporary fire hydrants in lieu of taps. Temporary fire hydrants must be removed after testing is complete.
 - d. Coordinate time of flushing with Village and Engineer, at least 72 hours in advance of flushing. Flushing without permission of the Village shall not be permitted.
3. Schedule of Testing:
- a. Except for joint material setting, pipelines jointed with rubber gaskets, mechanical, or push-on joints, or couplings may be subjected to hydrostatic pressure, inspected, and tested for leakage any time after partial completion of backfill.
 - b. Perform the pressure and leakage tests satisfactorily prior to requesting the Engineer to witness the official tests.
 - c. Notify the Engineer at least 48 hours prior to the time of the requested official tests.
 - d. Depending on traffic conditions, public hazard, or other reasons, the Engineer may direct when to conduct the tests, and may limit the length of sections to be tested.
4. Disinfection: Procedures for disinfecting water mains shall be in accordance with AWWA C651, with at least one set of samples collected from every 1,200 feet of new water main plus one set from each end of the line. Satisfactory disinfection shall be demonstrated in accordance with the requirements of 35 Illinois Administrative Code 652.203.
- a. Chlorine Gas: Apply chlorine by gas feed or solution feed chlorinator, as approved by the Engineer.
 - b. Chlorine Solution: Apply solution of sodium hypochlorite into one end of the section of main to be disinfected while filling the main with water.
 - i. Initial chlorine solution in pipe: At least 50 mg/L, but not more than 100 mg/L.
 - ii. Retain the disinfecting solutions in the work for at least 24 hours.
 - iii. Chlorine residual after the retention period: At least 25 mg/L after 24 hours standing.
 - c. Flush and swab the piping, valves, and fittings that must be placed in service immediately and cannot be disinfected by the above specified methods, with 5 percent solution of calcium hypochlorite prior to assembly. The Contractor shall obtain approval from the Engineer prior to applying this method of disinfection.

5. Final Flushing and Testing: Following chlorination, all disinfected water shall be thoroughly flushed from the newly laid water mains at its extremities until the replacement water, throughout its length shall, upon test, be approved as safe water by the Engineer.
 - a. Final chlorine concentration in the water flowing from the main shall be no higher than generally prevailing in the Village's system, or less than 1 mg/L.
 - b. After flushing, two water samples shall be collected on successive days at least 24 hours apart in sterile bottles treated with sodium thiosulfate. Notify the Engineer and the Village to witness sample collection.
 - c. Deliver the samples to a State approved laboratory for bacteriological analysis.
 - d. Should the initial disinfection result in an unsatisfactory bacterial test, repeat the chlorination procedure until results are satisfactory.
 - e. The Village will provide the water for initial flushing and testing only. Compensate the Village for water used in subsequent flushing and testing.
 - f. The Contractor shall submit two (2) copies of bacteriological test reports to the Village.
 - g. All samples shall be taken in the presence of Village water personnel. The Village of Streamwood may elect to do parallel sampling and testing of all public water main construction. The chlorine must be in the main at least 24 hours. The Contractor is responsible for coordination with the Water Department on water sampling done by the Village Public Works Department. ***Chlorination may be done starting on Monday but shall not start later in the week than 10:00 am Wednesday. Chlorination must be scheduled 48 hours in advance to accommodate the schedules of Village staff.***

Acceptance of Water Mains: Once the water main has been completed according to the specifications set forth in this Section, the Engineer shall, upon the request of the Contractor, inspect the system and prepare a list of items for repair (punch list). The list shall be given or sent to the Contractor and when repairs have been made, the Engineer shall accept the water main for operational use only. During the time after the acceptance by the Engineer and the Village of Streamwood for maintenance, the Contractor shall be responsible for any delinquencies incurred within the system, including but not limited to water main leaks, adjustment to manhole frames, and bent curb boxes.

The existing water main shall remain in service until all tests have passed and the new water main has been disinfected. Testing and disinfection are subject to approval by the Engineer and the Village of Streamwood.

Disposal of Water: The Contractor shall be responsible for properly disposing of flushed water during the pressure testing and disinfection of the water main. This work shall be coordinated with the Village of Streamwood. Chlorinated water with a concentration greater than 1 mg/L shall not be discharged. When written approval is obtained from the Village of Streamwood, heavily chlorinated water may be disposed of to the sanitary sewer system.

Where discharge to sanitary sewers is impractical or when approval cannot be obtained from the Village of Streamwood, the Contractor shall utilize dechlorinating agents to lower residual chlorine levels to below 1 mg/L. Prior to use, dechlorinating agents and proposed dechlorinating methods shall be submitted for review and approval.

Abandonment of Existing Water Mains: Abandon water mains indicated on the Plans as "to be abandoned" only after all requirements for testing and disinfection have been satisfied and all existing services have been connected to new water mains. Abandonment of existing water mains shall be considered incidental to the installation of water mains (except CLSM fill). No additional compensation will be allowed unless otherwise authorized by the Engineer.

1. Provide ductile iron plugs, caps, or other necessary fittings, and thrust blocking, on ends of portions of existing water mains to remain in service.

2. Water mains to be abandoned that are located within existing paved areas, drives and sidewalks shall be filled with Controlled Low Strength Material (CLSM).
3. Remove fire hydrants in total, including auxiliary box, and backfill excavation with compacted granular backfill material.
4. At the discretion of the Village, all valves, valve boxes, fire hydrants, and frames and grates to be removed shall be salvaged and delivered to the Village of Streamwood Public Works Department by the Contractor. Items that are determined not to be salvaged by the Village shall be disposed of offsite by the Contractor in accordance with Article 202.03.
5. Removal of existing water mains being replaced by new water mains in the same location is considered incidental to the installation of the new water main and no additional compensation will be allowed.
6. Abandonment of water mains shall include abandoning or removing existing valves, valve boxes, water service lines, fittings, and or water main appurtenances.

WATER MAIN PIPE

Description: This work shall be done in accordance with the Special Provision for WATER DISTRIBUTION SYSTEM, and shall consist of the installation of ductile iron pipe water main complete in place.

Installation of Water Main: Install all ductile iron water main, fittings, and appurtenances in accordance with pipe manufacturer's instructions and in compliance with AWWA C600.

1. Protect all pipe, fittings, fire hydrants, auxiliary valve boxes, buried valves, valve boxes, and corporation stops by loose wrapping with polyethylene sheeting or tubing.
 - a. Place polyethylene sheet around the entire circumference of the pipe, tie or tape sheet securely to prevent displacement during backfilling.
 - b. Wrap copper service lines to a point 3 feet from center of water main.
 - c. Do not block fire hydrant weep hole.
2. Install conductivity through joints by use of conductivity wedges or copper cable and taps.
 - a. Use two (2) wedges per joint for pipes 12 inches or smaller, and four (4) wedges per joint for pipe sizes larger than 12 inches.
 - b. Use number of copper cable connectors per joint as recommended by the pipe manufacturer.
3. Provide and install locator wire for the total length of pipe installed in open cut trenches, plus additional wire/cable to leave a 10 foot loop of cable in the adjacent valve vault and through any casing pipe.
 - a. Hang loop of cable inside valve vaults on a stainless steel eye hook with expansion anchor.

Method of Measurement: This work will be measured for payment at the contract unit price per linear foot for the water main installed, of the size and type specified. Measurement shall be along the centerline of the pipe, and shall extend through fittings, valves, and other water system appurtenances.

Basis of Payment: This work shall be measured and paid for at the contract unit price per linear foot for WATER MAIN installed of the size and type indicated, which payment will be full compensation for all materials, labor, tools, equipment and incidentals necessary to install the water main pipe, fittings, and appurtenances. This work shall include excavation (except rock excavation), bedding, backfilling with and compacting of trench backfill material, thrust blocks, restrained joint fittings and devices, tracer wire, testing and disinfection, shut-downs, caps and plugs, dewatering, protection and repair of utilities, locating existing water mains and services, providing temporary water services to residents, removal and disposal of surplus excavated material, sawcutting, removal and disposal of pavements and other surface features, cutting and abandonment of existing water mains (except CLSM fill), and clean-up.

CA-6 granular backfill will be paid separately under TRENCH BACKFILL, WATER MAIN (SPECIAL), per Section 208 of the Standard Specifications.

It is noted that the plans indicate the general vertical and horizontal location of the proposed main. The contractor is required to provide and install all fittings, bolts, gaskets, sleeves, adaptors, and other required materials to make a complete installation for which no additional payment will be made.

CONNECTION TO EXISTING WATER MAIN (NON-PRESSURE)

Description: This work shall be done in accordance with the Special Provision for WATER DISTRIBUTION SYSTEM and shall consist of the non-pressure connection to existing water mains, complete in place, as a part of the water main installation, at locations indicated on the Plans. All mains shut down that are opened to the atmosphere must be disinfected prior to returning into service.

Basis of Payment: This work shall be measured and paid for at the contract unit price per each for CONNETION TO EXISTING WATER MAIN of the size indicated, which payment will be full compensation for all materials, labor, tools, equipment and incidentals necessary. This work shall include excavation (except rock excavation), bedding, backfilling with and compacting of trench backfill material, shut-downs, caps and plugs, dewatering, protection and repair of utilities, locating existing water mains, removal and disposal of surplus excavated material, sawcutting, removal and disposal of pavements and other surface features, cutting and abandonment of existing water mains (except CLSM fill), removal and disposal of existing water mains and appurtenances as needed to make connections. and clean-up.

Pipe and fittings shall not be included for payment under this item, and will be paid separately under WATER MAIN PIPE.

WATER VALVES

Description: This work shall be done in accordance with the Special Provision for WATER DISTRIBUTION SYSTEM and shall consist of the installation of gate valves, complete in place, installed as a part of the water main installation, at locations indicated on the Plans. Valves shall be of ductile iron body, bronze fitted, modified wedge disc, resilient seat type, with non-rising stem and O-ring packing, and conform to the latest revised requirements of AWWA Specification C515.

Basis of Payment: This work shall be measured and paid for at the contract unit price per each for WATER VALVES of the size and configuration indicated, which payment will be full compensation for all fittings, materials, labor, tools, equipment and incidentals necessary.

Valve vaults shall not be included for payment under this item, and will be paid separately under VAULTS.

WATER MAIN LINE STOP

Description: This work shall be done in accordance with the Special Provision for WATER DISTRIBUTION SYSTEM and shall consist of the installation of water main line stops for isolation of water main segments, complete in place, at locations indicated on the Plans or as directed by the Engineer. Line stops shall be suitable for use on the existing water main pipe material. Upon approval of new water mains, line stops shall be removed to allow flow within the water main unless otherwise directed by the Engineer. Tapping sleeves used during the line stopping process shall be plugged and capped with a blind flange without leaks upon completion.

Basis of Payment: This work shall be measured and paid for at the contract unit price per each for WATER MAIN LINE STOP of the size and configuration indicated, which payment will be full compensation for all fittings, materials, labor, tools, equipment and incidentals necessary, including all components necessary for live insertion into pressurized water mains.

WATER SERVICES

Description: This work shall be done in accordance with the Special Provision for WATER DISTRIBUTION SYSTEM and in compliance with the State of Illinois Department of Public Health Plumbing Code; and shall consist of the installation of water service pipe, valves, and appurtenances complete in place by open cut methods or trenchless methods. The old curb stop is to be removed and each new service shall have a new curb stop. Unless otherwise directed by Engineer, splices between curb stop and existing service will not be allowed. Service installation is not to occur until the main has passed all required testing and has been connected to the Village system.

The Contractor shall be responsible for identifying the size of the existing service and providing the appropriate fittings for the transition from the proposed curb stop to the existing service line, regardless of the sizes indicated on the Plans or Summary of Quantities. The Contractor shall also be fully responsible for locating and identifying the depth of each service, and providing the necessary service box length to ensure the cap is set at finished grade.

Prior to any backfilling, the Contractor shall arrange for inspection by the Engineer of the completed corporation stop including a leak check. The leak check shall be witnessed under normal operating pressure conditions. The Contractor shall notify residents at least 15 minutes prior to disconnecting their existing water service and shall instruct the resident to flush their water line after the new service connection. No water service shall be disconnected before 9:00 am without the resident's consent.

Installation of Water Services:

1. Make service connections at locations shown on the Plans or determined by the Village or Engineer at the time of construction.
2. Install water service pipe, corporation stop, curb stop, and service box as shown on the water service installation detail and by the method indicated on the Plans.
3. Set curb stop on a precast concrete block.
4. Do not splice the water service pipe.
5. Connect new water service to existing service pipe adjacent to and on building side of water meter or service box.
6. Water service lines to be installed shall be 1 inch minimum in diameter, or shall match the size of any existing water services that are larger than 1 inch. Water services that are 3 inches and larger shall not be included.

Service Boxes:

1. Install service box over curb stop in a truly vertical position.
2. Set the top of box flush with the surrounding finished grade.

Tapping Connections:

1. Wrap two or three layers of polyethylene adhesive tape completely around the pipe to cover the tapping machine and chain mounting area.
2. Make the tap and install the corporation stop directly through the tap and polyethylene.
3. After making the direct service connection, inspect the entire circumferential area for damage and make any necessary repairs.
4. Wrap the corporation stop and a minimum of 3 feet of the copper service pipe with polyethylene.

Method of Measurement: This work will be measured for payment at the contract unit price per linear foot for water service line installed, of the size and type specified. Measurement shall be along the centerline of the service line, and shall extend through fittings, valves, and appurtenances.

Basis Payment: This work will be measured and paid for at the contract unit price per linear foot for WATER SERVICE LINE of the size and type indicated, which payment will be full compensation for all materials,

labor, tools, equipment and incidentals necessary to install the water service line, fittings, curbs stops, tapping saddles (when required), corporation stops, service boxes, and all fittings and water service appurtenances. This work shall include excavation (except rock excavation), bedding, backfill and compaction, locating existing water services, removal of existing curb stops and service boxes, removal and disposal of surplus excavated material, sawcutting, removal and disposal of pavements and other surface features, and clean-up.

Water services that are 3 inches and larger shall not be included and will be paid for under WATER MAIN PIPE. CA-6 granular backfill shall be used per Section 208 of the Standard Specifications to backfill the full width of all trenches made in pavement to a point two feet beyond the existing pavements. Granular backfill used to backfill water services outside of the water main trench will not be measured for payment, but shall be considered included in the cost of WATER SERVICE LINE.

FIRE HYDRANTS WITH AUXILIARY VALVE AND VALVE BOX

Description: The work of this pay item shall be in accordance with the Special Provision for WATER DISTRIBUTION SYSTEM and shall consist of furnishing and installing a new fire hydrant with five (5) feet of 6-inch ductile iron hydrant lead pipe, tee, new auxiliary valve, valve box and cover, extension stem, restraining devices and fittings, stabilizer, and concrete thrust block, complete in place at the locations shown on the Plans. Hydrants shall be located as indicated on the Plans.

Installation Requirements:

1. Install fire hydrant plumb with the lowest hose connection at least 18 inches, but not more than 26 inches, above the finished grade ground level. Set fire hydrant base and auxiliary valve on a precast concrete block to provide firm support. The auxiliary valve shall be mounted behind the curb and as close to the hydrant as possible.
2. Brace the bases with solid concrete blocking between the base and undisturbed trench wall to counteract the reaction thrust of water pressure at the base. Provide mechanical joint anchoring fittings or approved restrained joints.
3. Brace the fire hydrant barrels during backfilling. Do not block the drain hole in the fire hydrant.
4. Place a minimum of 0.5 cubic yards of washed coarse stone at and around the base for proper drainage. Cover stone with plastic before backfilling.
5. Place and compact backfill materials in 6-inch layers around the fire hydrant and auxiliary gate valve.
6. Cover new fire hydrant with plastic bag until new system is in service.
7. Install new hydrants so that pumper nozzles are facing the adjacent roadway.

Basis of Payment: This work shall be measured and paid for at the contract unit price per each for FIRE HYDRANT WITH AUXILIARY VALVE AND VALVE BOX, which price shall be payment in full for all materials, labor, tools, equipment and incidentals necessary to complete this work, including the hydrant, five (5) feet of new 6-inch ductile iron hydrant lead pipe, tee, auxiliary valve, valve box and cover, extension stem, restraining devices and fittings, stabilizer, concrete thrust block, and appurtenances. This work shall include saw cutting, removal and disposal of existing pavements, excavation, removal and disposal of waste excavated materials, trench dewatering, bedding, and backfilling with and compacting of trench backfill material around the fire hydrant and auxiliary valve and valve box.

For hydrants installed at depths greater than 5 feet, any additional pipe and fittings that are required for complete installation will be paid for under WATER MAIN with no additional compensation to the Contractor allowed. For hydrants and valve boxes installed at depths greater than 5 feet, extensions shall be paid for under FIRE HYDRANT EXTENTION and AUXILIARY VALVE BOX EXTENSION. Granular backfill will be paid separately under TRENCH BACKFILL, WATER MAIN (SPECIAL), per Section 208 of the Standard Specifications.

FIRE HYDRANTS TO BE RELOCATED

Description: The work of this pay item shall be in accordance with the Special Provision for WATER DISTRIBUTION SYSTEM and shall consist of the relocation of existing fire hydrants with new fire hydrants, including the installation of a new hydrant, auxiliary valve, valve box and cover, extension stem, complete in place at the locations shown on the Plans. Hydrants shall be relocated as indicated on the Plans.

Installation of Relocated Hydrants: Relocated hydrants shall meet the same requirements for installation as new hydrants to be installed. Relocation shall include the installation of new hydrants with valve box and other appurtenances in place of the existing hydrants.

Basis of Payment: This work shall be measured and paid for at the contract unit price per each for FIRE HYDRANT RELOCATION, which price shall be payment in full for all materials, labor, tools, equipment and incidentals necessary to complete this work, including the hydrant, five (5) feet of new 6-inch ductile iron hydrant lead pipe, tee, transition couplings, auxiliary valve, valve box and cover, extension stem, restraining devices and fittings, stabilizer, concrete thrust block, and appurtenances. This work shall include connections to existing water mains, saw cutting, removal and disposal of existing pavements, removal and disposal of existing fire hydrants and appurtenances, excavation, removal and disposal of waste excavated materials and water main pipe, trench dewatering, bedding, and backfilling with and compacting of trench backfill material around the fire hydrant and auxiliary valve and valve box.

For hydrants installed at depths greater than 5 feet, any additional pipe and fittings that are required for complete installation will be paid for under WATER MAIN and with no additional compensation to the Contractor allowed. For hydrants and valve boxes installed at depths greater than 5 feet, extensions shall be paid for under FIRE HYDRANT EXTENSION and AUXILIARY VALVE BOX EXTENSION. Granular backfill will be paid separately under TRENCH BACKFILL, WATER MAIN (SPECIAL), per Section 208 of the Standard Specifications.

FIRE HYDRANT EXTENSION

Description: For fire hydrants installed at depths greater than 5 feet, the Contractor shall provide hydrant extensions to meet the required grade. The contractor shall provide any special hardware, fittings, valves, and appurtenances needed to install hydrant extensions compatible with the type and model of hydrant specified. Extensions shall be by the same manufacturer as the fire hydrant. The Contractor shall install per the manufacturer's instructions.

Basis of Payment: This work shall be measured and paid for at the contract unit price per foot for FIRE HYDRANT EXTENSION, which payment will be full compensation for all materials, labor, tools, equipment, and incidentals necessary to install a complete and working fire hydrant.

AUXILIARY VALVE BOX EXTENSION

Description: For valve boxes installed at depths greater than 5 feet, the Contractor shall provide valve box extensions to meet the required grade. The contractor shall provide any special hardware or fittings, valves stems, and appurtenances needed to install valve box extensions compatible with the type and model specified. Extensions shall be by the same manufacturer as the valve boxes. The Contractor shall install per the manufacturer's instructions.

Basis of Payment: This work shall be measured and paid for at the contract unit price per foot for AUXILIARY VALVE BOX EXTENSION, which payment will be full compensation for all materials, labor,

tools, equipment, and incidentals necessary to install a complete valve box.

VAULTS

Description: Vaults for water main valves or other water main items shall be provided where indicated on the Plans. Vaults shall be precast and meet the requirements of ASTM C478.

General: Provide eccentric cone section for vaults installed around gate valves unless otherwise indicated on the Plans.

1. Provide precast reinforced concrete monolithic or separate base.
2. Design flat slab tops for AASHTO HS20-44 wheel loading.
3. Provide 4,000 psi concrete using Type I Portland Cement complying with ASTM C150. Mortar shall be non-shrink grout type.
4. Install pipe through vault as shown on the Detail.
5. Gate valves shall be positioned so that the operating nut is plumb and centered within the cone of the valve vault.
6. Provide flexible rubber gasket collar for connecting pipe to vault in compliance with ASTM C923. For pipe 24 inches and smaller, use PSX gasket system by Press-Seal Gasket Corporation.
7. Vaults for valves 10-inches and smaller shall be 4 feet in diameter, and vaults for valves 12-inches and greater shall be 5 feet in diameter.

Joints:

1. Provide joints of either flexible watertight rubber gaskets or preformed bituminous plastic gaskets consisting of a homogeneous blend of refined hydrocarbon resins and plasticizing compound reinforced with inert mineral filler.
2. Trim smooth and free from surplus gasket material.
3. Acceptable preformed gasket products:
 - a. KT Snyder Co., RAM-NEK;
 - b. Concrete Sealants, Type CS-203;

Steps:

1. Provide steps with a minimum width of 12 inches and a minimum projection of 5 inches.
2. Provide each vault over 3 feet deep with individual wall-mounted steps as shown on the vault detail.
3. Use steps consisting of copolymer polypropylene plastic with continuous one-half inch steel reinforcement as manufactured by M.A. Industries, Inc.; Cast iron steps, Neenah R-1980-1.

Frames and Lids:

1. Provide cast iron frames and covers with heavy duty, indented top with solid self-sealing lids and machined bearing surfaces, stamped with the words "VILLAGE OF STREAMWOOD" and "WATER".
2. Unless otherwise shown on the Plans or as determined by the Engineer, set frames and covers:
 - a. In paved areas: So that the top of the solid cover will be flush with the finished pavement.
 - b. In unpaved areas: To drain away from the valve vault.
 - c. With flexible watertight gaskets.
 - d. With grade rings not exceeding 8 inches in height.
3. Acceptable products unless otherwise indicated on the Plans:
 - a. Neenah R-1713; or
 - b. East Jordan 1050 EXHD

Basis of Payment: This work shall be measured and paid for at the contract unit price per each for VAULTS of the size and configuration indicated, which payment will be full compensation for all materials, labor, tools, equipment, and incidentals necessary to install each vault, including the frame and lid, excavation, bedding and backfill.

FIRE HYDRANTS TO BE REMOVED

Description: Fire hydrants to be removed shall consist of the complete removal of the existing fire hydrants at the location shown on the plans and as directed by the Engineer. The hydrants that are salvageable shall become the property of the Village of Streamwood. Hydrants determined not to be salvaged by the Engineer shall be disposed of offsite by the Contractor in accordance with Article 202.03.

The excavated areas that are within 2-feet of the proposed paved areas shall be backfilled with granular backfill material. The other excavated areas not within 2-feet of paved areas shall be backfilled with select excavated material. The Contractor will also be responsible for exploring and determining the type, size, and depth of the fire hydrants and valves.

Basis Payment: This work will be measured for payment at the contract unit price each for FIRE HYDRANT TO BE REMOVED. This work shall include all labor, equipment and material to complete the work, including removal of hydrant, valve boxes, hydrant valves, hydrant lead piping, excavation (except rock excavation), protection and repair of existing utilities, plugging pipes, saw cutting, removal and disposal of existing pavements, excavation, removal and disposal of surplus excavated material; and clean-up. Granular backfill will be paid separately under TRENCH BACKFILL, WATER MAIN (SPECIAL), per Section 208 of the Standard Specifications.

FILLING VALVE VAULTS

Description: After the existing water main has been removed from service, the Contractor shall remove the existing valve and frame and lid, and fill the existing vault in place where vaults are to be abandoned as indicated on the Plans or as directed by the Engineer. The Contractor shall follow article 605.04 and 605.05 of the Standard Specs.

Basis of Payment: This work shall be measured and paid for at the contract unit price per each for FILLING VALVE VAULTS, which payment will be full compensation for all materials, labor, tools, equipment, and incidentals necessary to fill the existing vault, including the removal of the existing vault, frame and lid, and clean-up.

TRENCH BACKFILL, SPECIAL (WATER MAIN)

Description: This work shall be in accordance with Section 208 of the Standard Specifications, and Select Granular Backfill per Section 20 of the Standard Specifications for Water and Sewer Construction in Illinois. Provide CA-6 in accordance with Section 1004 of the Standard Specification at areas indication on the Plans and in the Special Provisions. This work shall be in compliance with the requirements of Article 550.07 of the SSRB. Method 1 shall be the only acceptable compaction method for TRENCH BACKFILL, SPECIAL (WATER MAIN).

Provide trench backfill of water mains installed in streets, parking areas, driveways, sidewalks, curb and gutter, or within three (3) feet of any paved areas:

1. Place in uniform loose layers not exceeding 6 inches thick, and compact with vibrating roller or equivalent.
2. Water jetting may not be used in lieu of vibratory compaction.
3. Fill the top of trenches with temporary aggregate pavement material to the depth(s) required to provide aggregate base and pavement base, binder and surface courses of the depths shown on the Plans.
4. Compact each layer of trench backfill materials to yield a minimum density of 90 percent of maximum dry density as determined according to ASTM D1557 or AASHTO T-180.
5. Determine the density of compacted backfill at intervals of not more than 500 feet at locations

selected by the Engineer.

6. Provide the services of an independent testing laboratory for the density tests.
7. Maintain temporary pavement level with adjoining pavement surfaces until the permanent pavement is placed.

Method of Measurement: Trench backfill for water main will be measured for payment in cubic yards for material furnished. Trench backfill will be measured from the outside edges of the trench, for no more than the maximum trench width allowable in accordance with the Plans. Payment for trench backfill shall not include pipe bedding or initial backfill materials. Any trench backfill required in excess of the maximum allowable quantity shall be furnished by the Contractor at no additional cost.

Basis of Payment: This work shall be measured and paid for at the contract unit price per cubic yard for TRENCH BACKFILL, SPECIAL, which payment will be full compensation for all materials, labor, tools, equipment, and incidentals as necessary.

WATER MAIN DIRECTIONAL BORE (HDD)

Description: At locations where water main or water service lines cannot be installed at roadway crossings without the obstruction of traffic, or at locations approved by the Engineer, the Contractor may install water main using horizontal directional drilling (HDD) methods in lieu of open trench installation. This work shall be done in accordance with the Special Provision for WATER DISTRIBUTION SYSTEM, and shall consist of the installation of ductile iron pipe water main or copper water service line by HDD complete in place.

General: Installation of water mains by HDD shall be in accordance with Section 23 of the "Standard Specifications for Water and Sewer Main Construction in Illinois", the Ductile Iron Pipe Research Association (DIPRA), and the manufacturer's requirements. Provide all excavation, pits, installation and removal of tight sheeting, backfilling of pits, and providing and compacting granular backfill materials where necessary. Use an adequate number of workmen who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and methods needed for proper installation of ductile iron pipe by means of HDD.

1. Provide hydraulically or pneumatically operated, fluid-assisted, remote guided drilling system capable of installing pipe indicated on the Plans by trenchless methods.
2. Provide compressors, pumps, apparatus, tools, and all devices certified as suitable by the system manufacturer to install the new pipe without damaging or stressing the pipe.
3. Provide recovery system that will recover bentonite slurries or other drilling fluids without releasing the slurry onto the surrounding ground or water surfaces.
4. Provide certification from pipe manufacturer that the proposed material and strength classification is appropriate for application.
5. All construction activities shall be performed in accordance with the National Pollution Discharge Elimination System (NPDES) and follow the requirements of the IEPA construction activities.

Installation: Water main pipe shall be installed during HDD operations by pulling of the pipe in place.

1. Provide winch systems designed to protect structures, provide directional stability, and pull pipe from insertion point to exit point without causing damage to the pipe.
2. Install pipe in a continuous operation from pullback point to drilling point.
3. Provide silencers, mufflers, or other devices required to reduce noise from compressors and other equipment to meet limits as outlined by local ordinances.
4. Excess drilling fluid shall be contained until recycled or removed from the site. Drilling fluids removed from the site must be disposed of at an approved disposal site. All drilling fluids must be removed prior to backfill and restoration.
5. Drilling fluids shall not be permitted to enter roadways, streams, or municipal storm and sanitary sewers.

6. Provide tracer wire at each boring location for the total length of water main pipe, plus additional wire/cable to leave a 10 foot loop of cable in the adjacent valve vault and through any casing pipe. Connect locator wire to locator wire installed with water main in open cut trenches.
7. Upheaval of ground shall not be allowed. The contractor shall adjust depth of installations according to a minimum depth required to prevent ground upheaval or release of drilling fluids.
8. The contractor shall identify existing utilities so that HDD operations do not cause any unintended damage.
9. Install polyethylene wrap per "Horizontal Directional Drilling with Ductile Iron Pipe" published by DIPRA.

Access Pits: Where required, access pits will meet OSHA requirements for type, installation, and removal of sheeting. Shoring and protection shall immediately be installed during the excavation of access pits.

1. Access pits shall be located a minimum 10 feet from the roadway edge of pavement and outside of any IDOT right-of-way.
2. Provide dewatering as required to allow excavation of pits and installation of pipes, along with protection to environment from erosion or sedimentation resulting from all pumping operations.
3. Backfill access pits with CA-6 backfill material and compact. All construction debris shall be removed prior to backfill of pits.

Submittals: The Contractor shall provide a detailed Drilling Plan a minimum of thirty (30) days prior to the start of HDD operations. All cost for additional engineering calculations or subsurface investigations shall be included in the cost of the water main installed by HDD, with no additional compensation allowed. The following information, at minimum, shall be provided for approval by the Engineer:

1. Description of all procedures and methods.
2. Site layout of HDD operations.
3. List of materials.
4. List of slurry compounds and Material Safety Data Sheets.
5. Schedule of equipment that will be utilized during HDD operations.
6. A plan of the proposed alignment, including access pit dimensions and locations, entry and exit angles, and radius of curvature.
7. Identification and location of existing utilities that may impact HDD installation.
8. Certification that pipe being installed will meet the design criteria in respect to forces being applied and joint deflection.
9. Subsurface soil condition data that is obtained by the Contractor in order to further evaluate HDD design requirements.
10. A storm water pollution Best Management Practices Plan meeting the requirements of an approved Storm Water Pollution Prevention Plan (SWPPP).
11. Monitoring and contingency plans.
12. Design calculations signed by a registered Engineer in the State of Illinois, which shall include analysis of pipe thickness design, all hoop and longitudinal stresses, soil conditions, required depth of installation, and loading pressures under multiple loading conditions. Calculations shall demonstrate that the pipe and installation methods presented are sufficient to meet all of the design criteria.

Method of Measurement: This work will be measured for payment at the contract unit price per foot for the water main or water service line installed, of the size and type specified. Measurement shall be along the centerline of the pipe, and shall extend through fittings, valves, and other water system appurtenances.

Basis of Payment: This work shall be measured and paid for at the contract unit price per linear foot for WATER MAIN or WATER SERVICE LINE installed, of the size and type indicated, which payment will be full compensation for all materials, labor, tools, equipment, planning, and incidentals necessary to install the water main or service line pipe, fittings, and appurtenances using HDD methods. This work shall include excavation (except rock excavation) of access pits and slurry pits, backfilling with and compacting of backfill material, CA-6 backfill, restrained joint fittings and devices, tracer wire, testing and disinfection, shut-downs, caps and plugs, dewatering, protection and repair of utilities, locating existing water mains and services, removal and disposal of surplus excavated material, removal of existing curb stops and service boxes,

sawcutting, removal and disposal of pavements and other surface features, cutting and abandonment of existing water mains (except CLSM fill), clean-up, mobilization and demobilization of HDD related equipment, removal and control of cuttings and HDD byproducts, additional geotechnical investigations, mixing water, drill site preparation and set-up, and development and submittal of the Drilling Plan. No additional compensation shall be allowed for water main or water service line installed by HDD methods in lieu of open-cut methods, including all work associated with HDD operations and set-up, unless otherwise approved by the Engineer.

It is noted that the plans indicate the general vertical and horizontal location of the proposed main. The contractor is required to provide and install all fittings, bolts, gaskets, sleeves, adaptors, and other required materials to make a complete installation for which no additional payment will be made.

ABANDON EXISTING WATER MAIN WITH CLSM FILL

Description: After the existing water main has been removed from service, the Contractor shall fill the existing water main to be abandoned in place with CLSM where located under existing roadway pavements, drives, sidewalks, and as specified on the Plans or as directed by the Engineer. The Contractor shall provide all materials and equipment per Section 1019 of the Standard Specifications in suitable and adequate quantity and quality as necessary to accomplish the work specified.

Basis of Payment: This work shall be measured and paid for at the contract unit price per linear foot for ABANDON EXISTING WATER MAIN, FILL WITH CLSM, which payment will be full compensation for all materials, labor, tools, equipment, and incidentals necessary to fill the existing water mains to be abandoned.

CASING PIPE, OPEN CUT

Description: At locations indicated on the Plans or as directed by the Engineer, the Contractor shall install casing pipe in accordance with the contract details and as specified by the Standard Specifications for Water and Sewer Construction in Illinois. Casing pipe shall be installed at locations as required to meet water and sewer separation requirements and for the protection of water mains.

Basis of Payment: This work shall be measured and paid for at the contract unit price per linear foot for CASING PIPE, OPEN CUT, for the size and type indicated, which payment will be full compensation for all materials, labor, tools, equipment, and incidentals necessary to install the casing pipe in place where required.

GENERAL ELECTRICAL REQUIREMENTS

Effective: June 1, 2016

This special provision replaces Articles 801.01 – 801.07, 801.09 – 801-16 of the Standard Specifications.

Definition. Codes, standards, and industry specifications cited for electrical work shall be by definition the latest adopted version thereof, unless indicated otherwise.

Materials by definition shall include electrical equipment, fittings, devices, motors, appliances, fixtures, apparatus, all hardware and appurtenances, and the like, used as part of, or in connection with, electrical installation.

Standards of Installation. Materials shall be installed according to the manufacturer's recommendations, the NEC, OSHA, the NESC, and AASHTO's Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.

All like materials shall be from the same manufacturer. Listed and labeled materials shall be used whenever possible. The listing shall be according to UL or an approved equivalent.

Safety and Protection. Safety and protection requirements shall be as follows.

Safety. Electrical systems shall not be left in an exposed or otherwise hazardous condition. All electrical boxes, cabinets, pole handholes, etc. which contain wiring, either energized or non-energized, shall be closed or shall have covers in place and be locked when possible, during nonworking hours.

Protection. Electrical raceway or duct openings shall be capped or otherwise sealed from the entrance of water and dirt. Wiring shall be protected from mechanical injury.

Equipment Grounding Conductor. All electrical systems, materials, and appurtenances shall be grounded. Good ground continuity throughout the electrical system shall be assured, even though every detail of the requirements is not specified or shown. Electrical circuits shall have a continuous insulated equipment grounding conductor. When metallic conduit is used, it shall be bonded to the equipment grounding conductor, but shall not be used as the equipment grounding conductor.

Where connections are made to painted surfaces, the paint shall be scraped to fully expose metal at the connection point. After the connection is completed, the paint system shall be repaired to the satisfaction of the Engineer.

Bonding of all boxes and other metallic enclosures throughout the wiring system to the equipment grounding conductor shall be made using a splice and pigtail connection. Mechanical connectors shall have a serrated washer at the contact surface.

All connections to structural steel or fencing shall be made with exothermic welds. Care shall be

taken not to weaken load carrying members. Where connections are made to epoxy coated reinforcing steel, the epoxy coating shall be sufficiently removed to facilitate a mechanical connection. The epoxy coating shall be repaired to the satisfaction of the Engineer. Where connections are made to insulated conductors, the connection shall be wrapped with at least four layers of electrical tape extended 6 in. (150 mm) onto the conductor insulation.

Submittals. At the preconstruction meeting, the Contractor shall submit a written listing of manufacturers for all major electrical and mechanical items. The list of manufacturers shall be binding, except by written request from the Contractor and approval by the Engineer. The request shall include acceptable reasons and documentation for the change.

Major items shall include, but not limited to the following:

Type of Work (discipline)	Item
All Electrical Work	Electric Service Metering Emergency Standby System Transformers Cable Unit Duct Splices Conduit Surge Suppression System
Lighting	Tower Pole Luminaire Foundation Breakaway Device Controllers Control Cabinet and Peripherals
ITS	Controller Cabinet and Peripherals CCTV Cameras Camera Structures Ethernet Switches Detectors Detector Loop Fiber Optic Cable

Within 30 calendar days after contract execution, the Contractor shall submit, for approval, one copy each of the manufacturer's product data (for standard products and components) and detailed shop drawings (for fabricated items). Submittals for the materials for each individual pay item shall be complete in every respect. Submittals which include multiple pay items shall have all submittal material for each item or group of items covered by a particular specification, grouped together and the applicable pay item identified. Various submittals shall, when taken together,

form a complete coordinated package. A partial submittal will be returned without review unless prior written permission is obtained from the Engineer.

The submittal shall be properly identified by route, section, county, and contract number.

The Contractor shall have reviewed the submittal material and affixed his/her stamp of approval, with date and signature, for each individual item. In case of subcontractor submittal, both the subcontractor and the Contractor shall review, sign, and stamp their approval on the submittal.

Illegible print, incompleteness, inaccuracy, or lack of coordination will be grounds for rejection.

Items from multiple disciplines shall not be combined on a single submittal and transmittal. Items for lighting, signals, surveillance and CCTV must be in separate submittals since they may be reviewed by various personnel in various locations.

The Engineer will review the submittals for conformance with the design concept of the project according to Article 105.04 and the following. The Engineer will stamp the drawings indicating their status as “Approved”, “Approved as Noted”, “Disapproved”, or “Information Only”. Since the Engineer’s review is for conformance with the design concept only, it shall be the Contractor’s responsibility to coordinate the various items into a working system as specified. The Contractor shall not be relieved from responsibility for errors or omissions in the shop, working, or layout drawings by the Engineer’s approval thereof. The Contractor shall still be in full compliance with contract and specification requirements.

All submitted items reviewed and marked “Disapproved” or “Approved as Noted” shall be resubmitted by the Contractor in their entirety, unless otherwise indicated within the submittal comments.

Work shall not begin until the Engineer has approved the submittal. Material installed prior to approval by the Engineer, will be subject to removal and replacement at no additional cost to the Village.

Unless otherwise approved by the Engineer, all the above items shall be submitted to the Engineer at the same time. Each item shall be properly identified by route, section, and contract number.

Certifications. When certifications are specified and are available prior to material manufacture, the certification shall be included in the submittal information. When specified and only available after manufacture, the submittal shall include a statement of intent to furnish certification. All certificates shall be complete with all appropriate test dates and data.

Authorized Project Delay. See Article 801.08

Maintenance transfer and Preconstruction Inspection:

General. Before performing any excavation, removal, or installation work (electrical or otherwise) at the site, the Contractor shall request a maintenance transfer and preconstruction site inspection, to

be held in the presence of the Engineer and a representative of the party or parties responsible for maintenance of any lighting and/or traffic control systems which may be affected by the work. The request for the maintenance transfer and preconstruction inspection shall be made no less than seven (7) calendar days prior to the desired inspection date. The maintenance transfer and preconstruction inspection shall:

Establish the procedures for formal transfer of maintenance responsibility required for the construction period.

Establish the approximate location and operating condition of lighting and/or traffic control systems which may be affected by the work

Marking of Existing Cable Systems. The party responsible for maintenance of any existing lighting and/or traffic control systems at the project site will, at the Contractor's request, mark and/or stake, once per location, all underground cable routes owned or maintained by the Village. A project may involve multiple "locations" where separated electrical systems are involved (i.e. different controllers). The markings shall be taken to have a horizontal tolerance of at least 304.8 mm (one (1) foot) to either side. The request for the cable locations and marking shall be made at the same time the request for the maintenance transfer and preconstruction inspection is made. The Contractor shall exercise extreme caution where existing buried cable runs are involved. The markings of existing systems are made strictly for assistance to the Contractor and this does not relieve the Contractor of responsibility for the repair or replacement of any cable run damaged in the course of his work, as specified elsewhere herein. Note that the contractor shall be entitled to only one request for location marking of existing systems and that multiple requests may only be honored at the contractor's expense. No locates will be made after maintenance is transferred, unless it is at the contractor's expense.

Condition of Existing Systems. The Contractor shall conduct an inventory of all existing electrical system equipment within the project limits, which may be affected by the work, making note of any parts which are found broken or missing, defective or malfunctioning. Megger and load readings shall be taken for all existing circuits which will remain in place or be modified. If a circuit is to be taken out in its entirety, then readings do not have to be taken. The inventory and test data shall be reviewed with and approved by the Engineer and a record of the inventory shall be submitted to the Engineer for the record. Without such a record, all systems transferred to the Contractor for maintenance during construction shall be returned at the end of construction in complete, fully operating condition.”

Marking Proposed Locations for Highway Lighting System. The Contractor shall mark or stake the proposed locations of all poles, cabinets, junction boxes, pull boxes, handholes, cable routes, pavement crossings, and other items pertinent to the work. A proposed location inspection by the Engineer shall be requested prior to any excavation, construction, or installation work after all proposed installation locations are marked. Any work installed without location approval is subject to corrective action at no additional cost to the Village.

Inspection of electrical work. Inspection of electrical work shall be according to Article 105.12 and the following.

Before any splice, tap, or electrical connection is covered in handholes, junction boxes, light poles, or other enclosures, the Contractor shall notify and make available such wiring for the Engineer's inspection.

Maintenance and Responsibility During Construction.

Lighting Operation and Maintenance Responsibility. The scope of work shall include the assumption of responsibility for the continuing operation and maintenance of the existing, proposed, temporary, sign and navigation lighting, or other lighting systems and all appurtenances affected by the work as specified elsewhere herein. Maintenance of lighting systems is specified elsewhere and will be paid for separately

The proposed lighting system must be operational prior to the removal of the existing lighting.

Energy and Demand Charges. The payment of basic energy and demand charges by the electric utility for existing lighting which remains in service will continue as a responsibility of the Owner, unless otherwise indicated. Unless otherwise indicated or required by the Engineer duplicate lighting systems (such as temporary lighting and proposed new lighting) shall not be operated simultaneously at the Owner's expense and lighting systems shall not be kept in operation during long daytime periods at the Owner's expense. Upon written authorization from the Engineer to place a proposed new lighting system in service, whether the system has passed final acceptance or not, (such as to allow temporary lighting to be removed), the Owner will accept responsibility for energy and demand charges for such lighting, effective the date of authorization. All other energy and demand payments to the utility shall be the responsibility of the Contractor until final acceptance.

Damage to Electrical Systems. Should damage occur to any existing electrical systems through the Contractor's operations, the Engineer will designate the repairs as emergency or non-emergency in nature.

Emergency repairs shall be made by the Contractor, or as determined by the Engineer, the Village, or its agent. Non-emergency repairs shall be performed by the Contractor within six working days following discovery or notification. All repairs shall be performed in an expeditious manner to assure all electrical systems are operational as soon as possible. The repairs shall be performed at no additional cost to the Village.

Lighting. An outage will be considered an emergency when three or more lights on a circuit or three successive lights are not operational. Knocked down materials, which result in a danger to the motoring public, will be considered an emergency repair.

Temporary aerial multi-conductor cable, with grounded messenger cable, will be permitted if it does not interfere with traffic or other operations, and if the Engineer determines it does not require unacceptable modification to existing installations.

Testing. Before final inspection, the electrical work shall be tested. The Engineering and Public Works Department staff shall be present. Tests may be made progressively as parts of the work

are completed, or may be made when the work is complete. Tests shall be made in the presence of the Engineer. Items which fail to test satisfactorily shall be repaired or replaced. Tests shall include checks of control operation, system voltages, cable insulation, and ground resistance and continuity.

The forms for recording test readings will be available from the Engineer in electronic format. The Contractor shall provide the Engineer with a written report of all test data including the following:

- Voltage Tests
- Amperage Tests
- Insulation Resistance Tests
- Continuity tests
- Detector Loop Tests

Lighting systems. The following tests shall be made. The Engineering and Public Works Department staff shall be present.

- (1) Voltage Measurements. Voltages in the cabinet from phase to phase and phase to neutral, at no load and at full load, shall be measured and recorded. Voltage readings at the last termination of each circuit shall be measured and recorded.
- (2) Insulation Resistance. Insulation resistance to ground of each circuit at the cabinet, with all loads connected, shall be measured and recorded.

On tests of new cable runs, the readings shall exceed 50 megohms for phase and neutral conductors with a connected load over 20 A, and shall exceed 100 megohms for conductors with a connected load of 20 A or less.

On tests of cable runs which include cables which were existing in service prior to this contract, the resistance readings shall be the same or better than the readings recorded at the maintenance transfer at the beginning of the contract. Measurements shall be taken with a megohm meter approved by the Engineer.

- (3) Loads. The current of each circuit, phase main, and neutral shall be measured and recorded. The Engineer may direct reasonable circuit rearrangement. The current readings shall be within ten percent of the connected load based on material ratings.
- (4) Ground Continuity. Resistance of the system ground as taken from the farthest extension of each circuit run from the controller (i.e. check of equipment ground continuity for each circuit) shall be measured and recorded. Readings shall not exceed 2.0 ohms, regardless of the length of the circuit.
- (5) Resistance of Grounding Electrodes. Resistance to ground of all grounding electrodes shall be measured and recorded. Measurements shall be made with a ground tester during dry soil conditions as approved by the Engineer. Resistance to ground shall not exceed 10 ohms.

All test results shall be furnished to the Engineer seven working days before the date the inspection is scheduled.

Seven (7) day burn after Engineering and Public Works Department staff inspection. If anything fails seven (7) day burn starts over until all repairs and system works for seven (7) days.

Contract Guarantee. The Contractor shall provide a written guarantee for all electrical work provided under the contract for a period of six months after the date of acceptance with the following warranties and guarantees.

- (a) The manufacturer's standard written warranty for each piece of electrical material or apparatus furnished under the contract. The warranty for light emitting diode (LED) modules, including the maintained minimum luminance, shall cover a minimum of 60 months from the date of delivery.
- (b) The Contractor's written guarantee that, for a period of six months after the date of final acceptance of the work, all necessary repairs to or replacement of said warranted material or apparatus for reasons not proven to have been caused by negligence on the part of the user or acts of a third party shall be made by the Contractor at no additional cost to the Village.
- (c) The Contractor's written guarantee for satisfactory operation of all electrical systems furnished and constructed under the contract for a period of six months after final acceptance of the work.

Record Drawings. Alterations and additions to the electrical installation made during the execution of the work shall be neatly and plainly marked in red by the Contractor on the full-size set of record drawings kept at the Engineer's field office for the project. These drawings shall be updated on a daily basis and shall be available for inspection by the Engineer during the course of the work. The record drawings shall include the following:

- Cover Sheet
- Summary of Quantities, electrical items only
- Legends, Schedules and Notes
- Plan Sheet
- Pertinent Details
- Single Line Diagram
- Other useful information useful to locate and maintain the systems.

Any modifications to the details shall be indicated. Final quantities used shall be indicated on the Summary of Quantities. Foundation depths used shall also be listed.

As part of the record drawings, the Contractor shall inventory all materials, new or existing, on the project and record information on inventory sheets provided by the Engineer.

The inventory shall include:

- Location of Equipment, including rack, chassis, slot as applicable.
- Designation of Equipment
- Equipment manufacturer
- Equipment model number
- Equipment Version Number
- Equipment Configuration
 - Addressing, IP or other
 - Settings, hardware or programmed
- Equipment Serial Number

The following electronic inventory forms are available from the Engineer:

- Lighting Controller Inventory
- Lighting Inventory
- Light Tower Inspection Checklist
- ITS Location Inventory

The information shall be entered in the forms; handwritten entries will not be acceptable; except for signatures. Electronic file shall also be included in the documentation.

When the work is complete, and seven days before the request for a final inspection, the set of contract drawings, stamped “**RECORD DRAWINGS**”, shall be submitted to the Engineer for review and approval and shall be stamped with the date and the signature of the Contractor’s supervising Engineer or electrician. The record drawings shall be submitted in PDF format on CDROM as well as hardcopy’s for review and approval.

In addition to the record drawings, PDF copies of the final catalog cuts which have been Approved and Approved as Noted with applicable follow-up shall be submitted along with the record drawings. The PDF files shall clearly indicate either by filename or PDF table of contents the respective pay item number. Specific part or model numbers of items which have been selected shall be clearly visible. Hard copies of the catalog are not required with this submittal.

The Contractor shall provide two sets of electronically produced drawings in a moisture proof pouch to be kept on the inside door of the controller cabinet or other location approved by the Engineer. These drawings shall show the final as-built circuit orientation(s) of the project in the form of a single line diagram with all luminaires numbered and clearly identified for each circuit.

Final documentation shall be submitted as a complete submittal package, i.e. record drawings, test results, inventory, etc. shall be submitted at the same time. Partial piecemeal submittals will be rejected without review. A total of five hardcopies and CDROMs of the final documentation shall be submitted.

GPS Documentation. In addition to the specified record drawings, the Contactor shall record GPS coordinates of the following electrical components being installed, modified or being affected in other ways by this contract:

- All light poles and light towers.
- Handholes and vaults.
- Junction Boxes
- Conduit roadway crossings.
- Controllers.
- Control Buildings.
- Structures with electrical connections, i.e. DMS, lighted signs.
- Electric Service locations.
- CCTV Camera installations.
- Roadway Surveillance installations.
- Fiber Optic Splice Locations.
- Fiber Optic Cables. Coordinates shall be recorded along each fiber optic cable route every 200 feet.
- All fiber optic slack locations shall be identified with quantity of slack cable included. When sequential cable markings are available, those markings shall be documented as cable marking into enclosure and marking out of enclosure.

Datum to be used shall be North American 1983.

Data shall be provided electronically and in print form. The electronic format shall be compatible with MS Excel. Latitude and Longitude shall be in decimal degrees with a minimum of 6 decimal places. Each coordinate shall have the following information:

1. District
2. Description of item
3. Designation
4. Use
5. Approximate station
6. Contract Number
7. Date
8. Owner
9. Latitude
10. Longitude
11. Comments

A spreadsheet template will be available from the Engineer for use by the Contractor.

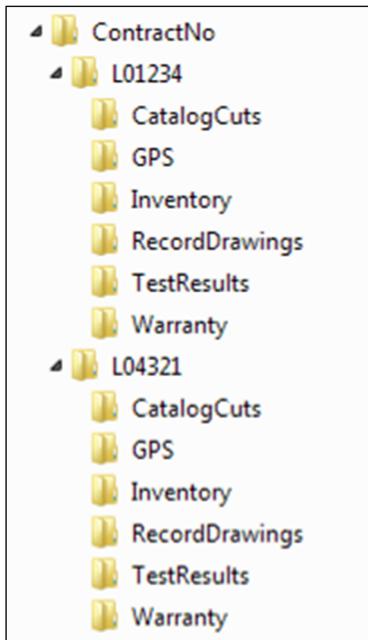
Prior to the collection of data, the contractor shall provide a sample data collection of at least six data points of known locations to be reviewed and verified by the Engineer to be accurate within 20 feet. Upon verification, data collection can begin. Data collection can be made as construction progresses, or can be collected after all items are installed. If the data is unacceptable the contractor shall make corrections to the data collection equipment and or process and submit the data for review and approval as specified. **Data collection prior to the submittal and review of the sample data of existing data points will be unacceptable and rejected.**

Accuracy. Data collected is to be mapping grade. A handheld mapping grade GPS device shall be used for the data collection. The receiver shall support differential correction and data shall have minimum 5 meter accuracy after post processing.

GPS receivers integrated into cellular communication devices, recreational and automotive GPS devices are not acceptable.

The GPS shall be the product of an established major GPS manufacturer having been in the business for a minimum of 6 years.”

The documents on the CD shall be organized by the Electrical Maintenance Contract Management System (EMCMS) location designation. If multiple EMCMS locations are within the contract, separate folders shall be utilized for each location as follows:



Extraneous information not pertaining to the specific EMCMS location shall not be included in that particular folder and sub-folder.

The inspection will not be made until after the delivery of acceptable record drawings, specified certifications, and the required guarantees.

The Final Acceptance Documentation Checklist shall be completed and is contained elsewhere herein.

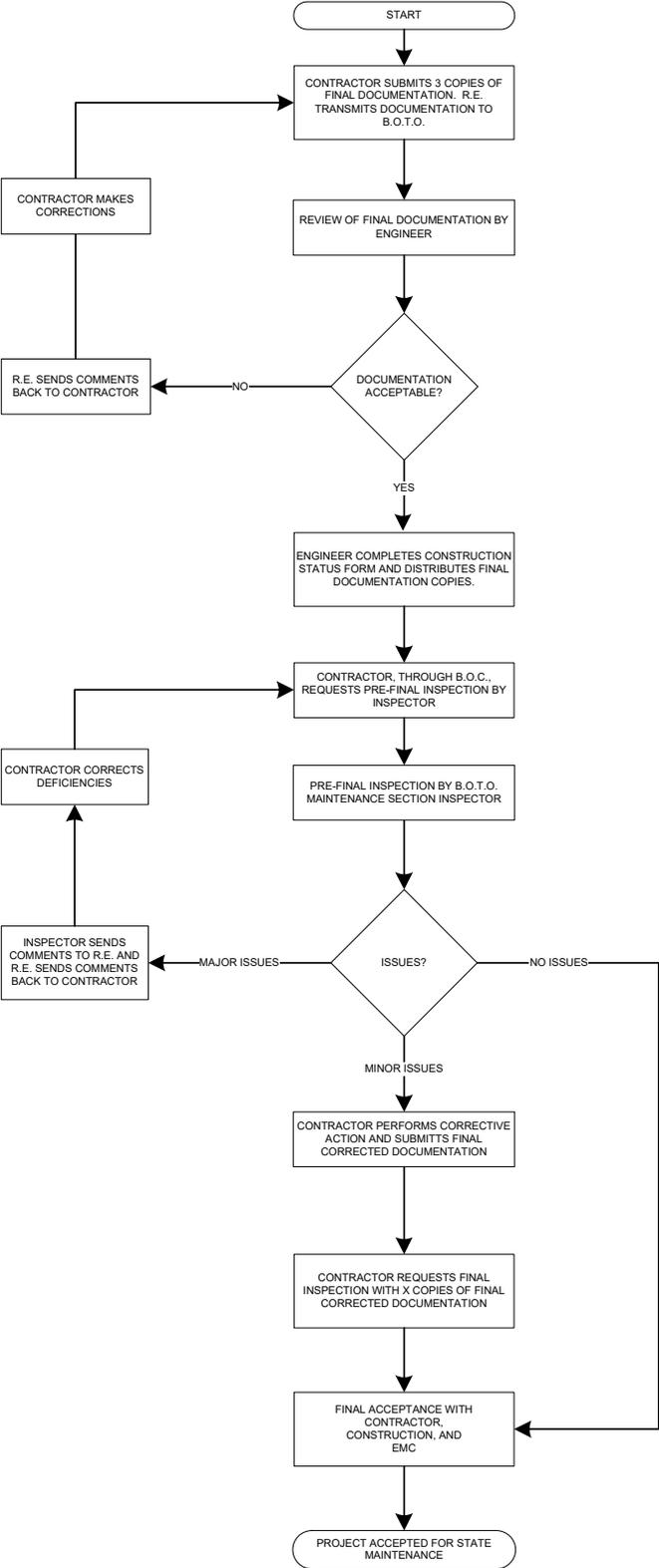
All CD's shall be labeled as illustrated in the CD Label Template contained herein.

Acceptance. Acceptance of electrical work will be given at the time when the Village of Streamwood assumes the responsibility to protect and maintain the work according to Article

107.30 or at the time of final inspection.

When the electrical work is complete, tested, and fully operational, the Contractor shall schedule an inspection for acceptance with the Engineer no less than seven working days prior to the desired inspection date. The Contractor shall furnish the necessary labor and equipment to make the inspection.

A written record of the test readings taken by the Contractor according to Article 801.13 shall be furnished to the Engineer seven working days before the date the inspection is scheduled. Inspection will not be made until after the delivery of acceptable record drawings, specified certifications, and the required guarantees.



Final Acceptance Documentation Checklist

LOCATION	
Route	Common Name Irving Park Rd.
Limits East of IL 59 to Bartlett Rd.	Section
Contract #	County Cook
Controller Designation(s)	EMC Database Location Number(s)

ITEM	Contractor (Verify)	Resident Engineer (Verify)
Record Drawings -Four hardcopies (11" x 17") -Scanned to two CD-ROMs	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Field Inspection Tests -Voltage -Amperage -Cable Insulation Resistance -Continuity -Controller Ground Rod Resistance (Four Hardcopies & scanned to two CD's)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
GPS Coordinates -Excel file (Check Special Provisions, Excel file scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>
Job Warranty Letter (Four Hardcopies & scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>
Catalog Cut Submittals -Approved & Approved as Noted (Scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>
Lighting Inventory Form (Four Hardcopies & scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>
Lighting Controller Inventory Form (Four Hardcopies & scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>
Light Tower Inspection Form (If applicable, Four Hardcopies & scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>

Four Hardcopies & scanned to two CD's shall be submitted for all items above. The CD ROM shall be labeled as shown in the example contained herein.

General Notes:

Record Drawings – The record drawings should contain contract cover sheet, summary of quantities showing all lighting pay item sheets, proposed lighting plans and lighting detail sheets. Submit hardcopies 11 x 17 size. Include the original “red-ink” copy. The red-ink markup should be neatly drawn. Record drawings copies should be legible. Blurred copies will not be acceptable. Temporary lighting plans and removal lighting plans should not be part of the set.

Field Inspection Tests – Testing should be done for proposed cables. Testing shall be per standard specifications. Forms shall be neatly filled out.

GPS Coordinates – Check special provisions “General Electrical Requirements”. Submit electronic “EXCEL” file.

Job Warranty Letter – See standard specifications.

Cutsheet Submittal – See special provisions “General Electrical Requirements”. Scan Approved and Approved as Noted cutsheets.

Lighting Inventory Form – Inventory form should include only proposed light poles, proposed light towers, proposed combination (traffic/light pole) lighting and proposed underpass luminaires.

Lighting Controller Inventory Form – Form should be filled out for only proposed lighting controllers.

CD LABEL FORMAT TEMPLATE. (sample)

Label must be printed; hand written labels are unacceptable and will be rejected.



ELECTRIC UTILITY SERVICE CONNECTION (COMED)

Effective: January 1, 2012

Description. This item shall consist of payment for work performed by ComEd in providing or modifying electric service as indicated. THIS MAY INVOLVE WORK AT MORE THAN ONE ELECTRIC SERVICE. For summary of the Electrical Service Drop Locations see the schedule contained elsewhere herein.

CONSTRUCTION REQUIREMENTS

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

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

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

For bidding purposes, this item shall be estimated as \$5000.00

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

ELECTRIC SERVICE INSTALLATION

Effective: January 1, 2012

Description. This item shall consist of all material and labor required to extend, connect or modify the electric services, as indicated or specified, which is over and above the work performed by the utility. Unless otherwise indicated, the cost for the utility work, if any, will be reimbursed to the Contractor separately under ELECTRIC UTILITY SERVICE CONNECTION. This item may apply to the work at more than one service location and each will be paid separately.

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

CONSTRUCTION REQUIREMENTS

General. The Contractor shall ascertain the work being provided by the electric utility and shall provide all additional material and work not included by other contract pay items required to complete the electric service work in complete compliance with the requirements of the utility.

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

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

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

UNDERGROUND RACEWAYS

Effective: March 1, 2015

Revise Article 810.04 of the Standard Specifications to read:

“Installation. All underground conduits shall have a minimum depth of 30-inches (700 mm) below the finished grade.”

Add the following to Article 810.04 of the Standard Specifications:

“All metal conduit installed underground shall be Rigid Steel Conduit unless otherwise indicated on the plans.”

Add the following to Article 810.04 of the Standard Specifications:

“All raceways which extend outside of a structure or duct bank but are not terminated in a cabinet, junction box, pull box, handhole, post, pole, or pedestal shall extend a minimum of 300 mm (12”) or the length shown on the plans beyond the structure or duct bank. The end of this extension shall be capped and sealed with a cap designed for the conduit to be capped.

The ends of rigid metal conduit to be capped shall be threaded, the threads protected with full galvanizing, and capped with a threaded galvanized steel cap.

The ends of rigid nonmetallic conduit and coilable nonmetallic conduit shall be capped with a rigid PVC cap of not less than 3 mm (0.125”) thick. The cap shall be sealed to the conduit using a room-temperature-vulcanizing (RTV) sealant compatible with the material of both the cap and the conduit. A washer or similar metal ring shall be glued to the inside center of the cap with epoxy, and the pull cord shall be tied to this ring.”

UNIT DUCT

Effective: January 1, 2012

Revise the first paragraph of Article 810.04 to read:

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

Revise Article 1088.01(c) to read:

“(c) Coilable Nonmetallic Conduit.

General:

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

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

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

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

Dimensions:

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

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

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

Marking:

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

Performance Tests:

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

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

WIRE AND CABLE

Effective: January 1, 2012

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

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

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

Aerial Electric Cable Properties

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

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

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

Revise Article 1066.04 to read:

“Aerial Cable Assembly. The aerial cable shall be an assembly of insulated aluminum conductors according to Section 1066.02 and 1066.03. Unless otherwise indicated, the cable assembly shall be composed of three insulated conductors and a steel reinforced bare aluminum conductor (ACSR) to be used as the ground conductor. Unless otherwise indicated, the code word designation of this cable assembly is “Palomino”. The steel reinforced aluminum conductor shall conform to ASTM B-232. The cable shall be assembled according to ANSI/ICEA S-76-474.”

Revise the second paragraph of Article 1066.05 to read:

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

LUMINAIRE, LED, SPECIAL

Description.

This work shall consist of furnishing and installing LED luminaire as shown on the plans, as specified herein. All equipment required to connect this luminaire shall be included as part of this item.

General.

The luminaire shall be Lumec TR20-135W80LED4K-G2-LE3F-240 or Cyclone CY21S1-FGC-3-120-SC-TX-CP as approved by the Village of Streamwood.

Submittal Requirements.

The Contractor shall submit, for approval, an electronic version of all associated luminaire IES files, AGi32 files and the TM-21 or TM-28 calculator spreadsheet with inputs and reports associated with the project luminaires. The Contractor shall also provide (as a minimum) an electronic (PDF) version of each of the following manufacturer's product data for each type of luminaire:

1. Descriptive literature and catalogue cuts for luminaire, LED driver, and surge protection device.

2. LED drive current, total luminaire input wattage and total luminaire current at the system operating voltage or voltage range and ambient temperature of 25 C.
3. LED efficacy per luminaire expressed in lumens per watt (lpw).
4. Initial delivered lumens at the specified color temperature, drive current, and ambient temperature.
5. Computer photometric calculation reports as specified and in the luminaire performance table.
6. TM-15 BUG rating report.
7. Isofootcandle chart with max candela point and half candela trace indicated.
8. Documentation of manufacturers experience and verification that luminaires were assembled in the U.S.A. as specified.
9. Supporting documentation of compliance with ANSI standards as well as UL listing as specified.
10. Supporting documentation of laboratory accreditations and certifications for specified testing as indicated.
11. Thermal testing documents as specified.
12. IESNA LM-79, LM-80 (or LM-84) and TM-21 (or TM-28) reports as specified.
13. Vibration Characteristics Test Reports and certification as specified.
14. Ingress Protection Test Reports as specified.
15. Written warranty.

Housing.

Material. The luminaire shall be a single device not requiring on-site assembly for installation. The power supply for the luminaire shall be integral to the unit.

Finish. Unless otherwise indicated in the plans, the luminaire color shall be as determined by the Village of Streamwood.

The effective projected area of the luminaire shall not exceed 1.16 sq. ft.

The total weight of the luminaire(s) and accessories shall be 50 pounds.

A passive cooling method with no moving, rotating parts, or liquids shall be employed for heat management.

Vibration Characteristics. All luminaires shall be vibration tested and pass ANSI C136.31 requirements. Luminaires shall be rated for “3G” peak acceleration. Vibration testing shall be run using the same luminaire in all three axes.

Labels and Decals. All luminaires shall have labels in accordance with ANSI C136.15 for an external label, and ANSI C136.22 for an internal label.

Hardware. All fasteners shall be stainless steel. Captive screws are required on any components that require maintenance after installation.

The luminaire shall have a hinged door for tool-less driver and LED access.

Circuiting shall be designed to minimize the impact of individual LED failures on the operation of the other LED's.

Wiring. Wiring within the electrical enclosure shall be rated at 600v, 105°C or higher.

Driver.

The driver shall be integral to the luminaire.

The plugs shall be keyed and shall be operable without the use of special tools by insulated, gloved hands

The driver shall tolerate indefinite open and short circuit output conditions without damage.

Ingress Protection. The driver Ingress Protection (IP) rating as defined in the ANSI/IEC 60529 standard shall have an IP65 rating.

Input Voltage. The driver shall be suitable for operation over a range of 120 to 277 volts or 347 to 480 volts as required by the system operating voltage.

Operating Temperature. The driver shall have an operating ambient temperature range of -40°C to 70°C.

Power Factor. Drivers shall maintain a power factor of 0.9 or higher and total harmonic distortion of less than 20%.

Driver efficiency. Efficiency of the driver is defined by the ratio of output power and input power. The driver shall deliver a maximum efficiency of >90% at maximum load and an efficiency of >85% for the driver operating at 50% power.

LED Optical Assembly

The LED optical assembly shall be a scalable array consisting of discrete LED panels or modules. Each panel or module shall have a minimum IP rating of 65.

The optical assembly shall utilize high brightness, long life, minimum 70 CRI, 4,000K color temperature (+/-500K) LEDs binned in accordance with ANSI C78.377. Lenses shall be UV-stabilized acrylic or glass.

The assembly shall have individual serial numbers or other means for manufacturer tracking.

Photometric Performance.

Luminaires shall be tested according to IESNA LM-79. This testing shall be performed by a test laboratory holding accreditation from the National Institute of Standards and Technology (NIST) National Voluntary Laboratory Accreditation Program (NVLAP) for the IESNA LM-79 test procedure.

Data reports as a minimum shall yield an isofootcandle chart, with max candela point and half candela trace indicated, maximum plane and maximum cone plots of candela, a candlepower table (house and street side), a coefficient of utilization chart, a luminous flux distribution table, spectral distribution plots, chromaticity plots, and other standard report outputs of the above mentioned tests.

Lumen maintenance shall be measured for the LEDs according to LM-80 or for the luminaires according to LM-84. The LM-80 report shall be based on a minimum of 6,000 hours, yet 10,000 hour reports shall be provided for luminaires where those tests have been completed.

The luminaire shall have a BUG rating of Back Light B3 or less, Up Light rating of U0, and a Glare rating of G4 or less unless otherwise indicated in the luminaire performance table.

Installation.

Each luminaire shall be installed according to the luminaire manufacturer's recommendations.

Luminaires which are pole mounted shall be mounted on site such that poles and arms are not left unloaded. Pole mounted luminaires shall be leveled/adjusted after poles are set and vertically aligned before being energized. When mounted on a tenon, care shall be exercised to assure maximum insertion of the mounting tenon. Each luminaire shall be checked to assure compatibility with the project power system. When the night-time check of the lighting system by the Engineer indicates that any luminaires are mis-aligned, the mis-aligned luminaires shall be corrected at no additional cost.

No luminaire shall be installed before it is approved.

Each luminaire and optical assembly shall be free of all dirt, smudges, etc. Should the optical

assembly require cleaning, a luminaire manufacturer approved cleaning procedure shall be used.

Pole wiring shall be provided with the luminaire. Pole wire shall run from handhole to luminaire. Pole wire shall be sized No. 10, rated 600 V, RHW/USE-2, and have copper conductors, stranded in conformance with ASTM B 8. Pole wire shall be insulated with cross-linked polyethylene (XLP) insulation. Wire shall be trained within the pole or sign structure so as to avoid abrasion or damage to the insulation.

Pole wire shall be extended through the pole, pole grommet, luminaire ring, and any associated arm and tenon. The pole wire shall be terminated in a manner that avoids sharp kinks, pinching, pressure on the insulation, or any other arrangement prone to damaging insulation value and producing poor megger test results. Wires shall be trained away from heat sources within the luminaire. Wires shall be terminated so all strands are extended to the full depth of the terminal lug with the insulation removed far enough so it abuts against the shoulder of the lug, but is not compressed as the lug is tightened.

Included with the pole wiring shall be fusing located in the handhole. Fusing shall be according to Article 1065.01 with the exception that fuses shall be 6 ampere.

Each luminaire and optical assembly shall be free of all dirt, smudges, etc. Should the optical assembly require cleaning, a luminaire manufacturer approved cleaning procedure shall be used.

Horizontal mount luminaires shall be installed in a level, horizontal plane, with adjustments as needed to insure the optics are set perpendicular to the traveled roadway.

Warranty.

The entire luminaire and all of its component parts shall be covered by a 10 year warranty. Failure is when one or more of the following occur:

- 1) Negligible light output from more than 10 percent of the discrete LEDs.
- 2) Significant moisture that deteriorates performance of the luminaire.
- 3) Driver that continues to operate at a reduced output due to overheating.

The warranty period shall begin on the date of project final acceptance. A copy of the acceptance letter shall be sent to the luminaire manufacturer and luminaire manufacturer's representative by the Contractor upon final acceptance.

The replacement luminaire shall be of the same manufacturer, model, and photometric distribution as the original.

Basis of Payment.

This work will be paid for at the contract unit price per each for **LUMINAIRE, LED, SPECIAL.**

LIGHT POLE, SPECIAL

Description. This item shall consist of furnishing and installing an aluminum light pole in accordance with the Standard Specifications for Road and Bridge Construction adopted April 1, 2016, Section 830 unless otherwise indicated in this special provision or on the Light Pole Detail as shown on the plans.

Materials.

Revise the second paragraph of Article 1069.01 of the Standard Specifications to read:

“The detailed design and fabrication of the pole shaft, arms, tenons, and attachments shall be according to AASHTO “LRFD Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals” current at the time the project is advertised. Light poles shall be designed for ADT > 10,000 and Risk Category Typical. If Fatigue design is required, light poles shall be designed for Importance Category I.”

Revise the fifth paragraph of Article 1069.01(a) of the Standard Specifications to read:

“Deflection of the pole top as caused by the combined effect of deadload referenced above and wind speed prescribed by AASHTO shall be as required by AASHTO. Pole deflection and loading compliance, certified by the manufacturer, shall be noted on the pole submittal.”

The light pole shall be Lumec or Cyclone or as approved by the Village of Streamwood. The light pole shall have banner arms and/or plant support arms as shown on the plans and as determined by the Village of Streamwood.

The pole and mast arm shall also be black anodized aluminum. The mast arm lengths shall be as indicated on the plans.

A recessed duplex weather-resistant receptacle shall be installed at approximately 15 ft. mounting height and shall be waterproof (with in use cover) when closed. Pole wiring shall include fusing located in the handhole. Fusing shall be according to Article 1065.01 with the exception that fuses shall be 5 ampere, each.

The light pole drawing shall be submitted to the Village of Streamwood for approval prior to manufacture and shall be inspected and approved by the Engineer as coordinated with the Village of Streamwood prior to installation.

Construction requirements. Lighting unit identification numbers shall be installed on the light poles per Engineer.

Basis of Payment. The work shall be paid for at the contract unit price per each **LIGHT POLE, SPECIAL**, which price shall include all labor, materials and equipment necessary to complete the work in place.

LIGHT POLE FOUNDATION, 24" DIAMETER, OFFSET

Description. This item shall consist of constructing and installing a 24" diameter offset light pole foundation in accordance with the Standard Specifications for Road and Bridge Construction adopted April 1, 2016, Section 836 except as specified within.

The offset foundations shall only be installed at locations as determined by the Engineer. The Contractor shall submit foundation details/drawings for approval, complete with certification of structural adequacy, prior to installation.

Method Of Measurement. LIGHT POLE FOUNDATION, 24" DIAMETER, OFFSET, will be measured for payment in feet in place along the vertical and horizontal centerlines of the foundation without overlap.

Basis Of Payment. This work will be paid for at the contract unit price per foot for **LIGHT POLE FOUNDATION, 24" DIAMETER, OFFSET** which shall be payment in full for the work specified herein.

IDOT TRAINING PROGRAM GRADUATE ON-THE-JOB TRAINING SPECIAL PROVISION (TPG)

Effective: August 1, 2012

Revised: February 1, 2014

In addition to the Contractor's equal employment opportunity affirmative action efforts undertaken as elsewhere required by this Contract, the Contractor is encouraged to participate in the incentive program to provide additional on-the-job training to certified graduates of IDOT funded pre-apprenticeship training programs outlined by this Special Provision.

It is the policy of IDOT to fund IDOT pre-apprenticeship training programs throughout Illinois to provide training and skill-improvement opportunities to assure the increased participation of minority groups, disadvantaged persons and women in all phases of the highway construction industry. The intent of this IDOT Training Program Graduate (TPG) Special Provision is to place certified graduates of these IDOT funded pre-apprentice training programs on IDOT project sites when feasible, and provide the graduates with meaningful on-the-job training intended to lead to journey-level employment. IDOT and its sub-recipients, in carrying out the responsibilities of a state contract, shall determine which construction contracts shall include "Training Program Graduate Special Provisions." To benefit from the incentives to encourage the participation in the additional on-the-job training under this Training Program Graduate Special Provision, the Contractor shall make every reasonable effort to employ certified graduates of IDOT funded Pre-apprenticeship Training Programs to the extent such persons are available within a reasonable recruitment area.

Participation pursuant to IDOT's requirements by the Contractor or subcontractor in this Training Program Graduate (TPG) Special Provision entitles the Contractor or subcontractor to be reimbursed at \$15.00 per hour for training given a certified TPG on this contract. As approved by the Department, reimbursement will be made for training persons as specified herein. This reimbursement will be made even though the Contractor or subcontractor may receive additional training program funds from other sources for other trainees, provided such other source does not specifically prohibit the Contractor or subcontractor from receiving other reimbursement. For purposes of this Special Provision the Contractor is not relieved of requirements under applicable federal law, the Illinois Prevailing Wage Act, and is not eligible for other training fund reimbursements in addition to the Training Program Graduate (TPG) Special Provision reimbursement.

No payment shall be made to the Contractor if the Contractor or subcontractor fails to provide the required training. It is normally expected that a TPG will begin training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project through completion of the contract, so long as training opportunities exist in his work classification or until he has completed his training program. Should the TPG's employment end in advance of the completion of the contract, the Contractor shall promptly notify the designated IDOT staff member under this Special Provision that the TPG's involvement in the contract has ended and supply a written report of the reason for the end of the involvement, the hours completed by the TPG under the Contract and the number of hours for which the incentive payment provided under this Special Provision will be or has been claimed for the TPG.

The Contractor will provide for the maintenance of records and furnish periodic reports documenting its performance under this Special Provision.

METHOD OF MEASUREMENT: The unit of measurement is in hours.

BASIS OF PAYMENT: This work will be paid for at the contract unit price of \$15.00 per hour for certified TRAINEES TRAINING PROGRAM GRADUATE. The estimated total number of hours, unit price and total price have been included in the schedule of prices.

The Contractor shall provide training opportunities aimed at developing full journeyworker in the type of trade or job classification involved. The initial number of TPGs for which the incentive is available under this contract is 2 (two). During the course of performance of the Contract the Contractor may seek approval from the Department for additional incentive eligible TPGs. In the event the Contractor subcontracts a portion of the contract work, it shall determine how many, if any, of the TPGs are to be trained by the subcontractor, provided however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this Special Provision. The Contractor shall also insure that this Training Program Graduate Special Provision is made applicable to such subcontract if the TPGs are to be trained by a subcontractor and that the incentive payment is passed on to each subcontractor.

For the Contractor to meet the obligations for participation in this TPG incentive program under this Special Provision, the Department has contracted with several entities to provide screening, tutoring and pre-training to individuals interested in working in the applicable construction classification and has certified those students who have successfully completed the program and are eligible to be TPGs. A designated IDOT staff member, the Director of the Office of Business and Workforce Diversity (OBWD), will be responsible for providing assistance and referrals to the Contractor for the applicable TPGs. For this contract, the Director of OBWD is designated as the responsible IDOT staff member to provide the assistance and referral services related to the placement for this Special Provision. For purposes of this Contract, contacting the Director of OBWD and interviewing each candidate he/she recommends constitutes reasonable recruitment.

Prior to commencing construction, the Contractor shall submit to the Department for approval the TPGs to be trained in each selected classification. Furthermore, the Contractor shall specify the starting time for training in each of the classifications. No employee shall be employed as a TPG in any classification in which he/she has successfully completed a training course leading to journeyman status or in which he/she has been employed as a journeyman. Notwithstanding the on-the-job training purpose of this TPG Special Provision, some offsite training is permissible as long as the offsite training is an integral part of the work of the contract and does not comprise a significant part of the overall training.

Training and upgrading of TPGs of IDOT pre-apprentice training programs is intended to move said TPGs toward journeyman status and is the primary objective of this Training Program Graduate Special Provision. Accordingly, the Contractor shall make every effort to enroll TPGs by recruitment through the IDOT funded TPG programs to the extent such persons are available within a reasonable area of recruitment. The Contractor will be responsible for demonstrating the steps that it has taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance and entitled to the Training Program Graduate Special Provision \$15.00 an hour incentive.

The Contractor or subcontractor shall provide each TPG with a certificate showing the type and length of training satisfactorily completed.

State of Illinois
Department of Transportation
Bureau of Local Roads and Streets

SPECIAL PROVISION
FOR
INSURANCE

Effective: February 1, 2007
Revised: August 1, 2007

All references to Sections or Articles in this specification shall be construed to mean specific Section or Article of the Standard Specifications for Road and Bridge Construction, adopted by the Department of Transportation.

The Contractor shall name the following entities as additional insured under the Contractor's general liability insurance policy in accordance with Article 107.27:

The entities listed above and their officers, employees, and agents shall be indemnified and held harmless in accordance with Article 107.26.



Storm Water Pollution Prevention Plan



Route FAU 1321	Marked Route Irving Park Road	Section 10-00055-00-WR
Project Number TRGK(755)	County Cook	Contract Number 61F41

This plan has been prepared to comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit No. ILR10 (Permit ILR10), issues by the Illinois Environmental Protection Agency (IEPA) for storm water discharges from construction site activities.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name Matt Mann	Title Director of Eng and Public Works	Agency Village of Streamwood
Signature 	Date 11/14/2018	

I. Site Description

A. Provide a description of the project location (include latitude and longitude):

The project is located along IL 19 from 1700 feet east of IL 59 to Bartlett Road in the Village of Streamwood, IL. Township 41, Range 9E, S21. 42.016701, -88.192710

B. Provide a description of the construction activity which is subject of this plan:

The project involves the widening and reconstruction of IL 19 from a 3-lane section to a 5-lane section. The project includes sidewalk removal and replacement, bike path installation, storm sewer improvements, water main improvements, topsoil placement with seeding and erosion control blanket, noise walls, and concrete curb and gutter. The contractor will install necessary erosion and sediment control (ESC) measures before the start of any construction activity. The maintenance of the ESC will follow IDOT guidelines and will be repaired in a timely manner. Upon the completion of construction, all temporary ESC measures will be removed by the contractor and permanent stabilization will be installed. All areas disturbed during construction will be stabilized with permanent seeding.

C. Provide the estimated duration of this project:

Construction activities will last for 9 months and be completed in 1 construction season.

D. The total area of the construction site is estimated to be 8.05 acres.

The total area of the site estimated to be disturbed by excavation, grading or other activities is 7.0 acres.

E. The following is a weighted average of the runoff coefficient for this project after construction activities are completed:

Average runoff coefficient = 0.65 Existing, 0.78 Proposed.

F. List all soils found within project boundaries. Include map unit name, slope information and erosivity:

Map Unit 330A: Peotone Silty Clay Loam, 2 to 4 percent slopes.
Map Unit 530D2: Ozaukee silt loam, 20 to 30 percent slopes, eroded.
Map Unit 530C2: Ozaukee silt loams, 4 to 6 percent slopes, eroded.
Map Unit 232A: Ashkum silty clay loam, 0 to 2 percent slopes

G. Provide an aerial extent of wetland acreage at the site:

No wetlands within the project limits.

H. Provide a description of potentially erosive areas associated with this project:

There are no major erosive areas associated with this project. The project area is relatively flat and there are no significant profile changes.

I. The following is a description of soil disturbing activities by stages, their locations, and their erosive factors (e.g. steepness of slopes, length of scopes, etc.):

IL 19 will be reconstructed in 2 stages with traffic remaining open to traffic at all times. Work includes news pavement, sidewalk, bike path, water main, and storm sewer. The roadway slope ranges from 0.5% to 1.5% and slopes beyond the curb are no greater than 3:1 with the majority of the slope being much less steep.

J. See the erosion control plans and/or drainage plans for this contract for information regarding drainage patterns, approximate slopes anticipated before and after major grading activities, locations where vehicles enter or exit the site and controls to prevent off site sediment tracking (to be added after contractor identifies locations), areas of soil disturbance, the location of major structural and non-structural controls identified in the plan, the location of areas where stabilization practices are expected to occur, surface waters (including wetlands) and locations where storm water is discharged to surface water including wetlands.

K. Identify who owns the drainage system (municipality or agency) this project will drain into:

IL 19: IDOT

L. The following is a list of General NPDES ILR40 permittees within whose reporting jurisdiction this project is located.

IDOT, Village of Streamwood

M. The following is a list of receiving water(s) and the ultimate receiving water(s) for this site. The location of the receiving waters can be found on the erosion and sediment control plans:

Outlets for 11-13. Receiving waters for outlets 11-13 is tributary to Sleepy Creek.

N. Describe areas of the site that are to be protected or remain undisturbed. These areas may include steep slopes, highly erodible soils, streams, stream buffers, specimen trees, natural vegetation, nature preserves, etc.

There are no wetlands within the project limits. There are no steep slopes. There is limited vegetation that will need to be protected.

O. The following sensitive environmental resources are associated with this project, and may have the potential to be impacted by the proposed development:

- Floodplain
- Wetland Riparian
- Threatened and Endangered Species
- Historic Preservation
- 303(d) Listed receiving waters for suspended solids, turbidity, or siltation
- Receiving waters with Total Maximum Daily Load (TMDL) for sediment, total suspended solids, turbidity, or siltation
- Applicable Federal, Tribal, State or Local Programs
- Other

1. 303(d) Listed receiving waters (fill out this section if checked above):

a. The name(s) of the listed water body, and identification of all pollutants causing impairment:

- b. Provide a description of how erosion and sediment control practices will prevent a discharge of sediment resulting from a storm event equal to or greater than a twenty-five (25) year, twenty-four (24) hour rainfall event:

- c. Provide a description of the location(s) of direct discharge from the project site to the 303(d) water body:

- d. Provide a description of the location(s) of any dewatering discharges to the MS4 and/or water body:

2. TMDL (fill out this section if checked above)

- a. The name(s) of the listed water body:

- b. Provide a description of the erosion and sediment control strategy that will be incorporated into the site design that is consistent with the assumptions and requirements of the TMDL:

- c. If a specific numeric waste load allocation has been established that would apply to the project's discharges, provide a description of the necessary steps to meet the allocation:

P. The following pollutants of concern will be associated with this construction project:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Soil Sediment | <input type="checkbox"/> Petroleum (gas, diesel, oil, kerosene, hydraulic oil / fluids) |
| <input checked="" type="checkbox"/> Concrete | <input type="checkbox"/> Antifreeze / Coolants |
| <input checked="" type="checkbox"/> Concrete Truck waste | <input type="checkbox"/> Waste water from cleaning construction equipment |
| <input checked="" type="checkbox"/> Concrete Curing Compounds | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Solid waste Debris | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Paints | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Solvents | <input type="checkbox"/> Other (specify) _____ |
| <input checked="" type="checkbox"/> Fertilizers / Pesticides | <input type="checkbox"/> Other (specify) _____ |

II. Controls

This section of the plan addresses the controls that will be implemented for each of the major construction activities described in I.C. above and for all use areas, borrow sites, and waste sites. For each measure discussed, the Contractor will be responsible for its implementation as indicated. The Contractor shall provide to the Resident Engineer a plan for the implementation of the measures indicated. The Contractor and subcontractors, will notify the Resident Engineer of any proposed changes, maintenance, or modifications to keep construction activities compliant with the Permit ILR10. Each such Contractor has signed the required certification on forms which are attached to, and are a part of, this plan:

- A. **Erosion and Sediment Controls:** At a minimum, controls must be coordinated, installed, and maintained to:
 1. Minimize the amount of soil exposed during construction activity;
 2. Minimize the disturbance of steep slopes;
 3. Maintain natural buffers around surface waters, direct storm water to vegetated areas to increase sediment removal and maximize storm water infiltration, unless infeasible;
 4. Minimize soil compaction and, unless infeasible, preserve topsoil.

- B. **Stabilization Practices:** Provided below is a description of interim and permanent stabilization practices, including

site- specific scheduling of the implementation of the practices. Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices may include but are not limited to: temporary seeding, permanent seeding, mulching, geotextiles, sodding, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Except as provided below in II(B)(1) and II(B)(2), stabilization measures shall be initiated **immediately** where construction activities have temporarily or permanently ceased, but in no case more than **one (1) day** after the construction activity in that portion of the site has temporarily or permanently ceases on all disturbed portions of the site where construction will not occur for a period of fourteen (14) or more calendar days.

1. Where the initiation of stabilization measures is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.
2. On areas where construction activity has temporarily ceased and will resume after fourteen (14) days, a temporary stabilization method can be used.

The following stabilization practices will be used for this project:

- | | |
|---|--|
| <input type="checkbox"/> Preservation of Mature Vegetation | <input checked="" type="checkbox"/> Erosion Control Blanket / Mulching |
| <input type="checkbox"/> Vegetated Buffer Strips | <input checked="" type="checkbox"/> Sodding |
| <input checked="" type="checkbox"/> Protection of Trees | <input type="checkbox"/> Geotextiles |
| <input checked="" type="checkbox"/> Temporary Erosion Control Seeding | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Temporary Turf (Seeding, Class 7) | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Temporary Mulching | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Permanent Seeding | <input type="checkbox"/> Other (specify) _____ |

Describe how the stabilization practices listed above will be utilized during construction:

Stabilization practices will control runoff and velocity, peak runoff rates and volumes of discharge to minimize exposed soil, disturbed slopes, sediment discharges from construction, and provides for natural buffers and minimization of soil compaction. Existing vegetated areas where disturbance can be avoided will not require stabilization.

Temporary erosion control seeding and blanket will be utilized as needed during construction to establish plant material to stabilize disturbed areas and to prevent soil from being carried off-site by storm sewer runoff.

Sodding will be installed at all disturbed and unpaved areas prior to completion.

Describe how the stabilization practices listed above will be utilized after construction activities have been completed:

All areas disturbed during construction will be stabilized with permanent sodding. Where possible, stabilization of the initial stage should be completed before work is moved to subsequent stages.

- C. **Structural Practices:** Provided below is a description of structural practices that will be implemented, to the degree attainable, to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Such practices may include but are not limited to: perimeter erosion barrier, earth dikes, drainage swales, sediment traps, ditch checks, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins. The installation of these devices may be subject to Section 404 of the Clean Water Act.

The following stabilization practices will be used for this project:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Perimeter Erosion Barrier | <input type="checkbox"/> Rock Outlet Protection |
| <input checked="" type="checkbox"/> Temporary Ditch Check | <input type="checkbox"/> Riprap |
| <input checked="" type="checkbox"/> Storm Drain Inlet Protection | <input type="checkbox"/> Gabions |
| <input type="checkbox"/> Sediment Trap | <input type="checkbox"/> Slope Mattress |
| <input type="checkbox"/> Temporary Pipe Slope Drain | <input type="checkbox"/> Retaining Walls |
| <input type="checkbox"/> Temporary Sediment Basin | <input type="checkbox"/> Slope Walls |
| <input type="checkbox"/> Temporary Stream Crossing | <input type="checkbox"/> Concrete Revetment Mats |

- | | |
|--|---|
| <input type="checkbox"/> Stabilized Construction Exits | <input type="checkbox"/> Level Spreaders |
| <input type="checkbox"/> Turf Reinforcement Mats | <input checked="" type="checkbox"/> Other (specify) Noise Walls |
| <input type="checkbox"/> Permanent Check Dams | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Permanent Sediment Basin | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Aggregate Ditch | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Paved Ditch | <input type="checkbox"/> Other (specify) _____ |

Describe how the structural practices listed above will be utilized during construction:

Perimeter erosion barrier will be placed where water leaves the project site. Silt fence should only be used as PEB in areas where the work area is higher than the perimeter. The use of silt fence at the top of the slope/elevations higher than the work area should always be avoided. If necessary, temporary fence should be utilized in these locations (where the top of the slope/elevation is higher than the work area) in lieu of silt fence.

Inlet filters will be utilized at the existing and proposed structures within the curb line and in turf areas. Inlet filters will help prevent construction debris from entering structures. Pipe inlet protection should be comprised of ditch checks, temporary seeding and temporary erosion control blanket for pipe inlets. Inlet and pipe protection shown on IDOT Highway Standard 280001, Sheet 2 should be avoided since they are routinely installed incorrectly and could risk flooding.

The contractor should provide to the RE a plan to ensure that a stabilized flow line will be provided during storm sewer construction. The use of a stabilized flow line between installed storm sewer and open disturbance will reduce the potential for the offsite discharge of sediment bearing waters, particularly when rain is forecasted so that flow will not erode. Lack of an approved plan or failure to comply will result in an ESC Deficiency Deduction.

Describe how the structural practices listed above will be utilized after construction activities have been completed:

D. Treatment Chemicals

Will polymer flocculents or treatment chemicals be utilized on this project: Yes No

If yes above, identify where and how polymer flocculents or treatment chemicals will be utilized on this project.

E. Permanent Storm Water Management Controls: Provided below is a description of measures that will be installed during the construction process to control volume and pollutants in storm water discharges that will occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water act.

- Such practices may include but are not limited to: storm water detention structures (including wet ponds), storm water retention structures, flow attenuation by use of open vegetated swales and natural depressions, infiltration of runoff on site, and sequential systems (which combine several practices).

The practices selected for implementation were determined on the basis of the technical guidance in Chapter 41 (Construction Site Storm Water Pollution Control) of the IDOT Bureau of Design & Environment Manual. If practices other than those discussed in Chapter 41 are selected for implementation or if practices are applied to situations different from those covered in Chapter 41, the technical basis for such decisions will be explained below.

- Velocity dissipation devices will be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g. maintenance of hydrologic conditions such as the hydroperiod and hydrodynamics present prior to the initiation of construction activities).

Description of permanent storm water management controls:

F. Approved State or Local Laws: The management practices, controls, and provisions contained in this plan will be

in accordance with IDOT specifications, which are at least as protective as the requirements contained in the Illinois Environmental Protection Agency's Illinois Urban Manual. Procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials shall be described or incorporated by reference in the space provided below. Requirements specified in sediment and erosion site plans, site permits, storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI, to be authorized to discharge under the Permit ILR10 incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.

Description of procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials:

Permanent storm water management features include the permanent sodding for disturbed areas.
--

G. **Contractor Required Submittals:** Prior to conducting any professional services at the site covered by this plan, the Contractor and each subcontractor responsible for compliance with the permit shall submit to the Resident Engineer a Contractor Certification Statement, BDE 2342a.

1. The Contractor shall provide a construction schedule containing an adequate level of detail to show major activities with implementation of pollution prevention BMPs, including the following items:
 - Approximate duration of the project, including each stage of the project
 - Rainy season, dry season, and winter shutdown dates
 - Temporary stabilization measures to be employed by contract phases
 - Mobilization time frame
 - Mass clearing and grubbing/roadside clearing dates
 - Deployment of Erosion Control Practices
 - Deployment of Sediment Control Practices (including stabilized construction entrances/exits)
 - Deployment of Construction Site Management Practices (including concrete washout facilities, chemical storage, refueling locations, etc.)
 - Paving, saw-cutting, and any other pavement related operations
 - Major planned stockpiling operations
 - Time frame for other significant long-term operations or activities that may plan non-storm water discharges such as dewatering, grinding, etc.
 - Permanent stabilization activities for each area of the project
2. The Contractor and each subcontractor shall provide, as an attachment to their signed Contractor Certification Statement, a discussion of how they will comply with the requirements of the permit in regard to the following items and provide a graphical representation showing location and type of BMPs to be used when applicable:
 - Vehicle Entrances and Exits - Identify type and location of stabilized construction entrances and exits to be used and how they will be maintained.
 - Material delivery, Storage, and Use - Discuss where and how materials including chemicals, concrete curing compounds, petroleum products, etc. will be stored for this project.
 - Stockpile Management - Identify the location of both on-site and off-site stockpiles. Discuss what BMPs will be used to prevent pollution of storm water from stockpiles.
 - Waste Disposal - Discuss methods of waste disposal that will be used for this project.
 - Spill Prevention and Control - Discuss steps that will be taken in the event of a material spill (chemicals, concrete curing compounds, petroleum, etc.).
 - Concrete Residuals and Washout Wastes - Discuss the location and type of concrete washout facilities to be used on this project and how they will be signed and maintained.
 - Litter Management - Discuss how litter will be maintained for this project (education of employees, number of dumpsters, frequency of dumpster pick-up, etc.).
 - Vehicle and Equipment Cleaning and Maintenance - Identify where equipment cleaning and maintenance locations for this project and what BMPs will be used to ensure containment and spill prevention.
 - Dewatering Activities - Identify the controls which will be used during dewatering operations to ensure sediments will not leave the construction site.
 - Polymer Flocculants and Treatment Chemicals - Identify the use and dosage of treatment chemicals and provide the Resident Engineer with Material Safety Data Sheets. Describe procedures on how the chemicals will be used and identify who will be responsible for the use and application of these chemicals. The selected individual must be trained on the established procedures.
 - Additional measures indicated in the plan.

III. Maintenance

When requested by the Contractor, the Resident Engineer will provide general maintenance guides to the Contractor for the practices associated with this project. The following additional procedures will be used to maintain, in good and effective operating conditions, the vegetation, erosion and sediment control measures and other protective measures identified in this plan. It will be Contractor's responsibility to attain maintenance guidelines for any manufactured BMPs which are to be installed and maintained per manufacture's specifications.

The project shall follow the necessary guidelines included in the IDOT Erosion and Sediment Control Field Guide for Construction Inspection and in the Best Management Practices-Maintenance Guide. These documents can be found online at the following address (<http://www.idot.illinois.gov/transportation-system/environment/erosion-and-sediment-control>). Temporary seeding-A visual inspection of this item is necessary to determine whether or not it has germinated. Additional applications will be made as necessary. Reapply seed if stabilization hasn't been achieved. Apply temporary mulch to hold seed in place if seed has been washed away or found to be steeper than 1V:4H to prevent sheetflow from becoming concentrated flow patterns. Mow, if necessary, to promote seed soil contact when excessive weed development occurs, a common or ineffective temporary seeding. Supplement BMP if weather conditions (extreme heat or cold) are not conducive for germination. For additional information, reference Article 280.04(f) in the Standard Specifications. Perimeter Erosion Barrier (PEB) -Repair tears, gaps, or undermining. Restore leaning PEB and ensure taut. Repair or replace any missing or broken stakes immediately. Clean PEB if sediment reaches one-third height of barrier. Remove PEB once final stabilization establishes since PEB is no longer necessary and should be removed. Repair PEB if undermining occurs anywhere along its entire length. Inlet Filters-Remove sediment from inlet filter basket when basket is 25% full or 50% of the fabric pores are covered with silt. Remove ponded water on road surfaces immediately. Clean sediment or replace silt fence and straw bale inlet protection when sediment accumulates to one-third the height of the fabric. Remove trash accumulated around or on top of practice. When filter is removed from cleaning, replace filter if any tear is present. All maintenance of erosion and sediment control systems is the responsibility of the Contractor.

IV. Inspections

Qualified personnel shall inspect disturbed areas of the construction site which have not yet been finally stabilized, structural control measures, and locations where vehicles and equipment enter and exit the site using IDOT Storm Water Pollution Prevention Plan Erosion Control Inspection Report (BC 2259). Such inspections shall be conducted at least once every seven (7) calendar days and within twenty-four (24) hours of the end of a storm or by the end of the following business or work day that is 0.5 inch or greater or equivalent snowfall.

Inspections may be reduced to once per month when construction activities have ceased due to frozen conditions. Weekly inspections will recommence when construction activities are conducted, or if there is 0.5" or greater rain event, or a discharge due to snowmelt occurs.

If any violation of the provisions of this plan is identified during the conduct of the construction work covered by this plan, the Resident Engineer shall notify the appropriate IEPA Field Operations Section office by e-mail at: epa.swnoncomp@illinois.gov, telephone or fax within twenty-four (24) hours of the incident. The Resident Engineer shall then complete and submit an "Incidence of Non-Compliance" (ION) report for the identified violation within five (5) days of the incident. The Resident Engineer shall use forms provided by IEPA and shall include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. All reports of non-compliance shall be signed by a responsible authority in accordance with Part VI. G of the Permit ILR10.

The Incidence of Non-Compliance shall be mailed to the following address:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Attn: Compliance Assurance Section
1021 North Grand East
Post Office Box 19276
Springfield, Illinois 62794-9276

Additional Inspections Required:

All offsite Borrow, Waste, and Use are part of the construction site and are to be inspected according to the language in this section.

V. Failure to Comply

Failure to comply with any provisions of this Storm Water Pollution Prevention Plan will result in the implementation of a National Pollutant Discharge Elimination System/Erosion and Sediment Control Deficiency Deduction against the Contractor and/or penalties under the Permit ILR10 which could be passed on to the Contractor.



Prior to conducting any professional services at the site covered by this contract, the Contractor and every subcontractor must complete and return to the Resident Engineer the following certification. A separate certification must be submitted by each firm. Attach to this certification all items required by Section II.G of the Storm Water Pollution Prevention Plan (SWPPP) which will be handled by the Contractors/subcontractor completing this form.

Route FAU 1321	Marked Route Irving Park Road	Section 10-00055-00-WR
Project Number TRGK(755)	County Cook	Contract Number 61F41

This certification statement is a part of SWPPP for the project described above, in accordance with the General NPDES Permit No. ILR10 issued by the Illinois Environmental Protection Agency.

I certify under penalty of law that I understand the terms of the Permit No. ILR10 that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

In addition, I have read and understand all of the information and requirements stated in SWPPP for the above mentioned project; I have received copies of all appropriate maintenance procedures; and, I have provided all documentation required to be in compliance with the Permit ILR10 and SWPPP and will provide timely updates to these documents as necessary.

- Contractor
- Sub-Contractor

Print Name

Signature

Title

Date

Name of Firm

Telephone

Street Address

City/State/Zip

Items which the Contractor/subcontractor will be responsible for as required in Section II.G. of SWPPP:



Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

Division of Water Pollution Control Notice of Intent (NOI) for General Permit to Discharge Storm Water Associated with Construction Site Activities

This fillable form may be completed online, a copy saved locally, printed and signed before it is submitted to the Permit Section at the above address.

For Office Use Only

OWNER INFORMATION

Company/Owner Name: Village of Streamwood

Permit No. ILR10 _____

Mailing Address: 565 S. Bartlett Road

Phone: 630-736-3850

City: Streamwood State: IL Zip: 60110

Fax: _____

Contact Person: Matt Mann

E-mail: MMann@streamwood.org

Owner Type (select one) City

CONTRACTOR INFORMATION

MS4 Community: Yes No

Contractor Name: _____

Mailing Address: _____

Phone: _____

City: _____ State: _____ Zip: _____

Fax: _____

CONSTRUCTION SITE INFORMATION

Select One: New Change of information for: ILR10 _____

Project Name: IL 19: Oak Ridge Drive to Winchester Drive

County: Cook

Street Address: 185 West Irving Park Road City: Streamwood IL Zip: 60107

Latitude: 42 1 .322 Longitude: 88 11 35.1 S22 141N R9E
(Deg) (Min) (Sec) (Deg) (Min) (Sec) Section Township Range

Approximate Construction Start Date 04/01/2019 Approximate Construction End Date 6/30/2020

Total size of construction site in acres: 8.30

If less than 1 acre, is the site part of a larger common plan of development?

Yes No

Fee Schedule for Construction Sites:
Less than 5 acres - \$250
5 or more acres - \$750

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Has the SWPPP been submitted to the Agency? Yes No

(Submit SWPPP electronically to:)

Location of SWPPP for viewing: Address: 565 S. Bartlett Road

City: Streamwood

SWPPP contact information:

Contact Name: Matt Mann

Inspector qualifications:
P.E.

Phone: 630-736-3850

Fax: _____

E-mail: MMann@streamwood.org

Project inspector, if different from above

Inspector qualifications:

Inspector's Name: _____

Phone: _____

Fax: _____

E-mail: _____

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed \$50,000 for each day during which the violation continues (415 ILCS 5/42) and may also preclude the permit from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

TYPE OF CONSTRUCTION (select one)

Construction Type Transportation

SIC Code: _____

Type a detailed description of the project:

Widening and reconstruction of the intersection of Illinois Route 19 from west of Oak Ridge Drive to East of Winchester Drive. Project involves the addition of turn lanes, noise walls, water main improvements, and storm sewer improvements.



HISTORIC PRESERVATION AND ENDANGERED SPECIES COMPLIANCE

Has the project been submitted to the following state agencies to satisfy applicable requirements for compliance with Illinois law on:

Historic Preservation Agency Yes No

Endangered Species Yes No

RECEIVING WATER INFORMATION

Does your storm water discharge directly to: Waters of the State or Storm Sewer

Owner of storm sewer system: Village of Streamwood/Illinois Department of Transportation

Name of closest receiving water body to which you discharge: _____

Mail completed form to: Illinois Environmental Protection Agency
Division of Water Pollution Control
Attn: Permit Section Post Office Box
19276 Springfield, Illinois 62794-9276
or call (217) 782-0610
FAX: (217) 782-9891

Or submit electronically to:

I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition, I certify that the provisions of the permit, including the development and implementation of a storm water pollution prevention plan and a monitoring program plan, will be complied with.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Owner Signature: _____

Matt Mann
Printed Name:

Date: _____

Dir. of Engineering and Public Works
Title:

INSTRUCTIONS FOR COMPLETION OF CONSTRUCTION ACTIVITY NOTICE OF INTENT (NOI) FORM

Submit original, electronic or facsimile copies. Facsimile and/or electronic copies should be followed-up with submission of an original signature copy as soon as possible. Please write "copy" under the "For Office Use Only" box in the upper right hand corner of the first page.

This fillable form may be completed online, a copy saved locally, printed and signed before it is submitted to the Permit Section at:

Illinois Environmental Protection Agency Division of Water Pollution Control Permit Section Post Office Box 19276 Springfield, Illinois 62794-9276 or call (217) 782-0610

FAX: (217) 782-9891

Or submit electronically to:

Reports must be typed or printed legibly and signed.

Any facility that is not presently covered by the General NPDES Permit for Storm Water Discharges From Construction Site Activities is considered a new facility.

If this is a change in your facility information, renewal, etc., please fill in your permit number on the appropriate line, changes of information or permit renewal notifications do not require a fee.

NOTE: FACILITY LOCATION IS NOT NECESSARILY THE FACILITY MAILING ADDRESS, BUT SHOULD DESCRIBE WHERE THE FACILITY IS LOCATED.

Use the formats given in the following examples for correct form completion.

	Example	Format			
Section	12	1 or 2 numerical digits	Township	12N	1 or 2
		numerical digits followed by "N" or "S"	Range	12W	1 or 2 numerical
		digits followed by "E" or "W"			

For the Name of Closest Receiving Waters, do not use terms such as ditch or channel. For unnamed tributaries, use terms which include at least a named main tributary such as "Unnamed Tributary to Sugar Creek to Sangamon River."

Submission of initial fee and an electronic submission of Storm Water Pollution Prevention Plan (SWPPP) for Initial Permit prior to the Notice of Intent being considered complete for coverage by the ILR10 General Permits. Please make checks payable to: Illinois EPA at the above address.

Construction sites with less than 5 acres of land disturbance - fee is \$250.

Construction sites with 5 or more acres of land disturbance - fee is \$750.

SWPPP should be submitted electronically to: . When submitting electronically, use Project Name and City as indicated on NOI form.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 North Grand Avenue, East; Post Office Box 19276; Springfield, IL 62794-9276

Division of Public Water Supplies

Telephone 217/782-1724

PUBLIC WATER SUPPLY CONSTRUCTION PERMIT

SUBJECT: STREAMWOOD (IL0313060)

Permit Issued to:

Village of Streamwood
565 South Bartlett Road
Streamwood, IL 60107

PERMIT NUMBER: 0556-FY2019

DATE ISSUED: January 16, 2019
PERMIT TYPE: Water Main Extension

The issuance of this permit is based on plans and specifications prepared by the engineers/architects indicated, and are identified as follows. This permit is issued for the construction and/or installation of the public water supply improvements described in this document, in accordance with the provisions of the "Environmental Protection Act", Title IV, Sections 14 through 17, and Title X, Sections 39 and 40, and is subject to the conditions printed on the last page of this permit and the ADDITIONAL CONDITIONS listed below.

FIRM: HR Green, Inc.

NUMBER OF PLAN SHEETS: 16

TITLE OF PLANS: "FAU 1321 IL 19 (Irving Park Road) - Water Main Replacement"

PROPOSED IMPROVEMENTS:

The installation of approximately 76 feet of 6-inch, 235 feet of 8-inch, 42 feet of 10-inch and 1,292 feet of 12-inch water main.

ADDITIONAL CONDITIONS:

1. A lead informational notice must be given to each potentially affect residence at least 14 days prior to the permitted water main work. The notification must satisfy the requirements of Section 17.11 of the Environmental Protection Act. If notification is required to a residence that is a multidwelling building, posting at the primary entrance way to the building shall be sufficient. If the community water supply serves a population less than 3,301, alternative notification means may be utilized in lieu of an individual written notification. Refer to Section 17.11 for alternative notification requirements. Enclosed is suggested language for the notice. If this project involves water service to a significant proportion of non-English speaking consumers, the notification must contain information in the appropriate language regarding the importance and how to obtain a translated copy. The Responsible Operator in Charge of the community water system is responsible for preparing the notice. A copy of the notice used must be submitted to the Agency with the Application for Operating Permit.
2. All water mains shall be satisfactorily disinfected prior to use. In accordance with the requirements of AWWA C651-05, at least one set of samples shall be collected from every 1,200 feet of new water main, plus one set from the end of the line and at least one set from each branch. Satisfactory disinfection shall be demonstrated in accordance with the requirements of 35 Ill. Adm. Code 602.310.
3. There are no further conditions to this permit.

DCC:CLB

cc: HR Green, Inc.
Elgin Regional Office
Cook County Health Department
IDPH/DEH - Plumbing and Water Quality Program
IL 532-0168/PWS 065 Rev. 04-2007

150



David C. Cook, P.E.
Acting Manager Permit Section
Division of Public Water Supplies

STANDARD CONDITIONS FOR CONSTRUCTION/DEVELOPMENT PERMITS
ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

The Illinois Environmental Protection Agency Act (Illinois Compiled Statutes, Chapter 111-1/2, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

These standard conditions shall apply to all permits which the Agency issues for construction or development projects which require permits under the Division of Water Pollution Control, Air Pollution Control, Public Water Supplies and Land Pollution Control. Special conditions may also be imposed by the separate divisions in addition to these standard conditions.

1. Unless this permit has been extended or it has been voided by a newly issued permit, this permit will expire one year after this date of issuance unless construction or development on this project has started on or prior to that date.
2. The construction or development of facilities covered by this permit shall be done in compliance with applicable provisions of Federal laws and regulations, the Illinois Environmental Protection Act, and Rules and Regulations adopted the Illinois Pollution Control Board.
3. There shall be no deviations from the approved plans and specifications unless a written request for modification of the project, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.
4. The permittee shall allow any agent duly authorized by the Agency upon the presentation of credentials:
 - a. to enter at reasonable times the permittee's premises where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit.
 - b. to have access to and copy at reasonable times any records required be kept under the terms and conditions of this permit.
 - c. to inspect at reasonable times, including during any hours or operation of equipment constructed or operated under this permit, such equipment or monitoring methodology or equipment required to be kept, used, operated, calibrated and maintained under this permit.
 - d. to obtain and remove at reasonable times samples of any discharge or emission of pollutants.
 - e. to enter at reasonable times and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.
5. The issuance of this permit:
 - a. shall not be considered as in any manner affecting the title of the permits upon which the permitted facilities are to be located;
 - b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;
 - c. does not release the permittee from compliance with the other applicable statues and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations;
 - d. does not take into consideration or attest to the structural stability of any units or parts of the project;
 - e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability directly or indirectly for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
6. These standard conditions shall prevail unless modified by special conditions.
7. The Agency may file a complaint with Board of modification, suspension or revocation of a permit:
 - a. upon discovery that the permit application misrepresentation or false statements or that all relevant facts were not disclosed; or
 - b. upon finding that any standard or special conditions have been violated; or
 - c. upon any violation of the Environmental Protection Act or any Rules or Regulation effective thereunder as a result of the construction or development authorized by this permit.

Lead Informational Notice

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Dear Water Customer:

Today's Date: _____

Our water system will soon begin a water line maintenance and/or construction project that may affect the lead content of your potable water supply. Lead, a metal found in natural deposits, is harmful to human health, especially young children. The most common exposure to lead is swallowing or breathing in lead paint chips and dust. However, lead in drinking water can also be a source of lead exposure. In the past, lead was used in some water service lines and household plumbing materials. Lead in water usually occurs through corrosion of plumbing products containing lead; however, disruption (construction or maintenance) of lead service lines may also temporarily increase lead levels in the water supply. This disruption may be sometimes caused by water main maintenance/replacement. As of June 19, 1986, new or replaced water serviced lines and new household plumbing materials could not contain more than 8% lead. Lead content was further reduced on January 4, 2014, when plumbing materials must now be certified as "lead-free" to be used (weighted average of wetted surface cannot be more than 0.25% lead).

The purpose of this notice is for informational purposes only. While it's not known for certain whether or not this particular construction project will adversely affect the lead (if present) plumbing in and outside your home, below describes some information about the project and some preventative measures you can take to help reduce the amount of lead in drinking water.

Project Start Date: _____ Project expected to be completed by: _____

Project location and description:

What you can do to reduce lead exposure in drinking water during this construction project:

Run your water to flush out lead. If the plumbing in your home is accessible; you may be able to inspect your own plumbing to determine whether or not you have a lead service line. Otherwise, you will most likely have to hire a plumber.

- If you do not have a lead service line, running the water for 1 – 2 minutes at the kitchen tap should clear the lead from your household plumbing to the kitchen tap. Once you have done this, fill a container with water and store it in the refrigerator for drinking, cooking, and preparing baby formula throughout the day.
- If you do have a lead service line, flushing times can vary based on the length of your lead service line and the plumbing configuration in your home. The length of lead service lines varies considerably. Flushing for at least 3 – 5 minutes is recommended.

Use cold water for drinking, cooking, and preparing baby formula. Do not cook with or drink water from the hot water tap; lead dissolves more easily into hot water. Do not use water from the hot water tap to make baby formula.

Look for alternative sources or treatment of water. You may want to consider purchasing bottled water or a water filter that is certified to remove "total lead".

Clean and remove any debris from faucet aerators on a regular basis.

Do not boil water to remove lead. Boiling water will not reduce lead.

Purchase lead-free faucets and plumbing components.

Remove the entire lead service line.

Test your water for lead. Call us at: _____ to find out how to get your water tested for lead. While we do not do the testing, we can provide a list of laboratories certified to do the testing. Laboratories will send you the bottles for sample collection. Please note that we are not affiliated with the laboratories and they will charge you a fee.

- If test results indicate a lead level above 15 ug/L, bottled water should be used by pregnant women, breast-feeding women, young children, and formula-fed infants.

BITUMINOUS MATERIALS COST ADJUSTMENTS (BDE)

Effective: November 2, 2006

Revised: August 1, 2017

Description. Bituminous material cost adjustments will be made to provide additional compensation to the Contractor, or credit to the Department, for fluctuations in the cost of bituminous materials when optioned by the Contractor. The bidder shall indicate with their bid whether or not this special provision will be part of the contract.

The adjustments shall apply to permanent and temporary hot-mix asphalt (HMA) mixtures, bituminous surface treatments (cover and seal coats), and preventative maintenance type surface treatments that are part of the original proposed construction, or added as extra work and paid for by agreed unit prices. The adjustments shall not apply to bituminous prime coats, tack coats, crack filling/sealing, joint filling/sealing, or extra work paid for at a lump sum price or by force account.

Method of Adjustment. Bituminous materials cost adjustments will be computed as follows.

$$CA = (BPI_P - BPI_L) \times (\%AC_V / 100) \times Q$$

- Where: CA = Cost Adjustment, \$.
- BPI_P = Bituminous Price Index, as published by the Department for the month the work is performed, \$/ton (\$/metric ton).
- BPI_L = Bituminous Price Index, as published by the Department for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price, \$/ton (\$/metric ton).
- %AC_V = Percent of virgin Asphalt Cement in the Quantity being adjusted. For HMA mixtures, the % AC_V will be determined from the adjusted job mix formula. For bituminous materials applied, a performance graded or cutback asphalt will be considered to be 100% AC_V and undiluted emulsified asphalt will be considered to be 65% AC_V.
- Q = Authorized construction Quantity, tons (metric tons) (see below).

For HMA mixtures measured in square yards: $Q, \text{ tons} = A \times D \times (G_{mb} \times 46.8) / 2000$. For HMA mixtures measured in square meters: $Q, \text{ metric tons} = A \times D \times (G_{mb} \times 1) / 1000$. When computing adjustments for full-depth HMA pavement, separate calculations will be made for the binder and surface courses to account for their different G_{mb} and % AC_V.

For bituminous materials measured in gallons: $Q, \text{ tons} = V \times 8.33 \text{ lb/gal} \times SG / 2000$
For bituminous materials measured in liters: $Q, \text{ metric tons} = V \times 1.0 \text{ kg/L} \times SG / 1000$

- Where: A = Area of the HMA mixture, sq yd (sq m).
D = Depth of the HMA mixture, in. (mm).
G_{mb} = Average bulk specific gravity of the mixture, from the approved mix design.

V = Volume of the bituminous material, gal (L).
SG = Specific Gravity of bituminous material as shown on the bill of lading.

Basis of Payment. Bituminous materials cost adjustments may be positive or negative but will only be made when there is a difference between the BPI_L and BPI_P in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(BPI_L - BPI_P) \div BPI_L\} \times 100$$

Bituminous materials cost adjustments will be calculated for each calendar month in which applicable bituminous material is placed; and will be paid or deducted when all other contract requirements for the work placed during the month are satisfied. The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

80173

COMPENSABLE DELAY COSTS (BDE)

Effective: June 2, 2017

Revise Article 107.40(b) of the Standard Specifications to read:

“(b) Compensation. Compensation will not be allowed for delays, inconveniences, or damages sustained by the Contractor from conflicts with facilities not meeting the above definition; or if a conflict with a utility in an unanticipated location does not cause a shutdown of the work or a documentable reduction in the rate of progress exceeding the limits set herein. The provisions of Article 104.03 notwithstanding, compensation for delays caused by a utility in an unanticipated location will be paid according to the provisions of this Article governing minor and major delays or reduced rate of production which are defined as follows.

- (1) Minor Delay. A minor delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two hours, but not to exceed two weeks.
- (2) Major Delay. A major delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two weeks.
- (3) Reduced Rate of Production Delay. A reduced rate of production delay occurs when the rate of production on the work in conflict with the utility in an unanticipated location decreases by more than 25 percent and lasts longer than seven calendar days.”

Revise Article 107.40(c) of the Standard Specifications to read:

“(c) Payment. Payment for Minor, Major, and Reduced Rate of Production Delays will be made as follows.

- (1) Minor Delay. Labor idled which cannot be used on other work will be paid for according to Article 109.04(b)(1) and (2) for the time between start of the delay and the minimum remaining hours in the work shift required by the prevailing practice in the area.

Equipment idled which cannot be used on other work, and which is authorized to standby on the project site by the Engineer, will be paid for according to Article 109.04(b)(4).

- (2) Major Delay. Labor will be the same as for a minor delay.

Equipment will be the same as for a minor delay, except Contractor-owned equipment will be limited to two weeks plus the cost of move-out to either the Contractor’s yard or another job and the cost to re-mobilize, whichever is less.

Rental equipment may be paid for longer than two weeks provided the Contractor presents adequate support to the Department (including lease agreement) to show retaining equipment on the job is the most economical course to follow and in the public interest.

- (3) Reduced Rate of Production Delay. The Contractor will be compensated for the reduced productivity for labor and equipment time in excess of the 25 percent threshold for that portion of the delay in excess of seven calendar days. Determination of compensation will be in accordance with Article 104.02, except labor and material additives will not be permitted.

Payment for escalated material costs, escalated labor costs, extended project overhead, and extended traffic control will be determined according to Article 109.13.”

Revise Article 108.04(b) of the Standard Specifications to read:

“(b) No working day will be charged under the following conditions.

- (1) When adverse weather prevents work on the controlling item.
- (2) When job conditions due to recent weather prevent work on the controlling item.
- (3) When conduct or lack of conduct by the Department or its consultants, representatives, officers, agents, or employees; delay by the Department in making the site available; or delay in furnishing any items required to be furnished to the Contractor by the Department prevents work on the controlling item.
- (4) When delays caused by utility or railroad adjustments prevent work on the controlling item.
- (5) When strikes, lock-outs, extraordinary delays in transportation, or inability to procure critical materials prevent work on the controlling item, as long as these delays are not due to any fault of the Contractor.
- (6) When any condition over which the Contractor has no control prevents work on the controlling item.”

Revise Article 109.09(f) of the Standard Specifications to read:

- “(f) Basis of Payment. After resolution of a claim in favor of the Contractor, any adjustment in time required for the work will be made according to Section 108. Any adjustment in the costs to be paid will be made for direct labor, direct materials, direct equipment, direct jobsite overhead, direct offsite overhead, and other direct costs allowed by the resolution. Adjustments in costs will not be made for interest charges, loss of anticipated profit, undocumented loss of efficiency, home office overhead and unabsorbed overhead

other than as allowed by Article 109.13, lost opportunity, preparation of claim expenses and other consequential indirect costs regardless of method of calculation.

The above Basis of Payment is an essential element of the contract and the claim cost recovery of the Contractor shall be so limited.”

Add the following to Section 109 of the Standard Specifications.

“109.13 Payment for Contract Delay. Compensation for escalated material costs, escalated labor costs, extended project overhead, and extended traffic control will be allowed when such costs result from a delay meeting the criteria in the following table.

Contract Type	Cause of Delay	Length of Delay
Working Days	Article 108.04(b)(3) or Article 108.04(b)(4)	No working days have been charged for two consecutive weeks.
Completion Date	Article 108.08(b)(1) or Article 108.08(b)(7)	The Contractor has been granted a minimum two week extension of contract time, according to Article 108.08.

Payment for each of the various costs will be according to the following.

- (a) Escalated Material and/or Labor Costs. When the delay causes work, which would have otherwise been completed, to be done after material and/or labor costs have increased, such increases will be paid. Payment for escalated material costs will be limited to the increased costs substantiated by documentation furnished by the Contractor. Payment for escalated labor costs will be limited to those items in Article 109.04(b)(1) and (2), except the 35 percent and 10 percent additives will not be permitted.
- (b) Extended Project Overhead. For the duration of the delay, payment for extended project overhead will be paid as follows.
 - (1) Direct Jobsite and Offsite Overhead. Payment for documented direct jobsite overhead and documented direct offsite overhead, including onsite supervisory and administrative personnel, will be allowed according to the following table.

Original Contract Amount	Supervisory and Administrative Personnel
Up to \$5,000,000	One Project Superintendent
Over \$ 5,000,000 - up to \$25,000,000	One Project Manager, One Project Superintendent or Engineer, and One Clerk
Over \$25,000,000 - up to \$50,000,000	One Project Manager, One Project Superintendent, One Engineer, and

	One Clerk
Over \$50,000,000	One Project Manager, Two Project Superintendents, One Engineer, and One Clerk

(2) Home Office and Unabsorbed Overhead. Payment for home office and unabsorbed overhead will be calculated as 8 percent of the total delay cost.

(c) Extended Traffic Control. Traffic control required for an extended period of time due to the delay will be paid. For working day contracts the payment will be made according to Article 109.04. For completion date contracts, an adjustment will be determined as follows.

Extended Traffic Control occurs between April 1 and November 30:

$$\text{ETCP Adjustment (\$)} = \text{TE} \times (\% / 100 \times \text{CUP} / \text{OCT})$$

Extended Traffic Control occurs between December 1 and March 31:

$$\text{ETCP Adjustment (\$)} = \text{TE} \times 1.5 (\% / 100 \times \text{CUP} / \text{OCT})$$

Where: TE = Duration of approved time extension in calendar days.

% = Percent maintenance for the traffic control, % (see table below).

CUP = Contract unit price for the traffic control pay item in place during the delay.

OCT = Original contract time in calendar days.

Original Contract Amount	Percent Maintenance
Up to \$2,000,000	65%
\$2,000,000 to \$10,000,000	75%
\$10,000,000 to \$20,000,000	85%
Over \$20,000,000	90%

When an ETCP adjustment is paid under this provision, an adjusted unit price as provided for in Article 701.20(a) for increase or decrease in the value of work by more than ten percent will not be paid.

Upon payment for a contract delay under this provision, the Contractor shall assign subrogation rights to the Department for the Department's efforts of recovery from any other party for monies paid by the Department as a result of any claim under this provision. The Contractor shall fully cooperate with the Department in its efforts to recover from another party any money paid to the Contractor for delay damages under this provision."

CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE)

Effective: June 1, 2010

Revised: November 1, 2014

The reduction of emissions of particulate matter (PM) for off-road equipment shall be accomplished by installing retrofit emission control devices. The term “equipment” refers to diesel fuel powered devices rated at 50 hp and above, to be used on the jobsite in excess of seven calendar days over the course of the construction period on the jobsite (including rental equipment).

Contractor and subcontractor diesel powered off-road equipment assigned to the contract shall be retrofitted using the phased in approach shown below. Equipment that is of a model year older than the year given for that equipment’s respective horsepower range shall be retrofitted:

Effective Dates	Horsepower Range	Model Year
June 1, 2010 ^{1/}	600-749	2002
	750 and up	2006
June 1, 2011 ^{2/}	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006
June 1, 2012 ^{2/}	50-99	2004
	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006

1/ Effective dates apply to Contractor diesel powered off-road equipment assigned to the contract.

2/ Effective dates apply to Contractor and subcontractor diesel powered off-road equipment assigned to the contract.

The retrofit emission control devices shall achieve a minimum PM emission reduction of 50 percent and shall be:

- a) Included on the U.S. Environmental Protection Agency (USEPA) *Verified Retrofit Technology List* (<http://www.epa.gov/cleandiesel/verification/verif-list.htm>), or verified by the California Air Resources Board (CARB) (<http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>); or
- b) Retrofitted with a non-verified diesel retrofit emission control device if verified retrofit emission control devices are not available for equipment proposed to be used on the project, and if the Contractor has obtained a performance certification from the retrofit

device manufacturer that the emission control device provides a minimum PM emission reduction of 50 percent.

Note: Large cranes (Crawler mounted cranes) which are responsible for critical lift operations are exempt from installing retrofit emission control devices if such devices adversely affect equipment operation.

Diesel powered off-road equipment with engine ratings of 50 hp and above, which are unable to be retrofitted with verified emission control devices or if performance certifications are not available which will achieve a minimum 50 percent PM reduction, may be granted a waiver by the Department if documentation is provided showing good faith efforts were made by the Contractor to retrofit the equipment.

Construction shall not proceed until the Contractor submits a certified list of the diesel powered off-road equipment that will be used, and as necessary, retrofitted with emission control devices. The list(s) shall include (1) the equipment number, type, make, Contractor/rental company name; and (2) the emission control devices make, model, USEPA or CARB verification number, or performance certification from the retrofit device manufacturer. Equipment reported as fitted with emissions control devices shall be made available to the Engineer for visual inspection of the device installation, prior to being used on the jobsite.

The Contractor shall submit an updated list of retrofitted off-road construction equipment as retrofitted equipment changes or comes on to the jobsite. The addition or deletion of any diesel powered equipment shall be included on the updated list.

If any diesel powered off-road equipment is found to be in non-compliance with any portion of this special provision, the Engineer will issue the Contractor a diesel retrofit deficiency deduction.

Any costs associated with retrofitting any diesel powered off-road equipment with emission control devices shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed. The Contractor's compliance with this notice and any associated regulations shall not be grounds for a claim.

Diesel Retrofit Deficiency Deduction

When the Engineer determines that a diesel retrofit deficiency exists, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency continues to exist. The calendar day(s) will begin when the time period for correction is exceeded and end with the Engineer's written acceptance of the correction. The daily monetary deduction will be \$1,000.00 for each deficiency identified.

The deficiency will be based on lack of diesel retrofit emissions control.

If a Contractor accumulates three diesel retrofit deficiency deductions for the same piece of equipment in a contract period, the Contractor will be shutdown until the deficiency is corrected.

Such a shutdown will not be grounds for any extension of the contract time, waiver of penalties, or be grounds for any claim.

80261

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE)

Effective: September 1, 2000

Revised: March 2, 2019

FEDERAL OBLIGATION. The Department of Transportation, as a recipient of federal financial assistance, is required to take all necessary and reasonable steps to ensure nondiscrimination in the award and administration of contracts. Consequently, the federal regulatory provisions of 49 CFR Part 26 apply to this contract concerning the utilization of disadvantaged business enterprises. For the purposes of this Special Provision, a disadvantaged business enterprise (DBE) means a business certified by the Department in accordance with the requirements of 49 CFR Part 26 and listed in the Illinois Unified Certification Program (IL UCP) DBE Directory.

STATE OBLIGATION. This Special Provision will also be used by the Department to satisfy the requirements of the Business Enterprise for Minorities, Females, and Persons with Disabilities Act, 30 ILCS 575. When this Special Provision is used to satisfy state law requirements on 100 percent state-funded contracts, the federal government has no involvement in such contracts (not a federal-aid contract) and no responsibility to oversee the implementation of this Special Provision by the Department on those contracts. DBE participation on 100 percent state-funded contracts will not be credited toward fulfilling the Department's annual overall DBE goal required by the US Department of Transportation to comply with the federal DBE program requirements.

CONTRACTOR ASSURANCE. The Contractor makes the following assurance and agrees to include the assurance in each subcontract that the Contractor signs with a subcontractor.

The Contractor, subrecipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of contracts funded in whole or in part with federal or state funds. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (a) Withholding progress payments;
- (b) Assessing sanctions;
- (c) Liquidated damages; and/or
- (d) Disqualifying the Contractor from future bidding as non-responsible.

OVERALL GOAL SET FOR THE DEPARTMENT. As a requirement of compliance with 49 CFR Part 26, the Department has set an overall goal for DBE participation in its federally assisted contracts. That goal applies to all federal-aid funds the Department will expend in its federally assisted contracts for the subject reporting fiscal year. The Department is required to make a good faith effort to achieve the overall goal. The dollar amount paid to all approved DBE

companies performing work called for in this contract is eligible to be credited toward fulfillment of the Department's overall goal.

CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR. This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined that the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. The determination is based on an assessment of the type of work, the location of the work, and the availability of DBE companies to do a part of the work. The assessment indicates that, in the absence of unlawful discrimination, and in an arena of fair and open competition, DBE companies can be expected to perform 17.00 % of the work. This percentage is set as the DBE participation goal for this contract. Consequently, in addition to the other award criteria established for this contract, the Department will only award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in the performance of the work. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set for in this Special Provision:

- (a) The bidder documents that enough DBE participation has been obtained to meet the goal or,
- (b) The bidder documents that a good faith effort has been made to meet the goal, even though the effort did not succeed in obtaining enough DBE participation to meet the goal.

DBE LOCATOR REFERENCES. Bidders shall consult the IL UCP DBE Directory as a reference source for DBE-certified companies. In addition, the Department maintains a letting and item specific DBE locator information system whereby DBE companies can register their interest in providing quotes on particular bid items advertised for letting. Information concerning DBE companies willing to quote work for particular contracts may be obtained by contacting the Department's Bureau of Small Business Enterprises at telephone number (217) 785-4611, or by visiting the Department's website at: <http://www.idot.illinois.gov/doing-business/certifications/disadvantaged-business-enterprise-certification/il-ucp-directory/index>.

BIDDING PROCEDURES. Compliance with this Special Provision is required prior to the award of the contract and the failure of the low material bidding requirement and failure of the bidder to comply will render the bid not responsive.

In order to assure the timely award of the contract, the low bidder shall submit:

- (a) The bidder shall submit a DBE Utilization Plan on completed Department forms SBE 2025 and 2026.
 - (1) The final Utilization Plan must be submitted within five calendar days after the date of the letting in accordance with subsection (a)(2) of Bidding Procedures herein.

- (2) To meet the five day requirement, the bidder may send the Utilization Plan electronically by scanning and sending to DOT.DBE.UP@illinois.gov or faxing to (217) 785-1524. The subject line must include the bid Item Number and the Letting date. The Utilization Plan should be sent as one .pdf file, rather than multiple files and emails for the same Item Number. It is the responsibility of the bidder to obtain confirmation of email or fax delivery.

Alternatively, the Utilization Plan may be sent by certified mail or delivery service within the five calendar day period. If a question arises concerning the mailing date of a Utilization Plan, the mailing date will be established by the U.S. Postal Service postmark on the certified mail receipt from the U.S. Postal Service or the receipt issued by a delivery service when the Utilization Plan is received by the Department. It is the responsibility of the bidder to ensure the postmark or receipt date is affixed within the five days if the bidder intends to rely upon mailing or delivery to satisfy the submission day requirement. The Utilization Plan is to be submitted to:

Illinois Department of Transportation
Bureau of Small Business Enterprises
Contract Compliance Section
2300 South Dirksen Parkway, Room 319
Springfield, Illinois 62764

The bidder shall submit a DBE Utilization Plan (form SBE 2026), and a DBE Participation Statement (form SBE 2025) for each DBE company proposed for the performance of work to achieve the contract goal, with the bid. If the Utilization Plan indicates the contract goal will not be met, documentation of good faith efforts shall also be submitted. The documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor is selected over a DBE for work on the contract. The required forms and documentation must be submitted as a single .pdf file using the "Integrated Contractor Exchange (iCX)" application within the Department's "EBids System".

The Department will not accept a Utilization Plan if it does not meet the five day submittal requirement bidding procedures set forth herein and the bid will be declared not responsive. In the event the bid is declared not responsive due to a failure to submit a Utilization Plan or failure to comply with the bidding procedures set forth herein, the Department may elect to cause the forfeiture of the penal sum of the bidder's proposal guaranty, and may deny authorization to bid the project if re-advertised for bids. The Department reserves the right to invite any other bidder to submit a Utilization Plan at any time for award consideration.

- (b) The Utilization Plan shall indicate that the bidder either has obtained sufficient DBE participation commitments to meet the contract goal or has not obtained enough DBE participation commitments in spite of a good faith effort to meet the goal. The Utilization Plan shall further provide the name, telephone number, and telefax number of a responsible official of the bidder designated for purposes of notification of Utilization Plan approval or disapproval under the procedures of this Special Provision.

(c) The Utilization Plan shall include a DBE Participation Commitment Statement, Department form SBE 2025, for each DBE proposed for the performance of work to achieve the contract goal. For bidding purposes, submission of the completed SBE 2025 forms, signed by the DBEs and scanned or faxed to the bidder will be acceptable as long as the original is available and provided upon request. All elements of information indicated on the said form shall be provided, including but not limited to the following:

- (1) The names and addresses of DBE firms that will participate in the contract;
- (2) A description, including pay item numbers, of the work each DBE will perform;
- (3) The dollar amount of the participation of each DBE firm participating. The dollar amount of participation for identified work shall specifically state the quantity, unit price, and total subcontract price for the work to be completed by the DBE. If partial pay items are to be performed by the DBE, indicate the portion of each item, a unit price where appropriate and the subcontract price amount;
- (4) DBE Participation Commitment Statements, form SBE 2025, signed by the bidder and each participating DBE firm documenting the commitment to use the DBE subcontractors whose participation is submitted to meet the contract goal;
- (5) If the bidder is a joint venture comprised of DBE companies and non-DBE companies, the Utilization Plan must also include a clear identification of the portion of the work to be performed by the DBE partner(s); and,
- (6) If the contract goal is not met, evidence of good faith efforts; the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor is selected over a DBE for work on the contract.

GOOD FAITH EFFORT PROCEDURES. The contract will not be awarded until the Utilization Plan submitted by the apparent successful bidder is approved. All information submitted by the bidder must be complete, accurate and adequately document that enough DBE participation has been obtained or document that the good faith efforts of the bidder, in the event enough DBE participation has not been obtained, before the Department will commit to the performance of the contract by the bidder. The Utilization Plan will be approved by the Department if the Utilization Plan documents sufficient commercially useful DBE work to meet the contract goal or the bidder submits sufficient documentation of a good faith effort to meet the contract goal pursuant to 49 CFR Part 26, Appendix A. The Utilization Plan will not be approved by the Department if the Utilization Plan does not document sufficient DBE participation to meet the contract goal unless the apparent successful bidder documented in the Utilization Plan that it made a good faith effort to meet the goal. This means that the bidder must show that all necessary and reasonable steps were taken to achieve the contract goal. Necessary and reasonable steps are those which, by their scope, intensity and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not successful. The Department will consider the quality, quantity, and intensity of the kinds of efforts that the bidder has made. Mere *pro forma*

efforts, in other words efforts done as a matter of form, are not good faith efforts; rather, the bidder is expected to have taken genuine efforts that would be reasonably expected of a bidder actively and aggressively trying to obtain DBE participation sufficient to meet the contract goal.

(a) The following is a list of types of action that the Department will consider as part of the evaluation of the bidder's good faith efforts to obtain participation. These listed factors are not intended to be a mandatory checklist and are not intended to be exhaustive. Other factors or efforts brought to the attention of the Department may be relevant in appropriate cases and will be considered by the Department.

(1) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBE companies that have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBE companies to respond to the solicitation. The bidder must determine with certainty if the DBE companies are interested by taking appropriate steps to follow up initial solicitations.

(2) Selecting portions of the work to be performed by DBE companies in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime Contractor might otherwise prefer to perform these work items with its own forces.

(3) Providing interested DBE companies with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

(4) a. Negotiating in good faith with interested DBE companies. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBE companies that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBE companies to perform the work.

b. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBE companies is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also the ability or desire of a bidder to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidders are not, however, required to accept higher quotes from DBE companies if the price

difference is excessive or unreasonable. In accordance with subsection (c)(6) of the above Bidding Procedures, the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.

- (5) Not rejecting DBE companies as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.
 - (6) Making efforts to assist interested DBE companies in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.
 - (7) Making efforts to assist interested DBE companies in obtaining necessary equipment, supplies, materials, or related assistance or services.
 - (8) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBE companies.
- (b) If the Department determines that the apparent successful bidder has made a good faith effort to secure the work commitment of DBE companies to meet the contract goal, the Department will award the contract provided that it is otherwise eligible for award. If the Department determines that the bidder has failed to meet the requirements of this Special Provision or that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan that the bid is not responsive. The notification shall also include a statement of reasons for the adverse determination. If the Utilization Plan is not approved because it is deficient as a technical matter, unless waived by the Department, the bidder will be notified and will be allowed no more than a five calendar day period in order to cure the deficiency.
- (c) The bidder may request administrative reconsideration of an adverse determination adverse to the bidder by emailing the Department at "DOT.DBE.UP@illinois.gov" within the five workingcalendar days after the receipt of the notification date of the determination by delivering the request to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764 (Telefax: (217) 785-1524). Deposit of the request in the United States mail on or before the fifth business day shall not be deemed delivery. The determination shall become final if a request is not made and delivered on or before the fifth calendar day. A request may provide additional written documentation or argument concerning the issues raised in the determination statement of reasons, provided the documentation and arguments address efforts made prior to submitting the bid. The

request will be forwarded to reviewed by the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person in order to consider all issues of documentation and whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will be sent a written decision within ten working days after receipt of the request for reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. A final decision by the Reconsideration Officer that a good faith effort was made shall approve the Utilization Plan submitted by the bidder and shall clear the contract for award. A final decision that a good faith effort was not made shall render the bid not responsive.

CALCULATING DBE PARTICIPATION. The Utilization Plan values represent work anticipated to be performed and paid for upon satisfactory completion. The Department is only able to count toward the achievement of the overall goal and the contract goal the value of payments made for the work actually performed by DBE companies. In addition, a DBE must perform a commercially useful function on the contract to be counted. A commercially useful function is generally performed when the DBE is responsible for the work and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. The Department and Contractor are governed by the provisions of 49 CFR Part 26.55(c) on questions of commercially useful functions as it affects the work. Specific counting guidelines are provided in 49 CFR Part 26.55, the provisions of which govern over the summary contained herein.

- (a) DBE as the Contractor: 100 percent goal credit for that portion of the work performed by the DBE's own forces, including the cost of materials and supplies. Work that a DBE subcontracts to a non-DBE does not count toward the DBE goals.
- (b) DBE as a joint venture Contractor: 100 percent goal credit for that portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work performed by the DBE's own forces.
- (c) DBE as a subcontractor: 100 percent goal credit for the work of the subcontract performed by the DBE's own forces, including the cost of materials and supplies, excluding the purchase of materials and supplies or the lease of equipment by the DBE subcontractor from the prime Contractor or its affiliates. Work that a DBE subcontractor in turn subcontracts to a non-DBE does not count toward the DBE goal.
- (d) DBE as a trucker: 100 percent goal credit for trucking participation provided the DBE is responsible for the management and supervision of the entire trucking operation for which it is responsible. At least one truck owned, operated, licensed, and insured by the DBE must be used on the contract. Credit will be given for the following:
 - (1) The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.

- (2) The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission is receives as a result of the lease arrangement.

(e) DBE as a material supplier:

- (1) 60 percent goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.
- (2) 100 percent goal credit for the cost of materials of supplies obtained from a DBE manufacturer.
- (3) 100 percent credit for the value of reasonable fees and commissions for the procurement of materials and supplies if not a DBE regular dealer or DBE manufacturer.

CONTRACT COMPLIANCE. Compliance with this Special Provision is an essential part of the contract. The Department is prohibited by federal regulations from crediting the participation of a DBE included in the Utilization Plan toward either the contract goal or the Department's overall goal until the amount to be applied toward the goals has been paid to the DBE. The following administrative procedures and remedies govern the compliance by the Contractor with the contractual obligations established by the Utilization Plan. After approval of the Utilization Plan and award of the contract, the Utilization Plan and individual DBE Participation Statements become part of the contract. If the Contractor did not succeed in obtaining enough DBE participation to achieve the advertised contract goal, and the Utilization Plan was approved and contract awarded based upon a determination of good faith, the total dollar value of DBE work calculated in the approved Utilization Plan as a percentage of the awarded contract value shall become the amended contract goal. All work indicated for performance by an approved DBE shall be performed, managed, and supervised by the DBE executing the DBE Participation Commitment Statement.

- (a) NO AMENDMENT. No amendment to the Utilization Plan may be made without prior written approval from the Department's Bureau of Small Business Enterprises. All requests for amendment to the Utilization Plan shall be submitted emailed 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) 785-1524at DOT.DBE.UP@illinois.gov.
- (b) CHANGES TO WORK. Any deviation from the DBE condition-of-award or contract plans, specifications, or special provisions must be approved, in writing, by the Department as provided elsewhere in the Contract. The Contractor shall notify affected DBEs in writing of any changes in the scope of work which result in a reduction in the dollar amount condition-of-award to the contract. Where the revision includes work committed to a new DBE subcontractor, not previously involved in the project, then a Request for Approval of Subcontractor, Department form BC 260A or AER 260A, must be signed and submitted.

If the commitment of work is in the form of additional tasks assigned to an existing subcontract, than a new Request for Approval of Subcontractor shall will not be required. However, the Contractor must document efforts to assure that the existing DBE subcontractor is capable of performing the additional work and has agreed in writing to the change.

- (c) SUBCONTRACT. The Contractor must provide copies of DBE subcontracts to IDOT the Department upon request. Subcontractors shall ensure that all lower tier subcontracts or agreements with DBEs to supply labor or materials be performed in accordance with this Special Provision.
- (d) ALTERNATIVE WORK METHODS. In addition to the above requirements for reductions in the condition of award, additional requirements apply to the two cases of Contractor-initiated work substitution proposals. Where the contract allows alternate work methods which serve to delete or create underruns in condition of award DBE work, and the Contractor selects that alternate method or, where the Contractor proposes a substitute work method or material that serves to diminish or delete work committed to a DBE and replace it with other work, then the Contractor must demonstrate one of the following:
- (1) That tThe replacement work will be performed by the same DBE (as long as the DBE is certified in the respective item of work) in a modification of the condition of award; or
 - (2) That tThe DBE is aware that its work will be deleted or will experience underruns and has agreed in writing to the change. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so; or
 - (3) That tThe DBE is not capable of performing the replacement work or has declined to perform the work at a reasonable competitive price. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so.
- (e) TERMINATION AND REPLACEMENT PROCEDURES. The Contractor shall not terminate or replace a DBE listed on the approved Utilization Plan, or perform with other forces work designated for a listed DBE except as provided in this Special Provision. The Contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the Contractor obtains the Department's written consent as provided in subsection (a) of this part. Unless Department consent is provided for termination of a DBE subcontractor, the Contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the DBE in the Utilization Plan.

As stated above, the Contractor shall not terminate or replace a DBE subcontractor listed in the approved Utilization Plan without prior written consent. This includes, but is not limited to, instances in which the Contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with

another DBE firm. Written consent will be granted only if the Bureau of Small Business Enterprises agrees, for reasons stated in its concurrence document, that the Contractor has good cause to terminate or replace the DBE firm. Before transmitting to the Bureau of Small Business Enterprises any request to terminate and/or substitute a DBE subcontractor, the Contractor shall give notice in writing to the DBE subcontractor, with a copy to the Bureau, of its intent to request to terminate and/or substitute, and the reason for the request. The Contractor shall give the DBE five days to respond to the Contractor's notice. The DBE so notified shall advise the Bureau and the Contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the Bureau should not approve the Contractor's action. If required in a particular case as a matter of public necessity, the Bureau may provide a response period shorter than five days.

For purposes of this paragraph, good cause includes the following circumstances:

- (1) The listed DBE subcontractor fails or refuses to execute a written contract;
- (2) The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the prime contractor Contractor;
- (3) The listed DBE subcontractor fails or refuses to meet the prime Contractor's reasonable, nondiscriminatory bond requirements;
- (4) The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
- (5) The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1200 or applicable state law.
- (6) You haveThe Contractor has determined that the listed DBE subcontractor is not a responsible contractor;
- (7) The listed DBE subcontractor voluntarily withdraws from the projects and provides to you written notice to the Contractor of its withdrawal;
- (8) The listed DBE is ineligible to receive DBE credit for the type of work required;
- (9) A DBE owner dies or becomes disabled with the result that the listed DBE subcontractor is unable to complete its work on the contract;
- (10) Other documented good cause that compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the prime Contractor seeks to terminate a DBE it relied upon to obtain the contract so that the prime Contractor can self-perform

the work for which the DBE contractor was engaged or so that the prime Contractor can substitute another DBE or non-DBE contractor after contract award.

When a DBE is terminated or fails to complete its work on the Contract for any reason, the Contractor shall make a good faith effort to find another DBE to substitute for the original DBE to perform at least the same amount of work under the contract as the terminated DBE to the extent needed to meet the established Contract goal. The good faith efforts shall be documented by the Contractor. If the Department requests documentation under this provision, the Contractor shall submit the documentation within seven days, which may be extended for an additional seven days if necessary at the request of the Contractor. The Department shall will provide a written determination to the Contractor stating whether or not good faith efforts have been demonstrated.

- (f) FINAL PAYMENT. After the performance of the final item of work or delivery of material by a DBE and final payment therefore to the DBE by the Contractor, but not later than thirty 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 Agreement on Department form SBE 2115 to the Resident Engineer. If full and final payment has not been made to the DBE, the DBE Payment Agreement shall indicate whether a disagreement as to the payment required exists between the Contractor and the DBE or if the Contractor believes that the work has not been satisfactorily completed. If the Contractor does not have the full amount of work indicated in the Utilization Plan performed by the DBE companies indicated in the Utilization Plan and after good faith efforts are reviewed, the Department may deduct from contract payments to the Contractor the amount of the goal not achieved as liquidated and ascertained damages. The Contractor may request an administrative reconsideration of any amount deducted as damages pursuant to subsection (h) of this part.
- (g) ENFORCEMENT. The Department reserves the right to withhold payment to the Contractor to enforce the provisions of this Special Provision. Final payment shall not be made on the contract until such time as the Contractor submits sufficient documentation demonstrating achievement of the goal in accordance with this Special Provision or after liquidated damages have been determined and collected.
- (h) RECONSIDERATION. Notwithstanding any other provision of the contract, including but not limited to Article 109.09 of the Standard Specifications, the Contractor may request administrative reconsideration of a decision to deduct the amount of the goal not achieved as liquidated damages. A request to reconsider shall be delivered to the Contract Compliance Section and shall be handled and considered in the same manner as set forth in paragraph (c) of "Good Faith Effort Procedures" of this Special Provision, except a final decision that a good faith effort was not made during contract performance to achieve the goal agreed to in the Utilization Plan shall be the final administrative decision of the Department. The result of the reconsideration process is not administratively appealable to the U.S. Department of Transportation.

80029

DISPOSAL FEES (BDE)

Effective: November 1, 2018

Replace Articles 109.04(b)(5) – 109.04(b)(8) of the Standard Specifications with the following:

- “(5) Disposal Fees. When the extra work performed includes paying for disposal fees at a clean construction and demolition debris facility, an uncontaminated soil fill operation or a landfill, the Contractor shall receive, as administrative costs, an amount equal to five percent of the first \$10,000 and one percent of any amount over \$10,000 of the total approved costs of such fees.
- (6) Miscellaneous. No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.
- (7) Statements. No payment will be made for work performed on a force account basis until the Contractor has furnished the Engineer with itemized statements of the cost of such force account work. Statements shall be accompanied and supported by invoices for all materials used and transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the Contractor’s stock, then in lieu of the invoices, the Contractor shall furnish an affidavit certifying that such materials were taken from his/her stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

Itemized statements at the cost of force account work shall be detailed as follows.

- a. Name, classification, date, daily hours, total hours, rate, and extension for each laborer and foreman. Payrolls shall be submitted to substantiate actual wages paid if so requested by the Engineer.
 - b. Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.
 - c. Quantities of materials, prices and extensions.
 - d. Transportation of materials.
 - e. Cost of property damage, liability and workmen’s compensation insurance premiums, unemployment insurance contributions, and social security tax.
- (8) Work Performed by an Approved Subcontractor. When extra work is performed by an approved subcontractor, the Contractor shall receive, as administrative costs, an amount equal to five percent of the total approved costs of such work with the minimum payment being \$100.

- (9) All statements of the cost of force account work shall be furnished to the Engineer not later than 60 days after receipt of the Central Bureau of Construction form "Extra Work Daily Report". If the statement is not received within the specified time frame, all demands for payment for the extra work are waived and the Department is released from any and all such demands. It is the responsibility of the Contractor to ensure that all statements are received within the specified time regardless of the manner or method of delivery."

80402

EQUIPMENT PARKING AND STORAGE (BDE)

Effective: November 1, 2017

Replace the first paragraph of Article 701.11 of the Standard Specifications with the following.

“701.11 Equipment Parking and Storage. During working hours, all vehicles and/or nonoperating equipment which are parked, two hours or less, shall be parked at least 8 ft (2.5 m) from the open traffic lane. For other periods of time during working and for all nonworking hours, all vehicles, materials, and equipment shall be parked or stored as follows.

- (a) When the project has adequate right-of-way, vehicles, materials, and equipment shall be located a minimum of 30 ft (9 m) from the pavement.
- (b) When adequate right-of-way does not exist, vehicles, materials, and equipment shall be located a minimum of 15 ft (4.5 m) from the edge of any pavement open to traffic.
- (c) Behind temporary concrete barrier, vehicles, materials, and equipment shall be located a minimum of 24 in. (600 mm) behind free standing barrier or a minimum of 6 in. (150 mm) behind barrier that is either pinned or restrained according to Article 704.04. The 24 in. or 6 in. measurement shall be from the base of the non-traffic side of the barrier.
- (d) Behind other man-made or natural barriers meeting the approval of the Engineer.”

80388

FUEL COST ADJUSTMENT (BDE)

Effective: April 1, 2009

Revised: August 1, 2017

Description. Fuel cost adjustments will be made to provide additional compensation to the Contractor, or a credit to the Department, for fluctuations in fuel prices when optioned by the Contractor. The bidder shall indicate with their bid whether or not this special provision will be part of the contract. Failure to indicate "Yes" for any category of work will make that category of work exempt from fuel cost adjustment.

General. The fuel cost adjustment shall apply to contract pay items as grouped by category. The adjustment shall only apply to those categories of work checked "Yes", and only when the cumulative plan quantities for a category exceed the required threshold. Adjustments to work items in a category, either up or down, and extra work paid for by agreed unit price will be subject to fuel cost adjustment only when the category representing the added work was subject to the fuel cost adjustment. Extra work paid for at a lump sum price or by force account will not be subject to fuel cost adjustment. Category descriptions and thresholds for application and the fuel usage factors which are applicable to each are as follows:

(a) Categories of Work.

- (1) Category A: Earthwork. Contract pay items performed under Sections 202, 204, and 206 including any modified standard or nonstandard items where the character of the work to be performed is considered earthwork. The cumulative total of all applicable item plan quantities shall exceed 25,000 cu yd (20,000 cu m). Included in the fuel usage factor is a weighted average 0.10 gal/cu yd (0.50 liters/cu m) factor for trucking.
- (2) Category B: Subbases and Aggregate Base Courses. Contract pay items constructed under Sections 311, 312 and 351 including any modified standard or nonstandard items where the character of the work to be performed is considered construction of a subbase or aggregate, stabilized or modified base course. The cumulative total of all applicable item plan quantities shall exceed 5000 tons (4500 metric tons). Included in the fuel usage factor is a 0.60 gal/ton (2.50 liters/metric ton) factor for trucking.
- (3) Category C: Hot-Mix Asphalt (HMA) Bases, Pavements and Shoulders. Contract pay items constructed under Sections 355, 406, 407 and 482 including any modified standard or nonstandard items where the character of the work to be performed is considered HMA bases, pavements and shoulders. The cumulative total of all applicable item plan quantities shall exceed 5000 tons (4500 metric tons). Included in the fuel usage factor is 0.60 gal/ton (2.50 liters/metric ton) factor for trucking.
- (4) Category D: Portland Cement Concrete (PCC) Bases, Pavements and Shoulders. Contract pay items constructed under Sections 353, 420, 421 and 483 including any

modified standard or nonstandard items where the character of the work to be performed is considered PCC base, pavement or shoulder. The cumulative total of all applicable item plan quantities shall exceed 7500 sq yd (6000 sq m). Included in the fuel usage factor is 1.20 gal/cu yd (5.94 liters/cu m) factor for trucking.

- (5) Category E: Structures. Structure items having a cumulative bid price that exceeds \$250,000 for pay items constructed under Sections 502, 503, 504, 505, 512, 516 and 540 including any modified standard or nonstandard items where the character of the work to be performed is considered structure work when similar to that performed under these sections and not included in categories A through D.

(b) Fuel Usage Factors.

English Units		
Category	Factor	Units
A - Earthwork	0.34	gal / cu yd
B – Subbase and Aggregate Base courses	0.62	gal / ton
C – HMA Bases, Pavements and Shoulders	1.05	gal / ton
D – PCC Bases, Pavements and Shoulders	2.53	gal / cu yd
E – Structures	8.00	gal / \$1000

Metric Units		
Category	Factor	Units
A - Earthwork	1.68	liters / cu m
B – Subbase and Aggregate Base courses	2.58	liters / metric ton
C – HMA Bases, Pavements and Shoulders	4.37	liters / metric ton
D – PCC Bases, Pavements and Shoulders	12.52	liters / cu m
E – Structures	30.28	liters / \$1000

(c) Quantity Conversion Factors.

Category	Conversion	Factor
B	sq yd to ton	0.057 ton / sq yd / in depth
	sq m to metric ton	0.00243 metric ton / sq m / mm depth
C	sq yd to ton	0.056 ton / sq yd / in depth
	sq m to metric ton	0.00239 m ton / sq m / mm depth
D	sq yd to cu yd	0.028 cu yd / sq yd / in depth
	sq m to cu m	0.001 cu m / sq m / mm depth

Method of Adjustment. Fuel cost adjustments will be computed as follows.

$$CA = (FPI_P - FPI_L) \times FUF \times Q$$

Where: CA = Cost Adjustment, \$
FPI_P = Fuel Price Index, as published by the Department for the month the work is performed, \$/gal (\$/liter)
FPI_L = Fuel Price Index, as published by the Department for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price, \$/gal (\$/liter)
FUF = Fuel Usage Factor in the pay item(s) being adjusted
Q = Authorized construction Quantity, tons (metric tons) or cu yd (cu m)

The entire FUF indicated in paragraph (b) will be used regardless of use of trucking to perform the work.

Basis of Payment. Fuel cost adjustments may be positive or negative but will only be made when there is a difference between the FPI_L and FPI_P in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(FPI_L - FPI_P) \div FPI_L\} \times 100$$

Fuel cost adjustments will be calculated for each calendar month in which applicable work is performed; and will be paid or deducted when all other contract requirements for the items of work are satisfied. The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

80229

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

Effective: January 1, 2010

Revised: August 1, 2018

Description. This work shall consist of testing the density of longitudinal joints as part of the quality control/quality assurance (QC/QA) of hot-mix asphalt (HMA). Work shall be according to Section 1030 of the Standard Specifications except as follows.

Quality Control/Quality Assurance (QC/QA). Delete the second and third sentence of the third paragraph of Article 1030.05(d)(3) of the Standard Specifications.

Add the following paragraphs to the end of Article 1030.05(d)(3) of the Standard Specifications:

“Longitudinal joint density testing shall be performed at each random density test location. Longitudinal joint testing shall be located at a distance equal to the lift thickness or a minimum of 4 in. (100 mm), from each pavement edge. (i.e. for a 5 in. (125 mm) lift the near edge of the density gauge or core barrel shall be within 5 in. (125 mm) from the edge of pavement.) Longitudinal joint density testing shall be performed using either a correlated nuclear gauge or cores.

- a. Confined Edge. Each confined edge density shall be represented by a one-minute nuclear density reading or a core density and shall be included in the average of density readings or core densities taken across the mat which represents the Individual Test.
- b. Unconfined Edge. Each unconfined edge joint density shall be represented by an average of three one-minute density readings or a single core density at the given density test location and shall meet the density requirements specified herein. The three one-minute readings shall be spaced 10 ft (3 m) apart longitudinally along the unconfined pavement edge and centered at the random density test location.

When a longitudinal joint sealant (LJS) is applied, longitudinal joint density testing will not be required on the joint(s) sealed.”

Revise the Density Control Limits table in Article 1030.05(d)(4) of the Standard Specifications to read:

“Mixture Composition	Parameter	Individual Test (includes confined edges)	Unconfined Edge Joint Density Minimum
IL-4.75	Ndesign = 50	93.0 – 97.4% ^{1/}	91.0%
IL-9.5	Ndesign = 90	92.0 – 96.0%	90.0%
IL-9.5,IL-9.5L	Ndesign < 90	92.5 – 97.4%	90.0%
IL-19.0	Ndesign = 90	93.0 – 96.0%	90.0%
IL-19.0, IL-19.0L	Ndesign < 90	93.0 ^{2/} – 97.4%	90.0%

SMA	Ndesign = 50 & 80	93.5 – 97.4%	91.0%”
-----	-------------------	--------------	--------

80246

HOT-MIX ASPHALT – OSCILLATORY ROLLER (BDE)

Effective: August 1, 2018
 Revised: November 1, 2018

Add the following to Article 406.03 of the Standard Specifications:

“(j) Oscillatory Roller 1101.01”

Revise Table 1 and Note 3/ of Table 1 in Article 406.07(a) of the Standard Specifications to read:

“TABLE 1 - MINIMUM ROLLER REQUIREMENTS FOR HMA				
	Breakdown Roller (one of the following)	Intermediate Roller	Final Roller (one or more of the following)	Density Requirement
Level Binder: (When the density requirements of Article 406.05(c) do not apply.)	P ^{3/}	--	V _S , P ^{3/} , T _B , T _F , 3W, O _T	To the satisfaction of the Engineer.
Binder and Surface ^{1/} Level Binder ^{1/} : (When the density requirements of Article 406.05(c) apply.)	V _D , P ^{3/} , T _B , 3W, O _T , O _B	P ^{3/} , O _T , O _B	V _S , T _B , T _F , O _T	As specified in Articles: 1030.05(d)(3), (d)(4), and (d)(7).
IL-4.75 and SMA ^{4/5/}	T _B , 3W, O _T	--	T _F , 3W, O _T	
Bridge Decks ^{2/}	T _B	--	T _F	As specified in Articles 582.05 and 582.06.

3/ A vibratory roller (V_D) or oscillatory roller (O_T or O_B) may be used in lieu of the pneumatic-tired roller on mixtures containing polymer modified asphalt binder.”

Add the following to EQUIPMENT DEFINITION in Article 406.07(a) contained in the Errata of the Supplemental Specifications:

“O_T - Oscillatory roller, tangential impact mode. Maximum speed is 3.0 mph (4.8 km/h) or 264 ft/min (80 m/min).

O_B - Oscillatory roller, tangential and vertical impact mode, operated at a speed to produce not less than 10 vertical impacts/ft (30 impacts/m).”

Add the following to Article 1101.01 of the Standard Specifications:

“(h) Oscillatory Roller. The oscillatory roller shall be self-propelled and provide a smooth operation when starting, stopping, or reversing directions. The oscillatory roller shall be able to operate in a mode that will provide tangential impact force with or without vertical impact force by using at least one drum. The oscillatory roller shall be equipped with water tanks and sprinkling devices, or other approved methods, which shall be used to wet the drums to prevent material pickup. The drum(s) amplitude and frequency of the tangential and vertical impact force shall be approximately the same in each direction and meet the following requirements:

- (1) The minimum diameter of the drum(s) shall be 42 in. (1070 mm)48 in. (1200 mm);
- (2) The minimum length of the drum(s) shall be 57 in. (1480 mm)66 in. (1650 mm);
- (3) The minimum unit static force on the drum(s) shall be 125 lb/in. (22 N/m); and
- (4) The minimum force on the oscillatory drum shall be 18,000 lb (80 kN).”; and
- (5) Self-adjusting eccentrics, and reversible eccentrics on non-driven drum(s).”

80399

HOT-MIX ASPHALT – TACK COAT (BDE)

Effective: November 1, 2016

Revise Article 1032.06(a) of the Standard Specifications to read:

“(a) Anionic Emulsified Asphalt. Anionic emulsified asphalts shall be according to AASHTO M 140. SS-1h emulsions used as a tack coat shall have the cement mixing test waived.”

80376

LIGHTS ON BARRICADES (BDE)

Effective: January 1, 2018

Revise Article 701.16 of the Standard Specifications to read:

“701.16 Lights. Lights shall be used on devices as required in the plans, the traffic control plan, and the following table.

Circumstance	Lights Required
Daylight operations	None
First two warning signs on each approach to the work involving a nighttime lane closure and “ROUGH GROOVED SURFACE” (W8-I107) signs	Flashing mono-directional lights
Devices delineating isolated obstacles, excavations, or hazards at night (Does not apply to patching)	Flashing bi-directional lights
Devices delineating obstacles, excavations, or hazards exceeding 100 ft (30 m) in length at night (Does not apply to widening)	Steady burn bi-directional lights
Channelizing devices for nighttime lane closures on two-lane roads	None
Channelizing devices for nighttime lane closures on multi-lane roads	None
Channelizing devices for nighttime lane closures on multi-lane roads separating opposing directions of traffic	None
Channelizing devices for nighttime along lane shifts on multilane roads	Steady burn mono-directional lights
Channelizing devices for night time along lane shifts on two lane roads	Steady burn bi-directional lights
Devices in nighttime lane closure tapers on Standards 701316 and 701321	Steady burn bi-directional lights
Devices in nighttime lane closure tapers	Steady burn mono-directional lights
Devices delineating a widening trench	None
Devices delineating patches at night on roadways with an ADT less than 25,000	None
Devices delineating patches at night on roadways with an ADT of 25,000 or more	None

Batteries for the lights shall be replaced on a group basis at such times as may be specified by the Engineer.”

Delete the fourth sentence of the first paragraph of Article 701.17(c)(2) of the Standard Specifications.

Revise the first paragraph of Article 603.07 of the Standard Specifications to read:

“603.07 Protection Under Traffic. After the casting has been adjusted and Class SI concrete has been placed, the work shall be protected by a barricade for at least 72 hours.”

80392

MANHOLES, VALVE VAULTS, AND FLAT SLAB TOPS (BDE)

Effective: January 1, 2018

Revised: March 1, 2019

Description. In addition to those manufactured according to the current standards included in this contract, manholes, valve vaults, and flat slab tops manufactured prior to March 1, 2019, according to the previous Highway Standards listed below will be accepted on this contract:

Product	Previous Standards		
Precast Manhole Type A, 4' (1.22 m) Diameter	602401-05	602401-04	602401-03
Precast Manhole Type A, 5' (1.52 m) Diameter	602402-01	602402	602401-03
Precast Manhole Type A, 6' (1.83 m) Diameter	602406-09	602406-08	602406-07
Precast Manhole Type A, 7' (2.13 m) Diameter	602411-07	602411-06	602411-05
Precast Manhole Type A, 8' (2.44 m) Diameter	602416-07	602416-06	602416-05
Precast Manhole Type A, 9' (2.74 m) Diameter	602421-07	602421-06	602421-05
Precast Manhole Type A, 10' (3.05 m) Diameter	602426-01	602426	
Precast Valve Vault Type A, 4' (1.22 m) Diameter	602501-04	602501-03	602501-02
Precast Valve Vault Type A, 5' (1.52 m) Diameter	602506-01	602506	602501-02
Precast Reinforced Concrete Flat Slab Top	602601-05	602601-04	

The following revisions to the Standard Specifications shall apply to manholes, valve vaults, and flat slab tops manufactured according to the current standards included in this contract:

Revise Article 602.02(g) of the Standard Specifications to read:

“(g) Structural Steel (Note 4) 1006.04

Note 4. All components of the manhole joint splice shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable.”

Add the following to Article 602.02 of the Standard Specifications:

“(s) Anchor Bolts and Rods (Note 5) 1006.09

Note 5. The threaded rods for the manhole joint splice shall be according to the requirements of ASTM F 1554, Grade 55, (Grade 380).”

Revise the second paragraph of Article 1042.10 of the Standard Specifications to read:

“Catch basin Types A, B, C, and D; Manhole Type A; Inlet Types A and B; Drainage Structures Types 1, 2, 3, 4, 5, and 6; Valve Vault Type A; and reinforced concrete flat slab top (Highway Standard 602601) shall be manufactured according to AASHTO M 199 (M 199M), except the minimum wall thickness shall be as shown on the plans. Additionally, catch basins, inlets, and drainage structures shall have a minimum concrete compressive strength of 4500 psi

(31,000 kPa) at 28 days and manholes, valve vaults, and reinforced concrete flat slab tops shall have a minimum concrete compressive strength of 5000 psi (34,500 kPa) at 28 days.”

80393

PAVEMENT MARKING REMOVAL (BDE)

Effective: July 1, 2016

Revise Article 783.02 of the Standard Specifications to read:

“783.02 Equipment. Equipment shall be according to the following.

Item	Article/Section
(a) Grinders (Note 1)	
(b) Water Blaster with Vacuum Recovery	1101.12

Note 1. Grinding equipment shall be approved by the Engineer.”

Revise the first paragraph of Article 783.03 of the Standard Specifications to read:

“783.03 Removal of Conflicting Markings. Existing pavement markings that conflict with revised traffic patterns shall be removed. If darkness or inclement weather prohibits the removal operations, such operations shall be resumed the next morning or when weather permits. In the event of removal equipment failure, such equipment shall be repaired, replaced, or leased so removal operations can be resumed within 24 hours.”

Revise the first and second sentences of the first paragraph of Article 783.03(a) of the Standard Specifications to read:

“The existing pavement markings shall be removed by the method specified and in a manner that does not materially damage the surface or texture of the pavement or surfacing. Small particles of tightly adhering existing markings may remain in place, if in the opinion of the Engineer, complete removal of the small particles will result in pavement surface damage.”

Revise the first paragraph of Article 783.04 of the Standard Specifications to read:

“783.04 Cleaning. The roadway surface shall be cleaned of debris or any other deleterious material by the use of compressed air or water blast.”

Revise the first paragraph of Article 783.06 of the Standard Specifications to read:

“783.06 Basis of Payment. This work will be paid for at the contract unit price per each for RAISED REFLECTIVE PAVEMENT MARKER REMOVAL, or at the contract unit price per square foot (square meter) for PAVEMENT MARKING REMOVAL – GRINDING and/or PAVEMENT MARKING REMOVAL – WATER BLASTING.”

Delete Article 1101.13 from the Standard Specifications.

80371

PAYMENTS TO SUBCONTRACTORS (BDE)

Effective: November 2, 2017

Add the following to the end of the fourth paragraph of Article 109.11 of the Standard Specifications:

“If reasonable cause is asserted, written notice shall be provided to the applicable subcontractor and/or material supplier and the Engineer within five days of the Contractor receiving payment. The written notice shall identify the contract number, the subcontract or material purchase agreement, a detailed reason for refusal, the value of payment being withheld, and the specific remedial actions required of the subcontractor and/or material supplier so that payment can be made.”

80390

PORTLAND CEMENT CONCRETE (BDE)

Effective: November 1, 2017

Revise the Air Content % of Class PP Concrete in Table 1 Classes of Concrete and Mix Design Criteria in Article 1020.04 of the Standard Specifications to read:

"TABLE 1. CLASSES OF CONCRETE AND MIX DESIGN CRITERIA		
Class of Conc.	Use	Air Content %
PP	Pavement Patching Bridge Deck Patching (10)	
	PP-1	4.0 - 8.0"
	PP-2	
	PP-3	
	PP-4	
	PP-5	

Revise Note (4) at the end of Table 1 Classes of Concrete and Mix Design Criteria in Article 1020.04 of the Standard Specifications to read:

“(4) For all classes of concrete, the maximum slump may be increased to 7 in (175 mm) when a high range water-reducing admixture is used. For Class SC, the maximum slump may be increased to 8 in. (200 mm). For Class PS, the maximum slump may be increased to 8 1/2 in. (215 mm) if the high range water-reducing admixture is the polycarboxylate type.”

80389

PROGRESS PAYMENTS (BDE)

Effective: November 2, 2013

Revise Article 109.07(a) of the Standard Specifications to read:

“(a) Progress Payments. At least once each month, the Engineer will make a written estimate of the quantity of work performed in accordance with the contract, and the value thereof at the contract unit prices. The amount of the estimate approved as due for payment will be vouchered by the Department and presented to the State Comptroller for payment. No amount less than \$1000.00 will be approved for payment other than the final payment.

Progress payments may be reduced by liens filed pursuant to Section 23(c) of the Mechanics' Lien Act, 770 ILCS 60/23(c).

If a Contractor or subcontractor has defaulted on a loan issued under the Department's Disadvantaged Business Revolving Loan Program (20 ILCS 2705/2705-610), progress payments may be reduced pursuant to the terms of that loan agreement. In such cases, the amount of the estimate related to the work performed by the Contractor or subcontractor, in default of the loan agreement, will be offset, in whole or in part, and vouchered by the Department to the Working Capital Revolving Fund or designated escrow account. Payment for the work shall be considered as issued and received by the Contractor or subcontractor on the date of the offset voucher. Further, the amount of the offset voucher shall be a credit against the Department's obligation to pay the Contractor, the Contractor's obligation to pay the subcontractor, and the Contractor's or subcontractor's total loan indebtedness to the Department. The offset shall continue until such time as the entire loan indebtedness is satisfied. The Department will notify the Contractor and Fund Control Agent in a timely manner of such offset. The Contractor or subcontractor shall not be entitled to additional payment in consideration of the offset.

The failure to perform any requirement, obligation, or term of the contract by the Contractor shall be reason for withholding any progress payments until the Department determines that compliance has been achieved.”

80328

| STEEL COST ADJUSTMENT (BDE)

Effective: April 2, 2004

| Revised: August 1, 2017

Description. Steel cost adjustments will be made to provide additional compensation to the Contractor, or a credit to the Department, for fluctuations in steel prices when optioned by the Contractor. The bidder shall indicate with their bid whether or not this special provision will be part of the contract. Failure to indicate "Yes" for any item of work will make that item of steel exempt from steel cost adjustment.

Types of Steel Products. An adjustment will be made for fluctuations in the cost of steel used in the manufacture of the following items:

- Metal Piling (excluding temporary sheet piling)
- Structural Steel
- Reinforcing Steel

Other steel materials such as dowel bars, tie bars, mesh reinforcement, guardrail, steel traffic signal and light poles, towers and mast arms, metal railings (excluding wire fence), and frames and grates will be subject to a steel cost adjustment when the pay items they are used in have a contract value of \$10,000 or greater.

The adjustments shall apply to the above items when they are part of the original proposed construction, or added as extra work and paid for by agreed unit prices. The adjustments shall not apply when the item is added as extra work and paid for at a lump sum price or by force account.

Documentation. Sufficient documentation shall be furnished to the Engineer to verify the following:

- (a) The dates and quantity of steel, in lb (kg), shipped from the mill to the fabricator.
- (b) The quantity of steel, in lb (kg), incorporated into the various items of work covered by this special provision. The Department reserves the right to verify submitted quantities.

Method of Adjustment. Steel cost adjustments will be computed as follows:

$$SCA = Q \times D$$

Where: SCA = steel cost adjustment, in dollars
Q = quantity of steel incorporated into the work, in lb (kg)
D = price factor, in dollars per lb (kg)

$$D = MPI_M - MPI_L$$

Where: MPI_M = The Materials Cost Index for steel as published by the Engineering News-Record for the month the steel is shipped from the mill. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

MPI_L = The Materials Cost Index for steel as published by the Engineering News-Record for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price,. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

The unit weights (masses) of steel that will be used to calculate the steel cost adjustment for the various items are shown in the attached table.

No steel cost adjustment will be made for any products manufactured from steel having a mill shipping date prior to the letting date.

If the Contractor fails to provide the required documentation, the method of adjustment will be calculated as described above; however, the MPI_M will be based on the date the steel arrives at the job site. In this case, an adjustment will only be made when there is a decrease in steel costs.

Basis of Payment. Steel cost adjustments may be positive or negative but will only be made when there is a difference between the MPI_L and MPI_M in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(MPI_L - MPI_M) \div MPI_L\} \times 100$$

Steel cost adjustments will be calculated by the Engineer and will be paid or deducted when all other contract requirements for the items of work are satisfied. Adjustments will only be made for fluctuations in the cost of the steel as described herein. No adjustment will be made for changes in the cost of manufacturing, fabrication, shipping, storage, etc.

The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

Attachment

Item	Unit Mass (Weight)
Metal Piling (excluding temporary sheet piling) Furnishing Metal Pile Shells 12 in. (305 mm), 0.179 in. (3.80 mm) wall thickness Furnishing Metal Pile Shells 12 in. (305 mm), 0.250 in. (6.35 mm) wall thickness Furnishing Metal Pile Shells 14 in. (356 mm), 0.250 in. (6.35 mm) wall thickness Other piling	23 lb/ft (34 kg/m) 32 lb/ft (48 kg/m) 37 lb/ft (55 kg/m) See plans
Structural Steel	See plans for weights (masses)
Reinforcing Steel	See plans for weights (masses)
Dowel Bars and Tie Bars	6 lb (3 kg) each
Mesh Reinforcement	63 lb/100 sq ft (310 kg/sq m)
Guardrail Steel Plate Beam Guardrail, Type A w/steel posts Steel Plate Beam Guardrail, Type B w/steel posts Steel Plate Beam Guardrail, Types A and B w/wood posts Steel Plate Beam Guardrail, Type 2 Steel Plate Beam Guardrail, Type 6 Traffic Barrier Terminal, Type 1 Special (Tangent) Traffic Barrier Terminal, Type 1 Special (Flared)	20 lb/ft (30 kg/m) 30 lb/ft (45 kg/m) 8 lb/ft (12 kg/m) 305 lb (140 kg) each 1260 lb (570 kg) each 730 lb (330 kg) each 410 lb (185 kg) each
Steel Traffic Signal and Light Poles, Towers and Mast Arms Traffic Signal Post Light Pole, Tenon Mount and Twin Mount, 30 - 40 ft (9 - 12 m) Light Pole, Tenon Mount and Twin Mount, 45 - 55 ft (13.5 - 16.5 m) Light Pole w/Mast Arm, 30 - 50 ft (9 - 15.2 m) Light Pole w/Mast Arm, 55 - 60 ft (16.5 - 18 m) Light Tower w/Luminaire Mount, 80 - 110 ft (24 - 33.5 m) Light Tower w/Luminaire Mount, 120 - 140 ft (36.5 - 42.5 m) Light Tower w/Luminaire Mount, 150 - 160 ft (45.5 - 48.5 m)	11 lb/ft (16 kg/m) 14 lb/ft (21 kg/m) 21 lb/ft (31 kg/m) 13 lb/ft (19 kg/m) 19 lb/ft (28 kg/m) 31 lb/ft (46 kg/m) 65 lb/ft (97 kg/m) 80 lb/ft (119 kg/m)
Metal Railings (excluding wire fence) Steel Railing, Type SM Steel Railing, Type S-1 Steel Railing, Type T-1 Steel Bridge Rail	64 lb/ft (95 kg/m) 39 lb/ft (58 kg/m) 53 lb/ft (79 kg/m) 52 lb/ft (77 kg/m)
Frames and Grates Frame Lids and Grates	250 lb (115 kg) 150 lb (70 kg)

80127

SUBCONTRACTOR AND DBE PAYMENT REPORTING (BDE)

Effective: April 2, 2018

Add the following to Section 109 of the Standard Specifications.

“109.14 Subcontractor and Disadvantaged Business Enterprise Payment Reporting.
The Contractor shall report all payments made to the following parties:

- (a) first tier subcontractors;
- (b) lower tier subcontractors affecting disadvantaged business enterprise (DBE) goal credit;
- (c) material suppliers or trucking firms that are part of the Contractor’s submitted DBE utilization plan.

The report shall be made through the Department’s on-line subcontractor payment reporting system within 21 days of making the payment.”

80397

SUBCONTRACTOR MOBILILATION PAYMENTS (BDE)

Effective: November 2, 2017

Replace the second paragraph of Article 109.12 of the Standard Specifications with the following:

“This mobilization payment shall be made at least 14 days prior to the subcontractor starting work. The amount paid shall be at the following percentage of the amount of the subcontract reported on form BC 260A submitted for the approval of the subcontractor’s work.

Value of Subcontract Reported on Form BC 260A	Mobilization Percentage
Less than \$10,000	25%
\$10,000 to less than \$20,000	20%
\$20,000 to less than \$40,000	18%
\$40,000 to less than \$60,000	16%
\$60,000 to less than \$80,000	14%
\$80,000 to less than \$100,000	12%
\$100,000 to less than \$250,000	10%
\$250,000 to less than \$500,000	9%
\$500,000 to \$750,000	8%
Over \$750,000	7%

80391

TEMPORARY PAVEMENT MARKING (BDE)

Effective: April 1, 2012

Revised: April 1, 2017

Revise Article 703.02 of the Standard Specifications to read:

“703.02 Materials. Materials shall be according to the following.

- (a) Pavement Marking Tape, Type I and Type III 1095.06
- (b) Paint Pavement Markings 1095.02
- (c) Pavement Marking Tape, Type IV 1095.11”

Revise the second paragraph of Article 703.05 of the Standard Specifications to read:

“Type I marking tape or paint shall be used at the option of the Contractor, except paint shall not be applied to the final wearing surface unless authorized by the Engineer for late season applications where tape adhesion would be a problem. Type III or Type IV marking tape shall be used on the final wearing surface when the temporary pavement marking will conflict with the permanent pavement marking such as on tapers, crossovers and lane shifts.”

Revise Article 703.07 of the Standard Specifications to read:

“703.07 Basis of Payment. This work will be paid for as follows.

- a) Short Term Pavement Marking. Short term pavement marking will be paid for at the contract unit price per foot (meter) for SHORT TERM PAVEMENT MARKING. Removal of short term pavement markings will be paid for at the contract unit price per square foot (square meter) for SHORT TERM PAVEMENT MARKING REMOVAL.
- b) Temporary Pavement Marking. Where the Contractor has the option of material type, temporary pavement marking will be paid for at the contract unit price per foot (meter) for TEMPORARY PAVEMENT MARKING of the line width specified, and at the contract unit price per square foot (square meter) for TEMPORARY PAVEMENT MARKING LETTERS AND SYMBOLS.

Where the Department specifies the use of pavement marking tape, the Type III or Type IV temporary pavement marking will be paid for at the contract unit price per foot (meter) for PAVEMENT MARKING TAPE, TYPE III or PAVEMENT MARKING TAPE, TYPE IV of the line width specified and at the contract unit price per square feet (square meter) for PAVEMENT MARKING TAPE, TYPE III - LETTERS AND SYMBOLS or PAVEMENT MARKING TAPE, TYPE IV – LETTERS AND SYMBOLS.

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

When temporary pavement marking is shown on the Standard, the cost of the temporary pavement marking and its removal will be included in the cost of the Standard.”

Add the following to Section 1095 of the Standard Specifications:

“1095.11 Pavement Marking Tape, Type IV. The temporary, preformed, patterned markings shall consist of a white or yellow tape with wet retroreflective media incorporated to provide immediate and continuing retroreflection during both wet and dry conditions. The tape shall be manufactured without the use of heavy metals including lead chromate pigments or other similar, lead-containing chemicals.

The white and yellow Type IV marking tape shall meet the Type III requirements of Article 1095.06 and the following.

- (a) Composition. The retroreflective pliant polymer pavement markings shall consist of a mixture of high-quality polymeric materials, pigments and glass beads distributed throughout its base cross-sectional area, with a layer of wet retroreflective media bonded to a durable polyurethane topcoat surface. The patterned surface shall have approximately 40% ± 10% of the surface area raised and presenting a near vertical face to traffic from any direction. The channels between the raised areas shall be substantially free of exposed beads or particles.
- (b) Retroreflectance. The white and yellow markings shall meet the following for initial dry and wet retroreflectance.
 - (1) Dry Retroreflectance. Dry retroreflectance shall be measured under dry conditions according to ASTM D 4061 and meet the values described in Article 1095.06 for Type III tape.
 - (2) Wet Retroreflectance. Wet retroreflectance shall be measured under wet conditions according to ASTM E 2177 and meet the values shown in the following table.

Wet Retroreflectance, Initial R_L

Color	R_L 1.05/88.76
White	300
Yellow	200

- (c) Color. The material shall meet the following requirements for daylight reflectance and color, when tested, using a color spectrophotometer with 45 degrees circumferential/zero degree geometry, illuminant D65, and a two degree 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.

Color	Daylight Reflectance %Y
White	65 minimum
*Yellow	36-59

*Shall match Federal 595 Color No. 33538 and the chromaticity limits as follows.

x	0.490	0.475	0.485	0.530
y	0.470	0.438	0.425	0.456

- (d) Skid Resistance. The surface of the markings shall provide an average minimum skid resistance of 50 BPN when tested according to ASTM E 303.
- (e) Sampling, Testing, Acceptance, and Certification. Prior to approval and use of the wet reflective, temporary, removable pavement marking tape, the manufacturer shall submit a notarized certification from an independent laboratory, together with the results of all tests, stating that the material meets the requirements as set forth herein. The certification test report shall state the lot tested, manufacturer's name, and date of manufacture.

After approval by the Department, samples and certification by the manufacturer shall be submitted for each batch used. The manufacturer shall submit a certification stating that the material meets the requirements as set forth herein and is essentially identical to the material sent for qualification. The certification shall state the lot tested, manufacturer's name, and date of manufacture.

All costs of testing (other than tests conducted by the Department) shall be borne by the manufacturer."

80298

TRAINING SPECIAL PROVISIONS (BDE) This Training Special Provision supersedes Section 7b of the Special Provision entitled "Specific Equal Employment Opportunity Responsibilities," and is in implementation of 23 U.S.C. 140(a).

As part of the contractor's equal employment opportunity affirmative action program, training shall be provided as follows:

The contractor shall provide on-the-job training aimed at developing full journeyman in the type of trade or job classification involved. The number of trainees to be trained under this contract will be 2 . In the event the contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also insure that this Training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the contractor's needs and the availability of journeymen in the various classifications within the reasonable area of recruitment. Prior to commencing construction, the contractor shall submit to the Illinois Department of Transportation for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the contractor shall specify the starting time for training in each of the classifications. The contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Accordingly, the contractor shall make every effort to enroll minority trainees and women (e.g. by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent such persons are available within a reasonable area of recruitment. The contractor will be responsible for demonstrating the steps that he has taken in pursuance thereof, prior to a determination as to whether the contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he has successfully completed a training course leading to journeyman status or in which he has been employed as a journeyman. The contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used the contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the contractor and approved by the Illinois Department of Transportation and the Federal Highway Administration. The Illinois Department of Transportation and the Federal Highway Administration shall approve a program, if it is reasonably calculated to meet the equal employment opportunity obligations of the contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved by not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the Illinois Department of Transportation and the Federal Highway Administration. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the Engineer, reimbursement will be made for training of persons in excess of the number specified herein. This reimbursement will be made even though the contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

No payment shall be made to the contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the contractor and evidences a lack of good faith on the part of the contractor in meeting the requirement of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program.

It is not required that all trainees be on board for the entire length of the contract. A contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The contractor shall furnish the trainee a copy of the program he will follow in providing the training. The contractor shall provide each trainee with a certification showing the type and length of training satisfactorily complete.

The contractor will provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

METHOD OF MEASUREMENT The unit of measurement is in hours.

BASIS OF PAYMENT This work will be paid for at the contract unit price of 80 cents per hour for TRAINEES. The estimated total number of hours, unit price and total price have been included in the schedule of prices.

20338

TRAFFIC CONTROL DEVICES - CONES (BDE)

Effective: January 1, 2019

Revise Article 701.15(a) of the Standard Specifications to read:

“(a) Cones. Cones are used to channelize traffic. Cones used to channelize traffic at night shall be reflectorized; however, cones shall not be used in nighttime lane closure tapers or nighttime lane shifts.”

Revise Article 1106.02(b) of the Standard Specifications to read:

“(b) Cones. Cones shall be predominantly orange. Cones used at night that are 28 to 36 in. (700 to 900 mm) in height shall have two white circumferential stripes. If non-reflective spaces are left between the stripes, the spaces shall be no more than 2 in. (50mm) in width. Cones used at night that are taller than 36 in. (900 mm) shall have a minimum of two white and two fluorescent orange alternating, circumferential stripes with the top stripe being fluorescent orange. If non-reflective spaces are left between the stripes, the spaces shall be no more than 3 in. (75 mm) in width.

The minimum weights for the various cone heights shall be 4 lb for 18 in. (2 kg for 450 mm), 7 lb for 28 in. (3 kg for 700 mm), and 10 lb for 36 in. (5 kg for 900 mm) with a minimum of 60 percent of the total weight in the base. Cones taller than 36 in. shall be weighted per the manufacturer’s specifications such that they are not moved by wind or passing traffic.”

80409

WARM MIX ASPHALT (BDE)

Effective: January 1, 2012

Revised: April 1, 2016

Description. This work shall consist of designing, producing and constructing Warm Mix Asphalt (WMA) in lieu of Hot Mix Asphalt (HMA) at the Contractor's option. Work shall be according to Sections 406, 407, 408, 1030, and 1102 of the Standard Specifications, except as modified herein. In addition, any references to HMA in the Standard Specifications, or the special provisions shall be construed to include WMA.

WMA is an asphalt mixture which can be produced at temperatures lower than allowed for HMA utilizing approved WMA technologies. WMA technologies are defined as the use of additives or processes which allow a reduction in the temperatures at which HMA mixes are produced and placed. WMA is produced by the use of additives, a water foaming process, or combination of both. Additives include minerals, chemicals or organics incorporated into the asphalt binder stream in a dedicated delivery system. The process of foaming injects water into the asphalt binder stream, just prior to incorporation of the asphalt binder with the aggregate.

Approved WMA technologies may also be used in HMA provided all the requirements specified herein, with the exception of temperature, are met. However, asphalt mixtures produced at temperatures in excess of 275 °F (135 °C) will not be considered WMA when determining the grade reduction of the virgin asphalt binder grade.

Equipment.

Revise the first paragraph of Article 1102.01 of the Standard Specifications to read:

"1102.01 Hot-Mix Asphalt Plant. The hot-mix asphalt (HMA) plant shall be the batch-type, continuous-type, or dryer drum plant. The plants shall be evaluated for prequalification rating and approval to produce HMA according to the current Bureau of Materials and Physical Research Policy Memorandum, "Approval of Hot-Mix Asphalt Plants and Equipment". Once approved, the Contractor shall notify the Bureau of Materials and Physical Research to obtain approval of all plant modifications. The plants shall not be used to produce mixtures concurrently for more than one project or for private work unless permission is granted in writing by the Engineer. The plant units shall be so designed, coordinated and operated that they will function properly and produce HMA having uniform temperatures and compositions within the tolerances specified. The plant units shall meet the following requirements."

Add the following to Article 1102.01(a) of the Standard Specifications.

"(11) Equipment for Warm Mix Technologies.

- a. Foaming. Metering equipment for foamed asphalt shall have an accuracy of ± 2 percent of the actual water metered. The foaming control system shall be electronically interfaced with the asphalt binder meter.

- b. Additives. Additives shall be introduced into the plant according to the supplier's recommendations and shall be approved by the Engineer. The system for introducing the WMA additive shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes."

Mix Design Verification.

Add the following to Article 1030.04 of the Standard Specifications.

"(e) Warm Mix Technologies.

- (1) Foaming. WMA mix design verification will not be required when foaming technology is used alone (without WMA additives). However, the foaming technology shall only be used on HMA designs previously approved by the Department.
- (2) Additives. WMA mix designs utilizing additives shall be submitted to the Engineer for mix design verification."

Construction Requirements.

Revise the second paragraph of Article 406.06(b)(1) of the Standard Specifications to read:

"The HMA shall be delivered at a temperature of 250 to 350 °F (120 to 175 °C).
WMA shall be delivered at a minimum temperature of 215 °F (102 °C)."

Basis of Payment.

This work will be paid at the contract unit price bid for the HMA pay items involved. Anti-strip will not be paid for separately, but shall be considered as included in the cost of the work.

80288

WEEKLY DBE TRUCKING REPORTS (BDE)

Effective: June 2, 2012

| Revised: April 2, 2015

| The Contractor shall submit a weekly report of Disadvantaged Business Enterprise (DBE) trucks hired by the Contractor or subcontractors (i.e. not owned by the Contractor or subcontractors) that are used for DBE goal credit.

| The report shall be submitted to the Engineer on Department form "SBE 723" within ten business days following the reporting period. The reporting period shall be Monday through Sunday for each week reportable trucking activities occur.

Any costs associated with providing weekly DBE trucking reports shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

80302

WEEP HOLE DRAINS FOR ABUTMENTS, WINGWALLS, RETAINING WALLS AND CULVERTS

Effective: April 19, 2012

Revised: October 22, 2013

Delete the last paragraphs of Articles 205.05 and 502.10 and replace with the following.

“If a geocomposite wall drain according to Section 591 is not specified, a prefabricated geocomposite strip drain according to Section 1040.07 shall be placed at the back of each drain hole. The strip drain shall be 24 inches (600 mm) wide and 48 inches (1.220 m) tall. The strip drain shall be centered over the drain hole with the bottom located 12 inches (300 mm) below the bottom of the drain hole. All form boards or other obstructions shall be removed from the drain holes before placing any geocomposite strip drain.”

Revise the last sentence of the first paragraph of Article 503.11 to read as follows.

“Drain holes shall be covered to prevent the leakage of backfill material according to Article 502.10.”

Revise the title of Article 1040.07 to Geocomposite Wall Drains and Strip Drains.

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor

performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection

for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#).

The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each

classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a

separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice

performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one

and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of

Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of

Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

Contract Provision - Cargo Preference Requirements

In accordance with Title 46 CFR § 381.7 (b), the contractor agrees—

“(1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

(2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b) (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.”

Provisions (1) and (2) apply to materials or equipment that are acquired solely for the project. The two provisions do not apply to goods or materials that come into inventories independent of the project, such as shipments of Portland cement, asphalt cement, or aggregates, when industry suppliers and contractors use these materials to replenish existing inventories.

**MINIMUM WAGES FOR FEDERAL AND FEDERALLY
ASSISTED CONSTRUCTION CONTRACTS**

This project is funded, in part, with Federal-aid funds and, as such, is subject to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Sta. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in a 29 CFR Part 1, Appendix A, as well as such additional statutes as may from time to time be enacted containing provisions for the payment of wages determined to be prevailing by the Secretary of Labor in accordance with the Davis-Bacon Act and pursuant to the provisions of 29 CFR Part 1. The prevailing rates and fringe benefits shown in the General Wage Determination Decisions issued by the U.S. Department of Labor shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

General Wage Determination Decisions, modifications and supersedes decisions thereto are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision, together with any modifications issued, must be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable DBRA Federal prevailing wage law and 29 CFR Part 5. The wage rates and fringe benefits contained in the General Wage Determination Decision shall be the minimum paid by contractors and subcontractors to laborers and mechanics.