THE VILLAGE OF TINLEY PARK
Cook County, Illinois
Will County, Illinois

RESOLUTION
NO. 2018-R-074

A RESOLUTION APPROVING A CONTRACT WITH P.T. FERRO CONSTRUCTION COMPANY FOR THE 183RD STREET AND OAK PARK AVENUE SIDEWALK/MULTI-USE PATH IMPROVEMENTS

JACOB C. VANDENBERG, PRESIDENT
KRISTIN A. THIRION, VILLAGE CLERK

MICHAEL J. PANNITTO
BRIAN H. YOUNKER
CYNTHIA A. BERG
WILLIAM P. BRADY
MICHAEL W. GLOTZ
MICHAEL J. MANGIN
Board of Trustees

Published in pamphlet form by authority of the President and Board of Trustees of the Village of Tinley Park

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WHEREAS, the Village of Tinley Park, Cook and Will Counties, Illinois, is a Home Rule Unit pursuant to the Illinois Constitution of 1970; and

WHEREAS, the Corporate Authorities of the Village of Tinley Park, Cook and Will Counties, Illinois, have considered entering into an Agreement with P.T. Ferro Construction Company, a true and correct copy of such Agreement being attached hereto and made a part hereof as **EXHIBIT 1**; and

WHEREAS, the Corporate Authorities of the Village of Tinley Park, Cook and Will Counties, Illinois, have determined that it is in the best interests of said Village of Tinley Park that said Agreement be entered into by the Village of Tinley Park;

NOW, THEREFORE, Be It Resolved by the President and Board of Trustees of the Village of Tinley Park, Cook and Will Counties, Illinois, as follows:

Section 1: The Preambles hereto are hereby made a part of, and operative provisions of, this Resolution as fully as if completely repeated at length herein.

Section 2: That this President and Board of Trustees of the Village of Tinley Park hereby find that it is in the best interests of the Village of Tinley Park and its residents that the aforesaid "Agreement" be entered into and executed by said Village of Tinley Park, with said Agreement to be substantially in the form attached hereto and made a part hereof as **EXHIBIT 1**, subject to review and revision as to form by the Village Attorney.

Section 3: That the President and Clerk of the Village of Tinley Park, Cook and Will Counties, Illinois are hereby authorized to execute for and on behalf of said Village of Tinley Park the aforesaid Agreement.

Section 4: That this Resolution shall take effect from and after its adoption and approval.

ADOPTED this 18th day of September, 2018, by the Corporate Authorities of the Village of Tinley Park on a roll call vote as follows:

AYES: Younker,Pannitto,Berg,Brady,Glotz,Curran

NAYS: None

ABSENT: None

APPROVED this 18th day of September, 2018, by the President of the Village of Tinley Park.

Village President

ATTEST:

Village Clerk

STATE OF ILLINOIS)
COUNTY OF COOK) SS
COUNTY OF WILL)

CERTIFICATE

I, KRISTIN A. THIRION, Village Clerk of the Village of Tinley Park, Counties of Cook and Will and State of Illinois, DO HEREBY CERTIFY that the foregoing is a true and correct copy of Resolution No. 2018-R-074, "A RESOLUTION APPROVING A CONTRACT WITH P.T. FERRO CONSTRUCTION COMPANY FOR THE 183RD STREET AND OAK PARK AVENUE SIDEWALK/MULTI-USE PATH IMPROVEMENTS," which was adopted by the President and Board of Trustees of the Village of Tinley Park on September 18, 2018.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal of the Village of Tinley Park this _____ day of _____ 2018.

KRISTIN A. THIRION, VILLAGE CLERK

EXHIBIT 1

P.T. FERRO CONSTRUCTION COMPANY

AGREEMENT

VILLAGE OF TINLEY PARK

183rd Street and Oak Park Avenue Multi-Use Path

REL Project 18-R0455.03

VILLAGE OF TINLEY PARK
COOK & WILL COUNTIES, ILLINOIS
NOTICE TO CONTRACTORS

The Village of Tinley Park will receive sealed proposals for the following improvements at the Clerk's office, 16250 South Oak Park Avenue, Tinley Park, Illinois 60477, until 10:00 AM on Thursday September 13, 2018.

183RD STREET AND OAK PARK AVENUE MULTI-USE PATH
CONVENTION CENTER DRIVE TO S. POINTE DRIVE

Proposals will be publicly read aloud after 10:00 AM Thursday September 13, 2018. No bid shall be withdrawn after the opening of the proposals without the consent of the President and Board of Trustees for a period of ninety days after the scheduled time of closing bids.

All proposals shall be sealed in an envelope, addressed to the Village of Tinley Park, attention Clerk's office. The name and address of the bidder and the name of the project shall also appear on the outside of the envelope. Proposals must be submitted on the forms provided by the Engineer.

The Bid Documents, including specifications, are on file at the office of the Engineer, Robinson Engineering, Ltd., 17000 South Park Avenue South Holland, Illinois 60473, (phone 708-331-6700), and may be obtained from the Engineer's office upon payment of Fifty Dollars ($50.00) for each paper copy and/or Ten Dollars ($10.00) per CD format. The bid documents will be issued until 4:30 PM on the last business day preceding the bid. No refund will be made for documents received from the Engineer.

A certified check/bank draft drawn on a solvent bank or a bid bond, payable without condition to the Village of Tinley Park in an amount not less than ten percent (10%) of the bid shall be submitted with each proposal, as a guarantee that, if the proposal is accepted, a contract will be entered into and the performance of the contract is properly secured.

A performance bond in a sum equal to one hundred percent (100%) of the amount of the bid, with sureties to be approved by the President and Board of Trustees for the faithful performance of the contract must be furnished by the successful bidder. All bids or proposals shall contain an offer to furnish bond upon acceptance of such bid or proposal.

The right is reserved to reject any or all proposals, to waive technicalities, to postpone the bid opening, or to advertise for new proposals, if in the judgment of the President and Board of Trustees their best interests will be promoted thereby.

The contractor will be required to pay not less than the prevailing wage rates on this project as established by the United States Department of Labor. He shall also comply with all applicable Federal, State and local regulations.

The Village of Tinley Park Local Vendor Purchasing Policy provides local vendors with preferential treatment when competing for contracts with the Village. A local vendor is defined as a business that has an actual business location within the Village of Tinley Park and is licensed by the Village. As such, when considering contracts, the Village of Tinley Park reserves the right to forego the lowest and responsible bid in favor of a local vendor under the following circumstances:

Contract Value	Range (up to a maximum of)
$0-$250,000	5%
$250,000-$500,000	4%
$500,000-$750,000	3%
$750,000-$1,000,000	2%
$1,000,000-$2,000,000	1%

Responsible bidders are determined pursuant to the criteria set forth pursuant to the criteria set forth in the Village's Responsible Bidder Ordinance No. 2009-O-002.

Bidder qualifications and experience will also be included in the basis for determining the lowest responsible bidder. Prequalifications will be required to be submitted to the engineer by all potential bidders. If in the opinion of the engineer and the President and Board of Trustees, an applicant would not be able to serve the best interest of the Village, a proposal will not be issued to the applicant.

President and Board of Trustees
Village of Tinley Park

Cook & Will Counties, Illinois

PROPOSAL and CONTRACT

#1 ov

PROPOSAL

TO THE OWNER, Village of Tinley Park

1. Proposal of P.T. Ferro Construction Co.
(name and address of bidder)
700 S. Rowell Ave. Joliet, IL 60434
estimating@ptferro.com
(email address of bidder)

for the improvement described in the NOTICE TO CONTRACTORS.

2. In submitting this proposal, the undersigned declares that the only persons or parties interested in the proposal as principals are those named herein; and that proposal is made without collusion with any other person, firm or corporation.

3. The undersigned further declares that he has carefully examined the proposal, plans, specifications, form of contract and contract bond, and special provisions (if any), and that he has inspected in detail the site of the proposed work, and that he has familiarized himself with all of the local conditions affecting the contract and the detailed requirements of construction, and understands that in making this proposal he waives all right to plead any misunderstanding regarding the same.

4. The undersigned further understands and agrees that if this proposal is accepted, he is to furnish and provide all necessary machinery, tools, apparatus and other means of construction, and to do all of the work, and to furnish all of the materials specified in the contract, except such materials as are to be furnished by the Owner, in the manner and at the time therein prescribed, and in accordance with the requirements therein set forth, and is fully responsible for the construction means, methods, techniques, sequences and safety procedures and programs incident thereto.

5. The undersigned declares that he understands that the quantities mentioned are approximate only and that they are subject to increase or decrease; that he will take in full payment therefore the amount and the summation of the actual quantities, as finally determined, multiplied by the unit prices shown in the schedule of prices contained herein.

6. The undersigned further agrees that the unit prices submitted herewith are for the purpose of obtaining a gross sum, and for use in computing the value of extras and deductions; if there is a discrepancy between the gross sum bid and that resulting from the summation of the quantities multiplied by their respective unit prices, the latter shall apply.

7. The undersigned further agrees that if the Owner decides to extend or shorten the improvement, or otherwise alter it by extras or deductions, including the elimination of any one or more of the items, as provided in the specifications, he will perform the work as altered, increased or decreased at the contract unit prices.

8. The undersigned further agrees that the Owner may at any time during the progress of work covered by this contract order other work or materials incidental thereto and that all such work and materials as do not appear in the proposal or contract as a specific item accompanied by a unit price, and which are not included under the bid price for other items in this contract, shall be performed as extra work, and that he will accept as full compensation therefore the actual cost plus fifteen per cent (15%), the actual cost to be determined as provided in the specifications.

9. The undersigned further agrees to execute a contract for this work and present the same to the Owner within fifteen (15) days after the date of notice of the award of the contract to him.

10. The undersigned further agrees that he and his surety will execute and present within fifteen (15) days after the date of notice of the award of contract, a contract bond satisfactory to and in the form prescribed by the Owner, in the penal sum of the full amount of the contract, guaranteeing the faithful performance of the work in accordance with the terms of the contract.

11. The undersigned further agrees to begin work not later than ten (10) days after the execution and approval of the contract and contract bond, unless otherwise provided, and to prosecute the work in such manner and with sufficient materials, equipment, labor and safety precautions as will insure its completion within the time limit specified herein, it being understood and agreed that the completion within the time limit is an essential part of the contract. The undersigned agrees to complete the work within Per Contract calendar days after the date of the execution of the contract by both parties, or by Per Contract if this is a completion day contract, unless additional time shall be granted by the Engineer in accordance with the provisions of the specifications. In case of failure to complete the work within the time names herein or within such extra time as may have been allowed by extensions, the undersigned agrees that the Owner shall withhold from such sums as may be due him under the terms of this contract, the costs set forth in the specifications, which cost shall be considered and treated not as a penalty, but as damages due the Owner form the undersigned by reason of inconvenience to the public, added cost of engineering and construction observation, maintenance of detours, and other items which have caused an expenditure of public funds resulting from the failure of the undersigned to complete the work within the time specified in the contract.

12. Accompanying this proposal is a bank draft, bank cashier's check, certified check or bid bond, complying with the requirements of the specifications, made payable to: VILLAGE OF TINLEY PARK

The amount of the bond, check or draft is 10% Bid Bond

($).

If the proposal and the undersigned shall fail to execute a contract and contract bond as required herein, it is hereby agreed that the amount of the check or draft substituted in lieu thereof, shall become the property of the Owner, and shall be considered as payment of damages due to delay and other causes suffered by the Owner because of the failure to execute said contract and contract bond; otherwise said check or draft substituted in lieu thereof shall be returned to the undersigned.

ATTACH BANK DRAFT, BID BOND, BANK CASHIER'S CHECK OR CERTIFIED CHECK HERE

In the event that one check, bond, or draft is intended to cover two or more proposals, the amount must be equal to the sum of the proposal guarantees of the individual sections covered.

13. The undersigned submits herewith his schedule of prices covering the work to be performed under this contract; he understands that he must show in the schedule the unit prices for which he proposes to perform each item of work; that the extensions must be made by him; and that if not so done, his proposal may be rejected as irregular.

14. The undersigned firm certifies that it is not barred from bidding on this contract as a result of a conviction for the violation of State laws prohibiting bid-rigging or bid-rotating.

PT Ferro #1

Document A310™ – 2010

Conforms with The American Institute of Architects AIA Document 310

Bid Bond

CONTRACTOR:
(Name, legal status and address)

P.T. Ferro Construction Co.
700 South Rowell Avenue
Joliet, IL 60434

SURETY:
(Name, legal status and principal place of business)
Continental Casualty Company
801 Warrenville Road
Lisle, IL 60532
Mailing Address for Notices
1411 Opus Place, Suite 450
Downers Grove, IL 60515

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

OWNER:
(Name, legal status and address)
Village of Tinley Park
16250 South Oak Park Avenue
Tinley Park, IL 60477

BOND AMOUNT: $ 10% Ten Percent of Amount Bid

PROJECT:
(Name, location or address, and Project number, if any)
183rd STREET AND OAK PARK AVENUE MULTI-USE PATH CONVENTION CENTER DRIVE TO S. POINTE DRIVE

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this 13th day of September, 2018

Wm. David Berkley
(Witness) Wm. David Berkley

P.T. Ferro Construction Co.
(Principal) *(Seal)*
By:
(Title) Matthew D Marketti President

Jasmine Baez
(Witness) Jasmine Baez

Continental Casualty Company
(Surety) *(Seal)*
By:
(Title) Kelly A. Gardner Attorney-in-Fact

P.T. FERRO CONSTRUCTION CO Corporate SEAL ILLINOIS

CONTINENTAL CASUALTY COMPANY CORPORATE SEAL 1897

S-0054/AS 8/10

State of IL

County of DuPage

SURETY ACKNOWLEDGEMENT (ATTORNEY-IN-FACT)

I, Jasmine Baez Notary Public of DuPage County, in the State of IL ,

do hereby certify that Kelly A. Gardner Attorney-in-Fact, of the Continental Casualty Company who is personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person, and acknowledged that she signed, sealed and delivered said instrument, for and on behalf of the Continental Casualty Company for the uses and purposes therein set forth.

Given under my hand and notarial seal at my office in the City of Downers Grove in said County, this 13th day of September , 2018 .

Jasmine Baez

Notary Public Jasmine Baez

My Commission expires: January 22, 2022

JASMINE BAEZ
OFFICIAL SEAL
Notary Public, State of Illinois
My Commission Expires
January 22, 2022

CONTRACTOR'S STATEMENT

1. Do you have sufficient knowledge of Drawings and Specifications of the work covered by this Contract to warrant submitting a Proposal for this work? Yes

2. (a) Have you done work of this nature? Yes

   (b) To what extent? (Dollar value) $25,000,000.00

   (c)For whom? IDOT, WCDOT, City of Joliet, City of Lockport, Village of Tinley Park, Village of Frankfort, Village of Mokena

3. Do you have sufficient equipment to perform this work? Yes

   If so, list major items: Excavators, Pavers, Graders, Asphalt Plant

4. Give Bank reference: First Midwest Bank

   Address:

5. List names and addresses of major suppliers:

   Ferro Asphalt Corp.

   LaFarge, N.A.

6. Have you ever had, or do you now have, funds withheld for non-completion of work to the satisfaction of any municipality? No

   (a) If so where?

   (b) For what reason?

7. Have you ever been disqualified by a Governmental Agency for failure to satisfactorily complete a public improvement? No

CONTRACTOR'S STATEMENT (cont.)

8. Have you ever been cited for failing to withhold or report payroll deductions for Federal Income Tax? No

9. Have you ever been cited by the Federal Government for any violation of the Copeland Act (Anti-kick-back Law)? No

10. If awarded contract, work will begin in 10 calendar days.

CERTIFICATE OF ELIGIBILITY TO BID

I, Matt Marketti (contractor), pursuant to section 33E-11 of the Illinois Criminal Code of 1961 as amended, hereby certifies that neither (he, she, it) nor any of (his, her, its) partners, officers, or owners of (his, her, its) business has been convicted in the past five (5) years of the offense of bid-rigging under section 33E-3 of the Illinois Criminal Code of 1961 as amended and that neither (he , she, it) nor any of (his, her, its) business has ever been convicted of the offense of bid-rotating under section 33E-4 of the Illinois Criminal Code of 1961 as amended.

Date: 9/13/2018

By: _____
(Name of Contractor)

President
(Title)

Robinson ENGINEERING

Municipal Expertise Community Commitment

REL # 18-R0455.03

SCHEDULE OF PRICES

Local Agency Village of Tinley Park

Location 183rd Street, Oak Park Avenue, and Convention Center Drive

Description 183rd Street and Oak Park Avenue Multi-Use Path and Convention Center Drive Sidewalk

The undersigned submits herewith his schedule of prices covering the work to be performed under this contract; he understands that he must show in the schedule the unit prices for which he proposes to perform each item of work; that the extensions must be made by him, and if not so done, his proposal may be rejected as irregular.

Schedule for Single Bid

(For complete information covering these items, see plans and specifications.)

Bidder's Proposal for making Entire Improvements	$360,247.07

Item No.	Items	Unit	Quantity	Unit Price	Total
1	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	28	$50.00	$1,400.00
2	TREE REMOVAL, ACRES	ACRE	0.1	$25,000.00	$2,500.00
3	TREE ROOT PRUNING	EACH	4	$85.00	$340.00
4	TREE PRUNING (1 TO 10 INCH DIAMETER)	EACH	4	$85.00	$340.00
5	EARTH EXCAVATION	CU YD	1,000	$45.00	$45,000.00
6	EROSION CONTROL BLANKET	SQ YD	400	$1.10	$440.00
7	PERIMETER EROSION BARRIER	FOOT	620	$2.50	$1,550.00
8	INLET FILTERS	EACH	12	$0.01	$0.12
9	AGGREGATE SUBGRADE IMPROVEMENT	CU YD	50	$55.00	$2,750.00
10	AGGREGATE BASE COURSE, TYPE B 4"	SQ YD	1,000	$9.00	$9,000.00
11	AGGREGATE BASE COURSE, TYPE B 6"	SQ YD	2,510	$11.00	$27,610.00
12	BITUMINOUS MATERIALS (PRIME COAT)	POUND	5,645	$0.01	$56.45
13	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50	TON	425	$95.00	$40,375.00
14	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SQ FT	9,000	$7.00	$63,000.00
15	DETECTABLE WARNINGS	SQ FT	398	$20.00	$7,960.00
16	DRIVEWAY PAVEMENT REMOVAL	SQ YD	82	$20.00	$1,640.00
17	COMBINATION CURB AND GUTTER REMOVAL	FOOT	300	$20.00	$6,000.00
18	SIDEWALK REMOVAL	SQ FT	345	$4.50	$1,552.50
19	STORM SEWER REMOVAL 12"	FOOT	12	$20.00	$240.00
20	CATCH BASINS, TYPE C, TYPE 8 GRATE	EACH	2	$1,450.00	$2,900.00
21	CATCH BASINS TO BE ADJUSTED	EACH	5	$350.00	$1,750.00
22	MANHOLES TO BE ADJUSTED	EACH	10	$350.00	$3,500.00
23	VALVE VAULTS TO BE ADJUSTED	EACH	2	$350.00	$700.00

Item No.	Items	Unit	Quantity	Unit Price	Total
24	VALVE BOXES TO BE ADJUSTED	EACH	1	$225.00	$225.00
25	REMOVING CATCH BASINS	EACH	2	$225.00	$450.00
26	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	FOOT	190	$55.00	$10,450.00
27	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	FOOT	110	$70.00	$7,700.00
28	RELOCATE SIGN PANEL ASSEMBLY - TYPE A	EACH	3	$200.00	$600.00
29	METAL POST - TYPE B	FOOT	80	$10.00	$800.00
30	MODIFIED URETHANE PAVEMENT MARKING - LINE 6"	FOOT	160	$1.48	$236.80
31	MODIFIED URETHANE PAVEMENT MARKING - LINE 12"	FOOT	1,545	$2.96	$4,573.20
32	MODIFIED URETHANE PAVEMENT MARKING - LINE 24"	FOOT	130	$5.95	$773.50
33	PAVEMENT MARKING REMOVAL	SQ FT	60	$5.00	$300.00
34	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	50	$30.00	$1,500.00
35	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	120	$45.00	$5,400.00
36	HANDHOLE	EACH	1	$2,500.00	$2,500.00
37	UNIT DUCT, 600V, 3-1C NO.6, 1/C NO.6 GROUND, (XLP-TYPE USE), 1 1/4" DIA. POLYETHYLENE	FOOT	150	$20.00	$3,000.00
38	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 3-1/C NO. 6	FOOT	50	$5.00	$250.00
39	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1	$150.00	$150.00
40	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	488	$2.00	$976.00
41	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	502	$2.25	$1,129.50
42	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	20	$3.00	$60.00
43	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 1	EACH	1	$1,500.00	$1,500.00
44	DRILL EXISTING HANDHOLE	EACH	2	$750.00	$1,500.00
45	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	2	$650.00	$1,300.00
46	PEDESTRIAN PUSH-BUTTON	EACH	2	$500.00	$1,000.00
47	MODIFY EXISTING CONTROLLER CABINET	EACH	1	$2,500.00	$2,500.00
48	RELOCATE EXISTING LIGHTING CONTROLLER	EACH	1	$7,500.00	$7,500.00
49	CATCH BASINS TO BE RECONSTRUCTED (SPECIAL)	EACH	1	$800.00	$800.00
50	EXPLORATORY EXCAVATION	EACH	2	$250.00	$500.00
51	WATER MAIN SERVICE ADJUSTMENT	EACH	1	$500.00	$500.00
52	SANITARY SEWER SERVICE ADJUSTMENT	EACH	1	$1,500.00	$1,500.00
53	TOPSOIL FURNISH AND PLACE, 4" (SPECIAL)	SQ YD	3,500	$3.65	$12,775.00
54	SODDING, SPECIAL	SQ YD	3,100	$9.00	$27,900.00
55	SEEDING (COMPLETE)	SQ YD	400	$4.00	$1,600.00
56	MULCH	SQ YD	100	$6.00	$600.00

Item No.	Items	Unit	Quantity	Unit Price	Total
57	TREE, ACER SACCHARUM (SUGAR MAPLE), 2-1/2" CALIPER, BALLED AND BURLAPPED	EACH	2	$445.00	$890.00
58	TREE, GYMNOCLADUS DIOICUS (KENTUCKY COFFEETREE), 2-1/2" CALIPER, BALLED AND BURLAPPED	EACH	2	$460.00	$920.00
59	TREE, LIRIODENDRON TULIPIFERA (TULIP TREE), 2-1/2" CALIPER, BALLED AND BURLAPPED	EACH	2	$472.00	$944.00
60	TREE, QUERCUS BICOLOR (SWAMP WHITE OAK), 2-1/2" CALIPER, BALLED AND BURLAPPED	EACH	2	$490.00	$980.00
61	TREE, TILIA AMERICANA (AMERICAN LINDEN/ BASSWOOD), 2-1/2" CALIPER, BALLED AND BURLAPPED	EACH	2	$490.00	$980.00
62	SHRUB, EUONYMUS ALATUS TIMBER CREEK (CHICAGO FIRE BURNING BUSH), 3' HEIGHT, BALLED AND BURLAPPED	EACH	20	$119.00	$2,380.00
63	CONTINGENCY	L SUM	1	$30,000.00	$30,000.00

SIGNATURES

(If an individual)

Signature of Bidder .....

Business Address .....

(If a co-partnership)

Firm Name ..... (SEAL)

Signed by ..... (SEAL)

Business Address .....

Insert Names and Addresses of All Members of the Firm .....

.....

.....

(If a corporation)

Corporate Name P.T. Ferro Construction Co.

Signed By .....
President

Business Address 700 S. Rowell Ave. Joliet, IL 60434

(Corporate Seal)

P.T. FERRO CONSTRUCTION CO Corporate SEAL ILLINOIS

Insert Names of Officers

President Matt Marketti

Secretary Wm. David Berkley

Treasurer Diane Abernathy

Attest: .....
Secretary

Phone Number 815-726-6284

BIDDER'S CERTIFICATE

The undersigned, having executed the attached bid for the construction of:

183rd Street & Oak Park Ave Multi Use Path

Name of Project

for the Village/City/Town of Tinley Park, County of Cook, State of Illinois hereby certifies that he has read all of the Contract Documents, including the Notice to Bidders, Instructions to Bidders, Proposal Forms, General conditions of the contract, Detail Specifications, Forms of contract, Form of Performance Bond and Form of Maintenance Bond, and that he has examined the plans and that his proposal for the work is based on the conditions and requirements therein; and should the contract be awarded to him, he agrees to execute the work in strict accordance therewith, including compliance with the Insurance Requirements of the General Conditions.

Name of Bidder

By: _____
Company Name

Date: 9/13/2018

CONTRACT

1. THIS AGREEMENT, made and concluded this 18 day of September, 2017, between the Village of Tinley Park (city/village/town of), acting by and through its Mayor & Board of Trustees (President-Board of Trustees/Mayor-City Council) known as the party of the first part, and P.T. Ferro Construction Company (Contractor), his/their executors, administrators, successors or assigns, known as the party of the second part.

2. WITNESSETH: That for and in consideration of the payment and agreements mentioned in the Proposal hereto attached, to be made and performed by the party of the first part, and according to the terms expressed in the Bond referring to these presents, the party of the second part agrees with said party of the first part at his/their own proper cost and expense to do all the work, furnish all materials and all labor necessary to complete the work in accordance with the plans and specifications hereinafter described, and in full compliance with all of the plans of this agreement and the requirements of the Engineer under it.

3. And it is also understood and agreed that the Notice to Contractors, proposals, contract bond, General Requirements and Covenants (Division I), Technical Specifications (Division II), Special Provisions (Division III) and Standard drawings (Division IV), in addition to any specific plans and specifications upon which the contractor's proposal is based, are all incorporated by reference into this contract and are therefore made a part hereof.

4. IN WITNESS WHEREOF, the said parties have executed these presents on the date above mentioned.

FOR THE VILLAGE OF TINLEY PARK, IL
(Party of the First Part)

By: _____

Title: Jacob C. Vandenberg, Mayor

Attest: _____

Title: Kristin A. Thirion, Clerk

Village of Tinley Park Seal
MUNICIPAL SEAL
1892
Cook & Will Counties, IL

Executed by Municipality

FOR THE CONTRACTOR
(Party of the Second Part)

P.T. Ferro Construction Company

By: _____

Title: PRESIDENT

Attest: _____

Title: SECRETARY

P.T. FERRO CONSTRUCTION CO Corporate SEAL ILLINOIS
CORPORATE SEAL

Executed by Contractor

Bond #30053896
Issued in Triplicate

CONTRACT BOND

KNOWN ALL MEN BY THESE PRESENTS, that we, P.T. Ferro Construction Co., a corporation organized under the laws of the State of IL, and licensed to do business in the State of Illinois, as principal, and Continental Casualty Company, a corporation organized and existing under the laws of the State of IL, with authority to do business in the State of Illinois, as Surety, are held and firmly bound unto the Village of Tinley Park, State of Illinois, in the penal sum of Three Hundred sixty Thousand Two Hundred Forty-Seven & 07/100 --- Dollars ($360,247.07), lawful money of the United States, well and truly to be paid unto said Village of Tinley Park, for the payment of which we bind ourselves, our successors and assigns, jointly, severally, and firmly by these presents.

Executed by Contractor

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH that whereas, the said Principal has entered into a written contract with an Owner which is the Village of Tinley Park and acts through its Mayor & Board of Trustees or the construction of the work designated REL#18-R0455.03-183rd Street and Oak Park Avenue Multi-Use Path, which contract hereby is referred to and made a part hereof, as if written herein in length, and whereby the said Principal has promised and agreed to perform said work in accordance with the terms of said Contract, and has promised to pay all sums of money due for any labor, materials, apparatus, fixtures or machinery furnished to such Principal for the purpose of performing such work and has further agreed to pay all direct and indirect damages to any person, firm, company, or corporation suffered or sustained on account of the performance of such work, for any reason whatsoever, during the time thereof and until such work is completed and accepted; and has further agreed that this bond shall inure to the benefit of any person, firm, company or corporation, to whom any money may be due from the Principal, subcontractor or otherwise, for any such labor, materials, apparatus, fixtures or machinery so furnished, and that suit may be maintained on such bond by any such person, firm, company or corporation, for the recovery of any such money.

NOW, THEREFORE, if the said Principal shall well and truly perform said work in accordance with the terms of said contract, and shall pay all sums of money due or to become due for any labor, materials, apparatus, fixtures or machinery furnished to him for the purpose of constructing such work, and shall commence and complete the work within the time prescribed in said contract, and shall pay and discharge all damages, direct and indirect, that may be suffered or sustained on account of

such work, for any reason whatsoever, during the time of the performance thereof and until the said work shall have been accepted, and shall hold the aforesaid Owner and its or his agents harmless on account of any such damages, and shall in all respects fully and faithfully comply with all the provisions, conditions and requirements of said contract, then this obligation to be void, otherwise to remain in full force and effect.

IN WITNESS WHEREOF, we have duly executed the foregoing obligation this 27th day of September A.D. 20 18

Executed by Contractor

Contractor's corporate name: P.T. Ferro Construction Co.

By: _____
President Matthew D. Marketti

Attest: _____

Attestor's Title: SECRETARY

CORPORATE SEAL

P.T. FERRO CONSTRUCTION CO Corporate SEAL ILLINOIS

Executed by Surety for Contractor

Surety's corporate name: Continental Casualty Company

CORPORATE SEAL

By: _____
Attorney-in-fact Kelly A. Gardner

By: _____
Attorney-in-fact

APPROVED THIS 18 DAY OF September A.D. 20 18

Executed by Municipality

VILLAGE OF TINLEY PARK, IL

By: _____

Title: Jacob C. Vandenberg, Mayor

Village of Tinley Park Seal MUNICIPAL SEAL 1892 Cook & Will Counties, IL

ATTEST FOR VILLAGE OF TINLEY PARK, IL

By: _____

Title: Kristin A. Thirion, Clerk

STATE OF Illinois)
) SS
COUNTY OF Will)

I, ~~Wm. David Berkley~~ Julianne Schoeling (Notary) a Notary Public in and for said County in the State aforesaid, do hereby certify that Matthew D. Marketti (President) and Wm. David Berkley (Secretary), to me personally known to be president and secretary, respectively, of P.T. Ferro Construction Co. (Contractor), a corporation, and also known to me to be the persons whose names are subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that as such president and secretary respectively they signed, sealed and delivered the said instrument as the free and voluntary act of said Corporation, for the uses and purposes therein set forth, and that they were duly authorized to execute the same by the Board of Directors of said Corporation.

Executed by Contractor

GIVEN UNDER MY HAND AND NOTARIAL SEAL THIS 27th DAY OF September A.D. 20 18

SEAL

"OFFICIAL SEAL"
JULIANNE SCHOELING
Notary Public, State of Illinois
My Commission Expires 05/15/22

Notary Public

STATE OF Illinois)
) SS
COUNTY OF DuPage)

I, Jasmine Baez (Notary), a Notary Public in and for said County in the State aforesaid, do hereby certify that Kelly A. Gardner (Attorney-in-Fact) who is personally known to me to be the same person who signed the above and foregoing instrument as the Attorney in Fact for Continental Casualty Company (Surety) appeared before me this day in person and acknowledged that he signed the name of Kelly A. Gardner (Principal) thereto, as his Principal, and his own name as Attorney in Fact, as the free and voluntary act of his said Principal for the uses and purposes therein set forth, and that he executed the said instrument under authority given him by said Principal.

Executed by Surety

GIVEN UNDER MY HAND AND NOTARIAL SEAL THIS 27th DAY OF September A.D. 20 18

SEAL

JASMINE BAEZ
OFFICIAL SEAL
Notary Public, State of Illinois
My Commission Expires
January 22, 2022

Notary Public

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That Continental Casualty Company, an Illinois insurance company, National Fire Insurance Company of Hartford, an Illinois insurance company, and American Casualty Company of Reading, Pennsylvania, a Pennsylvania insurance company (herein called "the CNA Companies"), are duly organized and existing insurance companies having their principal offices in the City of Chicago, and State of Illinois, and that they do by virtue of the signatures and seals herein affixed hereby make, constitute and appoint

James I Moore, Kevin J Scanlon, R L Mc Wethy, Stephen T Kazmer, Dawn L Morgan, Kelly A Gardner, Melissa Schmidt, Elaine Marcus, Jennifer J Mc Comb, Tariese M Pisciotto, Amy Wickett, Diane M Rubright, Individually

of Downers Grove, IL, their true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on their behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind them thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of their insurance companies and all the acts of said Attorney, pursuant to the authority hereby given is hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law and Resolutions, printed on the reverse hereof, duly adopted, as indicated, by the Boards of Directors of the insurance companies.

In Witness Whereof, the CNA Companies have caused these presents to be signed by their Vice President and their corporate seals to be hereto affixed on this 26th day of June, 2018.

Continental Casualty Company
National Fire Insurance Company of Hartford
American Casualty Company of Reading, Pennsylvania

Paul T. Bruflat — Vice President

State of South Dakota, County of Minnehaha, ss:

On this 26th day of June, 2018, before me personally came Paul T. Bruflat to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is a Vice President of Continental Casualty Company, an Illinois insurance company, National Fire Insurance Company of Hartford, an Illinois insurance company, and American Casualty Company of Reading, Pennsylvania, a Pennsylvania insurance company described in and which executed the above instrument; that he knows the seals of said insurance companies; that the seals affixed to the said instrument are such corporate seals; that they were so affixed pursuant to authority given by the Boards of Directors of said insurance companies and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said insurance companies.

J. MOHR
NOTARY PUBLIC SOUTH DAKOTA

My Commission Expires June 23, 2021

J. Mohr — Notary Public

CERTIFICATE

I, D. Johnson, Assistant Secretary of Continental Casualty Company, an Illinois insurance company, National Fire Insurance Company of Hartford, an Illinois insurance company, and American Casualty Company of Reading, Pennsylvania, a Pennsylvania insurance company do hereby certify that the Power of Attorney herein above set forth is still in force, and further certify that the By-Law and Resolution of the Board of Directors of the insurance companies printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said insurance companies this 27th day of September, 2018.

Continental Casualty Company
National Fire Insurance Company of Hartford
American Casualty Company of Reading, Pennsylvania

D. Johnson — Assistant Secretary

Form F6853-4/2012

Go to www.cnasurety.com > Owner / Obligee Services > Validate Bond Coverage, if you want to verify bond authenticity.

DIVISION I

GENERAL REQUIREMENTS AND COVENANTS

SECTION 1. DEFINITION OF TERMS

1-1 DESCRIPTION

When a standard specification number is used in the Specifications it shall be taken to mean the latest revision of that Standard Specification at the time of the Bid.

Whenever in the specifications and Contract the following terms, or pronouns in place of them, are used, the intent and meaning shall be interpreted as follows:

1-2 ABBREVIATIONS

The following organizations are referred to in this specification by abbreviations of the titles. Additional information noted but not detailed can be obtained from these organizations by writing to them.

ASTM	American Society for Testing and Materials 1916 Race Street Philadelphia, Pennsylvania 19103
ASSHTO	The American Association of State Highway and Transportation Officials 917 National Press Building Washington, D.C. 20004
AWWA	American Water Works Association 6666 West Quincy Avenue Denver, Colorado 80235
NSF	National Sanitation Test Laboratory Foundation Box 1478 Ann Arbor, Michigan
ANSI	American National Standards Institute 1430 Broadway New York, New York 10018
IDOT	Illinois Department of Transportation 2300 South Dirksen Parkway Springfield, Illinois 62764
FHWA	Federal Highway Administration DOT Building, 400 Seventh St., S.W. Washington, D.C. 20590
OSHA	Occupational Safety and Health Act
MWRDGC	The Metropolitan Water Reclamation District of Greater Chicago 100 East Erie Street Chicago, Illinois 60611

REL	Robinson Engineering, Ltd
ISO	Insurance Services Office

1-3 ADDENDA

Written or graphic instruments issued prior to the execution of the Agreement, which modify or interpret the Contract Documents, Drawings, and Specifications by additions, deletions, clarifications or corrections.

1-4 AWARD

The decision of the Owner to accept the proposal of the lowest responsive, responsible bidder for the work, subject to the execution of and approval of a satisfactory Contract therefore, and bond to secure the performance thereof, and to such other conditions as may be specified or otherwise required by law.

1-5 BASE COURSE

The layer or layers of specified or selected material of designed thickness placed on a sub-base or a subgrade to support the surface course.

1-6 BITUMINOUS PAVEMENT

A pavement structure which maintains intimate contact and distributes loads to the subgrade and depends upon aggregate interlock particle friction and cohesion for stability, and a pavement structure which includes a bituminous concrete surface course over a bituminous concrete base course or a portland cement concrete base course.

1-7 BIDDER

Any individual, firm, partnership or corporation submitting a proposal for the Work contemplated, acting directly or through a duly authorized representative.

1-8 CONTRACT

The written agreement between the Owner and the Contractor setting forth the obligations of the parties thereunder, including, but not limited to, the performance of the Work (the furnishing of labor and materials, and the basis of payment).

The Contract includes such of the following document parts as may be utilized. These document parts so utilized will be as fully part of the Contract as if therein set out verbatim, or, if not attached, as if attached thereto. The controlling order of priority for these documents on the project is as follows (e.g., A is controlling over B-N, etc.):

A. Supplemental Agreements (Change Order)
B. Addenda
C. Special Conditions of Contract
D. General Conditions of Contract
E. Special Provisions to the Specifications
F. Detailed Specifications
G. Complete Project Plans or Drawings
H. General Specifications
I. Contract
J. Contractor's Contract Bond
K. Contractor's Proposal
L. Notice to Proceed
M. Notice of Award
N. Notice to Bidders

1-9 CONTRACTOR

The Bidder awarded the Contract for the Work.

1-10 CONTRACT BOND

The approved form of security furnished by the Contractor and his surety as a guaranty that he will execute the Work in accordance with the terms of the Contract.

1-11 CORPORATION

With respect to the execution and performance of the Contract, a corporate body authorized or licensed to do business in the State of Illinois for projects in Illinois and in the State of Indiana for projects in Indiana.

1-12 CULVERT

A drainage structure extending across and beneath a traveled way and having a tubular or box-type cross-section open on both ends.

1-13 ENGINEER

ROBINSON ENGINEERING, LTD. or an engineer of a municipality, including such assistants as are authorized to represent them, who represents the Owner during the construction phase activities of the Work.

1-14 FORCE MAIN

A pipe constructed or used to carry sewage under pressure.

1-15 ENGINEERING OBSERVER

The authorized representative of the Owner or of the Engineer assigned to observe the progress of the Work to determine only if the Work is proceeding in accordance with the technical plans and specifications.

1-16 LABORATORY

An established testing laboratory approved by the Engineer.

1-17 MANHOLE

A vertical enclosed structure providing access to a pipe line or other structure.

1-18 NOTICE TO BIDDERS

The official notice, included in the proposal form, inviting bids for the proposed improvement, including a brief description of the Work.

1-19 OWNER

The Village, City, Town, Sanitary District, or other governmental body, corporation, partnership or individual initiating the project, acting through its legally constituted officials, officers or employees. The Department as referenced in the State Specifications.

1-20 PAVEMENT STRUCTURE

The combination of sub-base, base course and surface course placed on a sub-grade to support the traffic load and distribute it to the roadbed.

1-21 PLANS

All official drawings or reproductions of drawings pertaining to the Work provided for in the contract.

1-22 PLUMBING

Plumbing shall be as defined in the latest adopted Illinois State Plumbing Code, copies of which are available from the Illinois Department of Public Health, Division of Engineering and Sanitation, 535 West Jefferson Street, Springfield, Illinois 62706.

1-23 PROPOSAL (BID)

The written offer of the Bidder to perform the proposed Work.

1-24 PROPOSAL GUARANTY

The security designated in the proposal to be furnished by the Bidder as a guaranty that said Bidder will enter into a Contract with the Owner for the acceptable performance of the Work and will furnish the required Contract Bond, if the Work is awarded to him.

1-25 RAILROAD

The Railroad or Railway Company whose property is involved in the Work.

1-26 RIGHT-OF-WAY AND EASEMENTS

The areas owned, or acquired by permanent easement; also, the areas acquired by temporary easement during the time the easement is in effect.

1-27 SEWER, COMBINED

Any sewer constructed or used for the purpose of carrying both storm water and waterborne wastes to a treatment facility.

1-28 SEWER, SANITARY

Any sewer constructed or used for the purpose of carrying waterborne wastes to a treatment facility.

1-29 SEWER, SERVICE

A branch sanitary sewer line constructed from the main sanitary sewer line to a point described in the Special Provisions or Plans or to a point established by the Engineer.

1-30 SEWER, STORM

A sewer constructed or used for carrying storm water or sub-surface water to a storm water outlet.

1-31 SPECIAL PROVISIONS

Specific directions, provisions, requirements and revisions of the Specifications peculiar to the Work under consideration which are not satisfactorily provided for in the Specifications. The Special Provisions set forth the final contractual intent as to the matter involved. The Special Provisions included in the Contract shall not operate to annul those portions of the Specifications with which they are not in conflict.

1-32 SPECIFICATIONS

The body of directions, provisions and requirements contained herein, or in any supplement to this document referred to in the Special Provisions, together with written agreements and all documents of any description made or to be made pertaining to the method or manner of performing the Work, the quantities or the quality of materials to be furnished under the contract.

1-33 STATE SPECIFICATIONS

IDOT, Standard Specifications for Road and Bridge Construction, latest edition at the time of Bid. This book outlines the general requirements and covenants to all improvements, as well as provisions relating to materials, equipment and construction requirements for individual items of work.

1-34 SUBCONTRACTOR

The individual, firm, partnership or corporation to whom the Contractor, with the written consent of the Engineer, sublets, assigns, or otherwise disposes of any part of the Work covered by the contract.

1-35 SUB-BASE

The layer or layers of specified or selected material of designed thickness placed on a sub-grade to support a base course.

1-36 SUB-GRADE

The top of surface of a roadbed upon which the pavement structure and shoulders are constructed.

1-37 SUPPLEMENTAL AGREEMENT

The written agreement executed by the Owner and the Contractor, with the assent of the Contractor's surety, covering modifications or alterations of the terms of the original Contract.

1-38 SUPPLIER

Any person or organization who supplies materials or equipment for the Work including that fabricated to a special design.

1-39 SURETY

The corporate body, individual or individuals which engage to be responsible for the Bidder's acts in the execution of the Contract in the event of its being awarded to him; or, which are bound with and for the Contractor to insure his acceptable performance of the Contract, his payment of all obligations pertaining to the Work, and his fulfillment of such other conditions as may be specified or otherwise required by law.

1-40 SURFACE COURSE

One or more layers of a pavement structure designed to accommodate the traffic load, the top layer of which resists skidding, traffic abrasion, and the disintegrating effects of climate. The top layer is sometimes called "wearing course".

1-41 WATER MAIN

A pipe constructed or used to carry potable water under pressure.

1-42 WATER SERVICE LINE

That line connected to the water main, which delivers potable water to the user's facilities.

1-43 THE WORK

The improvement advertised for bids, described in the Proposal form, indicated on the Plans and covered in the Specifications, Special Provisions, Contract, authorized alterations, extensions and deductions, and supplementary agreements, or any part or parts thereof.

SECTION 2. PROPOSAL REQUIREMENTS AND CONDITIONS

2-1 CONTENTS OF THE PROPOSAL FORM

Bidders will be furnished with forms stating the location and description of the Work contemplated, the approximate quantities of Work to be performed, the amount of the Proposal Guarantee, requirements pertaining to labor, and the date, time and place of filing and opening Proposals. All documents bound with or attached to the proposal shall be considered a part thereof, and shall not be detached or altered.

2-2 INTERPRETATION OF ESTIMATE OF QUANTITIES

An estimate of quantities of Work to be done and materials to be furnished under the Specifications is given in the Proposal. It is given as a basis for comparison of Proposals and the award of the Contract. The Owner and Engineer do not expressly or by implication agree that the actual quantities involved will correspond therewith; nor shall the Bidder plead misunderstanding or deception because of such estimate of quantities pertaining to the Work.

Payment will be based on the actual quantities of Work performed in accordance with Contract, at the Contract unit prices specified. No allowance will be made for any change in anticipated profits due to an increase or decrease in the original estimate of quantities. The Owner reserves the right to omit any item entirely, or to increase or decrease any or all items as provided in Section 4-3.

2-3 EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS, AND SITE OF WORK

The bidder shall, before submitting his bid, carefully examine the Proposal, Plans, Specifications, Special Provisions, and form of Contract and bond. He shall inspect in detail the site of the proposed Work and familiarize himself with all the local conditions affecting the Contract and the detailed requirements of construction. If his Bid is accepted, he will be responsible for all errors in his Proposal resulting from his failure or neglect to comply with these instructions. The Owner or Engineer will, in no case, be responsible for any change in anticipated profits resulting from such failure or neglect.

When the Plans or Special Provisions include information pertaining to sub-surface exploration, borings, test pits, and other preliminary investigations, such information is included only for the convenience of the Bidder. The Owner or Engineer assumes no responsibility whatever in respect to the sufficiency of the information, and there is no guaranty, either expressed or implied, that the conditions indicated are representative of those existing throughout the Work, or that unanticipated developments may not occur.

When the Plans or Special Provisions include information pertaining to the location of underground utility facilities, such information is only included for the convenience of the Bidder. The Owner or Engineer assumes no responsibility whatever in respect to the sufficiency or accuracy of the information, or lack of information, shown on the Plans relative to the location of underground utility

facilities. It shall be the Contractor's responsibility to obtain from the respective utility companies detailed information relative to the location of their facilities and the work schedules of the utility companies for removing or adjusting them.

2-4 ENGINEER'S ESTIMATE

The Engineer's "Estimate of Cost" as prepared for the Owner for the work to be completed under this contract may or may not be available to the Bidders at the discretion of the Owner or the Engineer. If the "Estimate of Cost" is available, it shall be given to all prospective bidders upon request.

2-5 PREPARATION OF THE PROPOSAL

The Bidder shall submit his Proposal on the form furnished by the Owner. The Proposal shall be executed properly, and Bids shall be made for all items indicated in the proposal form, except that when alternate bids are asked, a Bid on more than one alternate for each item is not required, unless the Special Provisions provide otherwise. The Bidder shall indicate, in figures, a unit price or lump sum for each of the separate items called for in the Proposal; he shall show the products of respective quantities and unit prices in the column provided for that purpose, and the gross sum shown in the place indicated in the Proposal shall be the summation of said products. All writing shall be with ink or typewriter, except the signature of the bidder, which shall be written with ink.

If the Proposal is made by an individual, his name and post office address shall be shown. If made by a firm, joint venture, or partnership, the name and post office address of each member of the firm, joint venture, or partnership shall be shown. If made by a corporation, the Proposal shall show the names, titles, and business addresses of the president, secretary, and treasurer, certified to by the secretary.

2-6 MULTIPLE BIDS

If multiple Bids are to be received, bidding shall be in accordance with the instructions in the Special Provisions.

2-7 REJECTION OF PROPOSALS

Proposals that contain omissions, erasures, alterations, additions not called for, conditional or alternate bids unless called for, irregularities of any kind, or proposals otherwise regular which are not accompanied by the proper proposal guaranty shall be rejected as informal or insufficient. However, the Owners reserve the right to reject any or all Proposals and to waive such technical error as may be deemed best for the interest of the Owner.

2-8 PROPOSAL GUARANTY

Each proposal shall be accompanied by a bid bond, bank draft, bank cashier's check, or properly certified check for not less than ten per cent (10%) of the amount Bid unless otherwise specified in the Special Provisions.

If a multiple Bid is submitted, the bid bond, bank draft, bank cashier's check, or certified checks, which accompany the individual Proposals making up the combination, will be considered as also covering the multiple Bid.

See Paragraph 3-3 regarding return of Proposal Guaranty.

The bid bond, bank draft, cashier's checks, or certified checks accompanying Proposals shall be made payable to the Owner.

2-9 DELIVERY OF PROPOSALS

Proposals shall be delivered prior to the time and at the place indicated in the notice to bidders. Each Proposal shall be placed in an envelope sealed and plainly marked to indicate its contents. Only sealed Proposals will be accepted.

Proposals will not be opened unless received at the place of letting and prior to the time stated in the Notice to Bidders.

2-10 WITHDRAWAL OF PROPOSALS

Permission will be given a Bidder to withdraw a Proposal if he makes his request in writing before the time for opening Proposals. If a Proposal is withdrawn, the Bidder will not be permitted to submit another Proposal for the same Work at the same letting.

2-11 WITHDRAWAL OF PROPOSAL GUARANTY

See Paragraphs 3-2 and 3-3 on award of Contract and return of Proposal Guaranty.

2-12 PUBLIC OPENING OF PROPOSALS

Unless otherwise specified, Proposals will be opened and read publicly at the time and placed specified in the Notice to Bidders. Bidders, their authorized agents, and other interested parties are invited to be present.

2-13 DISQUALIFICATION OF BIDDERS

Any one or more of the following causes may be considered as sufficient for the disqualification of a Bidder and rejection of his Proposal.

A. More than one Proposal for the same Work from an individual, firm, partnership, or corporation under the same or different names.

B. Evidence of collusion among bidders.

C. Unbalanced Proposals in which the prices for some items are substantially out of proportion to the prices for other items.

D. Failure to submit a unit price for each item of Work listed in the Proposal.

E. If the Proposal form is other than that furnished by the Engineer or if the form is altered or any part thereof is detached.

F. If there are omissions, erasures, alterations, unauthorized additions, conditional or alternate bids, or irregularities of any kind which may tend to make the Proposal incomplete, indefinite or ambiguous as to its meaning.

G. If the bidder adds any provisions reserving the right to accept or reject an award, or to enter into a contract pursuant to an award.

H. If the Proposal is not accompanied by the proper proposal guaranty.

I. If the Proposal is prepared with other than ink or typewriter.

J. Lack of competency as revealed by financial statement or experience questionnaire.

K. Unsatisfactory performance record as shown by past work judged from the standpoint of workmanship and progress.

L. Uncompleted work, which, in the judgment of the Owner, might hinder or prevent the prompt completion of additional work.

M. False information provided on a Bidder's "Contractor's Statement."

N. Failure to comply with any prequalification regulations of the Owner.

O. Default under previous contracts.

2-14 COMPETENCY OF BIDDERS

The Bidder, if a corporation, shall show the name of the State in which the corporation is chartered. Each Bidder shall furnish the Owner within two (2) weeks after request, with satisfactory evidence of his competency to perform the Work contemplated. When requested, he shall submit to the Owner a

financial statement prepared by a Certified Public Accountant showing his financial condition at the end of his past fiscal year. The accountant who prepares the statement shall certify that he holds a valid and unrevoked certificate as a Certified Public Accountant, issued in accordance with the laws of the State in which he is licensed. The Bidder, if requested, shall also answer and submit questionnaires relating to his experience and available equipment for performing construction work similar to that for which he is offering a proposal, and shall do so within the same two weeks from the time of request.

Before an award is made, the Bidder may, at the option of the Owner be required to furnish a statement showing the value of all uncompleted work for which he has entered into contracts.

2-15 MATERIAL SUBSTITUTIONS

If restrictions of any governmental authority prohibit the use of certain items that are required by the Plans and Specifications, substitution for such items will be determined by the Owner.

Each Bidder shall base his bid on the furnishing of all items exactly as shown on the Plans and as described in the Specifications. The successful Bidder will not be authorized to make any substitutions on his own volition, but in each and every case must obtain a properly authorized change order from the Owner on his Contract before installing any work in variance with the Contract requirements.

2-16 CONTRACTOR'S UNDERSTANDING

It is understood and agreed that the Contractor has, by careful examination, satisfied himself as to the nature and location of the work, the conformation of the ground, the character, quality and quantity of the materials to be encountered, the character of equipment and facilities needed preliminary to and during the prosecution of the Work, the general and local conditions, and all other matters which can in any way affect the Work under this Contract. No verbal agreement or conversation with any officer, agent, or employee of the Owner and Engineer, either before or after the execution of this Contract, shall affect or modify any of the terms or obligations herein contained.

2-17 STATUS OF RIGHT-OF-WAY, EASEMENT AND CONSTRUCTION EASEMENT ACQUISITION

Each bidder is instructed to fully acquaint himself with the status of the right-of-way, easement and construction easement acquisition at the time of submission of his proposal and the possibility of the acquisition of the parcels remaining to be acquired, if any, in time so as not to interfere with the progress of his work under this contract, and the owner shall not be liable to any damage that may occur to him for any and all delay through delay of the owner in securing the necessary right-of-way, easement and construction easement.

The owner agrees that it will make every effort to acquire any right-of-way, easement and construction easement with all speed and diligence possible.

SECTION 3. AWARD AND EXECUTION OF CONTRACT

3-1 CONSIDERATION OF PROPOSALS

The proposals received will be compared on the basis of the summation of the products of the items of Work listed and the unit prices offered. In case of discrepancy between the gross sum shown in the Proposal prices, the unit prices shall govern, and any errors found in said products shall be corrected. In awarding Contracts, the Owner will, in addition to considering the amounts stated in the Proposals, take into consideration the responsibility of the various Bidders as determined from a study of the data required under the previous article and from other investigations, which the Owner may elect to make.

3-2 AWARD OF CONTRACT

Except in cases where the Owner exercises the right reserved to reject any or all Proposals, the Contract will be awarded by the Owner, as soon as practicable after the opening of Proposals.

Unless otherwise specified, if a Contract is not awarded within forty- five (45) days after the opening of Proposals, a Bidder may file a written request with the Owner for the withdrawal of his bid or award date may be extended by mutual consent of the Owner and Bidder. The Owner will have a maximum of ten (10) days after the receipt of such request to award the Contract or release the Bidder from further obligation by return of the Bidder's Proposal Guaranty.

3-3 RETURN OF PROPOSAL GUARANTY

The Proposal Guaranties of all except the two lowest Bidders will be returned promptly after the Proposals have been checked. Proposal Guaranties of the two lowest Bidders will be returned as soon as the Contract and Bond of the successful bidder have been properly executed and approved.

If Contracts cannot be awarded promptly, the Owner shall permit the two (2) lowest Bidders to substitute for the bank cashier's checks, or certified checks which they may have submitted with their Proposals as Proposal Guaranties, a bid bond executed by a corporate surety company satisfactory to the Owner, but such substitutions shall not be made until a period of three (3) days has elapsed after the date of opening Proposals.

3-4 REQUIREMENT OF CONTRACT BOND

The successful Bidder, at the time of the execution of the Contract, shall deposit with the Owner a surety bond for the full amount of the Contract. The form of bond shall be that furnished by the Owner, and the surety shall be acceptable to the Owner.

3-5 EXECUTION OF THE CONTRACT

The contract shall be executed by the successful Bidder. The bond, when required, shall be executed by the principal and the sureties, and executed Contract and Contract Bond shall be presented to the Owner within fifteen (15) days after the date of notice of the award of the Contract.

Each Contract must be executed in three (3) original counterparts, and there shall be executed original counterparts of the Contract Bond in equal number to the executed original counterparts of the Contract. One (I) copy each of such executed documents will be retained by the Owner and the Engineer, the third will be delivered to the Contractor.

3-6 FAILURE TO EXECUTE CONTRACT

Failure on the part of the successful Bidder to execute a Contract and an acceptable Contract Bond and acceptable insurance certificates as provided herein, within fifteen (15) days from the date of receipt of Contract documents from the Owner will be considered as just cause for the annulment of the award and the forfeiture of the proposal guaranty to the Owner, not as a penalty but in payment of liquidated damages sustained as a result of such failure.

SECTION 4. SCOPE OF WORK

4-1 INTENT OF THE PLANS AND SPECIFICATIONS

The intent of the contract is to prescribe a complete outline of work which the Contractor undertakes to do in full compliance with the contract, plans and specifications. The Contractor shall furnish all required materials, equipment, tools, labor, and incidentals, unless otherwise provided in the contract, and shall include the cost of these items in the unit prices bid for the several units of work. Contractor shall be solely responsible for all safety procedures and safety violations. The quantities appearing in the bid schedule of prices are estimates prepared for the establishment of pay item prices and the comparison of bids. Payment to the Contractor will be made for the actual measured quantities performed and accepted or material furnished and accepted according to the contract, and the scheduled quantities may be increased, decreased, or omitted as herein provided.

Under no circumstances shall the Contractor exceed any established pay item quantity without notification to the Engineer and receipt of written authorization as provided herein.

The latest edition of the State Specifications and Standard Specifications for Water and Sewer Construction in Illinois shall be the basis and govern this contract unless otherwise provided by special provision or exception.

4-2 SPECIAL WORK

Should any construction or requirement not covered by the Specifications be anticipated on any proposed Work, Special Provisions for the same will be prepared and included in the Proposal form, which Special Provisions shall be considered as a part of the Specifications the same as though contained fully herein.

4-3 CHANGES

The Owner reserves the right to make, in writing, at any time during work, changes in quantities, alterations in work, and the performance of extra work to satisfactorily complete the project. Such changes in quantities, alterations, and extra work shall not invalidate the contract nor release the surety, and the Contractor agrees to perform the work as altered.

If the alterations or changes in quantities significantly change the character of the work under the contract, whether or not changed by any such different quantities or alterations, an adjustment, excluding loss of anticipated profits, will be made to the contract. The basis for the adjustment shall be agreed upon prior to the performance of the work. If a basis cannot be agreed upon, then an adjustment will be made either for or against the Contractor in such amount as the Owner may determine to be fair and equitable.

If alterations or changes in quantities do not significantly change the character of the work to be performed under contract, the altered work will be paid for as provided elsewhere in the contract.

The term "significant change" shall be construed to apply only when the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction or when a major item, defined as an item whose total original contract costs exceeds ten percent of the total original contract amount, is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity.

All alterations, cancellations, extensions, and deductions shall be authorized in writing by the Owner before work is started. Such authorizations shall set up the items of work involved and the method of payment for each item.

The Contractor shall accept payment for alterations which result in an increase or decrease in the quantities of work to be performed according to the following:

A. All increases in work of the type which appear in the contract as pay items accompanied by unit prices will, except as provided under paragraph (C) herein, be paid for at the contract unit prices. Decreases in quantities included in the contract will be deducted from the contract at the unit bid prices. No allowance will be made for delays or anticipated profits.

B. Major items of work for which the quantities are increased by not more than 125 percent or reduced to not less than 75 percent of the original contract quantities will be paid for as specified in paragraph (a) above. Any adjustments for increased quantities for major items of work increased more than 125 percent shall only apply to that portion in excess of 125 percent of original contract quantities. Any adjustments made for major items of work which are decreased to less than 75 percent of the original contract quantities shall apply to the actual amount of work performed.

C. Extra work which is not included in the contract as pay items at unit prices and is not included in other items of the contract will be paid for according to Section 9-4.

4-4 PERIODIC AND FINAL CLEANUP

From time to time or as may be ordered by the Owner and immediately after completion of the Work, the Contractor shall at his own expense clean up and remove all refuse and unused materials of any kind resulting from the Work. Upon failure to do so within five (5) working days after receipt of written request from the Owner, the Work may be done by the Owner and the cost thereof be charged to the Contractor and be deducted from his Contract price. Upon completion of the Work, the Contractor shall remove all his equipment and put the area of the Work in a neat and clean condition and do all other cleaning required to complete the Work in a workmanlike manner, ready for use and satisfactory to the Owner.

All Cleanup shall be performed as specified in the various sections of these Specifications or in the Special Provisions.

4-5 LUMP SUM CONTRACTS

On lump sum Contract, when specified in Special Provisions, or Contracts containing lump sum items, the lump sum contract price shall include the furnishing and installation of all Work described in the Specifications and/or shown on the Plans.

4-6 LOCAL ORDINANCES AND REGULATIONS

The Contractor shall keep himself fully informed of all existing laws, ordinances, and regulations of the municipality affecting the work and/or material of this Contract. If any inconsistency is discovered between the Plans, Specifications and those covered by local municipal laws, ordinances, or regulations, it shall be reported to the Owner and Engineer.

4-7 PREFERENCE TO VETERANS

Attention is called to assure compliance with Illinois Revised State Chapter 126 Section 23. Preference to veterans upon public works: "In the employment and appointment to fill positions in the construction, addition to, or alteration of all public works undertaken or contracted for by the state, or by any political subdivision thereof, preference shall be given to persons who were engaged in the military or naval service of the United States in time of war".

SECTION 5. CONTROL OF THE WORK

5-1 PLANS AND WORKING DRAWINGS

The Contractor shall submit to the Engineer such shop, working, or layout drawings pertaining to the construction of the Work, as may be required. These drawings shall be reviewed by Engineer for general conformance with the design concept only. This review by the Engineer does not relieve the Contractor and/or fabricator/vendor of responsibility for conformance with the Contract documents (see 1-8) and applicable codes, all of which have priority over these shop, working and layout drawings. Corrections or comments made on the shop drawings by the Engineer during this review process do not relieve the Contractor from compliance with the requirements of the Contract documents (1-8) and applicable codes.

When the Contract includes Work adjacent to a railroad and false work, cofferdams, or sheeting is required, the Contractor shall submit to the Engineer for his approval and the Railroad Engineer's approval, plans for the false work, cofferdams, or sheeting by a Registered Structural Engineer. It shall be the responsibility of the Contractor to contact the railroad to determine how to meet their requirements. The cost of meeting those requirements shall be borne by the Contractor. The plans shall be submitted sufficiently in advance of the time the Contractor intends to start work to permit checking. No such work shall be started prior to receipt by the Contractor of approval of the Plans for the false work, cofferdams, or sheeting.

The cost of furnishing such Drawings shall be incidental to the contract and no additional compensation will be allowed the Contractor for any delays resulting therefrom.

5-2 CONFORMITY WITH PLANS AND SPECIFICATIONS

It is the intent of the Specifications that all Work performed and all materials furnished shall be in conformity with the lines, grades, cross section, dimensions and material requirements shown on the Plans or indicated in the Specifications.

In the event the Engineer finds the materials or the finished product in which the materials are used or the Work performed are not in conformity with the Engineering Plans and technical Specifications including tolerances and have resulted in an inferior or unsatisfactory product, the Work or material shall be removed and replaced or otherwise corrected by and at the expense of the Contractor.

5-3 COORDINATION OF COMPONENT PARTS OF THE CONTRACT

The Specifications, the accompanying Plans, the Proposal, the Special Provisions, and all other contract documents are intended to describe a complete Work and are essential parts of the Contract. A requirement occurring in any of them is binding. In case of discrepancy, figured dimensions shall govern over scaled dimensions, Plans shall govern over Specifications, Special Provisions shall govern over both Specifications and Plans, and quantities shown on the plans shall govern over those shown in the

Proposal. Neither the Owner, Engineer, nor the Contractor shall take advantage of any apparent error or omission in the Plans or Specifications, and the Owner shall be permitted to make such minor changes or alterations as may be deemed necessary for the fulfillment of the intent of the Plans and Specifications. Any corrections or alterations so made shall be subject to the provisions of Section 4-3.

5-4 COOPERATION BY CONTRACTOR

The Contractor will be furnished necessary copies of the Plans and Special Provisions, and he shall have one copy of each available on the work at all times during its prosecution. He shall give the work his constant attention to facilitate the progress thereof, and shall cooperate with the Owner and Engineer in every way possible. He shall have on the Work site at all times a competent, English-speaking representative authorized to receive orders and act for him and shall not replace him without prior written notification to the Owner.

5-5 UTILITIES

Not all of the gas, power, telephone or cable television lines, whether above or below ground, have been shown on the drawings. The location of existing underground utilities, such as water mains, sewers gas mains, etc., as shown on the drawings, have been determined form the best available information and are given for the convenience of the Contractor. The Contractor must assume responsibility for location and protection of all utilities, whether shown or not, and must realize that the actual locations of the utilities shown on the drawings may be different from the location indicated.

It is the responsibility of the Contractor to phone the Joint Utility Locating Information for Excavators (J.U.L.I.E.) at least 48 hours before excavation starts (except Saturday, Sunday and Holidays) phone toll free 1-800-892-0123. The Contractor shall also be responsible for having the "Dig Number" assigned as a result of the phone request available at the construction site and at his office.

It is understood and agreed that the Contractor has considered in his Proposal all of the permanent and temporary utility appurtenances shown or otherwise indicated on the Plans in their present positions and that no additional compensation will be allowed for any delays, inconvenience, or damage sustained by him due to any interference from the said utility appurtenances of the operation of moving them either by the utilities company or by the Contractor; or on account of any special construction methods required in prosecuting his work due to the existence of said appurtenances.

5-6 COOPERATION BETWEEN CONTRACTORS

If separate contracts are let for Work comprising an entire improvement, each Contractor shall conduct his Work so as not to interfere with or hinder the progress or completion of the Work being performed by other Contractors.

The Contractor shall as far as possible arrange his Work, and place and dispose of the materials being used so as not to interfere with the operations of the other contractors within the limits of the same improvement. He shall join his work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others. In case of dispute, the latest approved progress schedule shall govern.

5-7 CONSTRUCTION STAKES

Construction stakes and/or paint will be furnished and set by the Engineer to mark the general location, alignment, elevation and grade of the Work. The Contractor shall exercise proper care in the preservation of stakes set for his use or the use of the Engineer. The Contractor shall pay for the cost of replacing stakes damaged by his operation or those stolen by others.

5-8 AUTHORITY AND DUTIES OF OBSERVERS

Observers employed by the Owner or by the Engineer shall be authorized to observe the progress of the Work to determine if the Work is proceeding in accordance with the technical Plans and Specifications, and to perform such other duties as may be designated by the Engineer. However, the Engineer shall not be responsible for the construction means, methods, techniques, sequences or safety procedures and precautions in connection with the work by the contractors.

5-9 ENGINEER'S FIELD OFFICE AND/OR LABORATORY

When required by the Special Provisions, the Contractor shall furnish a field office and laboratory. The field office and/or laboratory shall be a weatherproof building for the exclusive use of the Engineer. It shall be independent of any building used by the Contractor. All keys to the building shall be turned over to the Engineer. The Engineer shall designate the location of the building and it shall remain on the site until released by the Engineer.

The building shall conform to the following requirements:

Floor space, not less than ..... 120 square feet

Height of ceiling, not less than..... 8 feet

Windows, not less than 3

Door, with lock approved by the Engineer 1

Instrument locker, 2 feet x 3 feet x 4 feet, with adjustable shelves

Hinged wall table ..... 3 feet x 6 feet

The Contractor shall provide lights, heat, and when electric power is available, summer air conditioning for the building. The conditions shall be acceptable to the Engineer.

When shown on the plans or specified in the Special Provisions, the Contractor shall furnish two (2) buildings conforming to the above requirements, one to be used as a field laboratory, and each to be located where designated by the Engineer.

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

The cost of furnishing the building or buildings, light, heat, and air conditioning shall be paid for at the contract lump sum price for "FIELD OFFICE AND/OR LABORATORY". The office and/or laboratory shall remain the property of the Contractor when the Work is completed.

5-10 CONSTRUCTION OBSERVATION

All materials and each part or detail of the Work may be subject at all times to observation by the Engineer and the Owner, or their authorized representatives, and the Contractor will be held strictly to the true intent of the Contract documents in regard to quality of materials, workmanship and the diligent execution of the Contract. Observations may be made at the site or at the source of material supply whether mill, plant or shop. The Engineer, or his representatives, shall be allowed access to all parts of the Work and shall be furnished with such information and assistance by the Contractor as is required to make his observations and construction review. The duty of the Engineer to conduct observations and construction review of the Contractor's performance shall not include review of the adequacy of the Contractor's safety measures in, on, or near the construction site.

Engineer shall not at any time supervise, direct, or have control over any contractors' work, nor shall Engineer have authority over or responsibility for the means, methods, techniques, sequences, or procedures of construction selected or used by any contractor, nor for safety precautions and programs in connection with the contractors' work, nor for any failure of any Contractor to comply with laws and regulations applicable to contractors' work. Engineer neither guarantees the performance of any contractor nor assumes responsibility for any contractor's failure to furnish and perform its work. Engineer shall have no authority to stop the work of any contractor on the Project. The Engineer's efforts will be directed toward providing assurance for the Owner that the completed project will conform to the Plans and Specifications as prepared by the Engineer, to safeguard the Owner against variances and deviations from the Plans and Specifications, and to assist in a correct interpretation of the Plans and Specifications.

The Engineer shall not have control of the construction and does not have a right, duty or responsibility to stop work for any reason including any contractor's failure to follow proper safety precautions or any acts or omissions. The Engineer shall not be responsible for the acts, errors or omissions of any contractor or any of their agents or employees or any other person performing any of the Work under the Contract.

The Contractor shall, upon written notice from the Owner, remove or uncover such portions of the finished Work as he may direct, before the final acceptance of the same. After examination, the Contractor shall restore said portion of the Work to the standard required by the Contract documents. If the Work thus exposed or examined proves acceptable, the expenses of uncovering or removing and the replacing of the parts removed shall be paid for as Extra work, unless otherwise provided in the Contract documents, but if the Work so exposed or examined is unacceptable, the expense of uncovering or removing and the replacing of the same in accordance with the Contract documents shall be borne by the Contractor.

The Contractor shall supervise and direct the Work. He will be solely responsible for the means, ethods, techniques, sequences and procedures of construction.

Any reference to "supervision" by the Engineer in the Illinois Department of Transportation, Standard Specifications for Road and Bridge Construction or any other referenced documents shall be changed to "observation."

When the State and/or Federal Government is to pay a portion of the cost of the Work covered by the Contract, the Work shall be subject to the observation of the representatives of those Governments, but such observation shall in no sense make those Governments a part of the Contract.

5-11 REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORK

Work done without lines and grades being given, or beyond the lines shown on the Plans or as given, except as herein provided, or any extra work done without authority will be considered as unauthorized and at the expense of the Contractor, and will not be measured or paid for. Work so done may be ordered by the Owner to be removed or replaced at the Contractor's expense.

All work, which has been rejected, shall be remedied or removed and replaced so as to comply with the Plans and Specifications by the Contractor at his own expense. Upon failure on the part of the Contractor to comply promptly with any order of the Owner made under the provisions of this article, the Owner shall, after giving written notice to the Contractor, have the authority to cause defective work to be remedied, or removed and replaced, or to cause unauthorized work to be removed, and to deduct the cost thereof from the contract price due or become due to the Contractor.

5-12 FINAL ACCEPTANCE

The Engineer shall make final acceptance of all Work included in the Contract, as soon as practicable after notification by the Contractor that the Work is completed. If the Work is not acceptable to the Engineer, he shall inform the Contractor in writing as to the particular defects to be remedied before final acceptance can be made.

The Contractor shall be relieved of normal maintenance responsibilities for any sections of the work, which are completed and accepted by the Owner prior to project completion. For the remainder of the Work, the guarantee period shall be as stated in Section 7-16.

When the Contract includes work for which the County, State and/or Federal Government is to pay a portion of the cost thereof, such work shall also be subject to the inspection and approval of the representatives of those governments.

5-13 PUBLIC CONSTRUCTION BID ACT, 30 ILCS 557/1

It is agreed that the Public Construction Bid Act, 30 ILCS 557/1, shall not be applicable to this contract pursuant to the home rule powers of the community.

SECTION 6. CONTROL OF MATERIAL

6-1 QUALITY OF MATERIALS

It is the intent of the Specifications that first-class materials shall be used throughout the Work, and that they shall be incorporated as to produce completed construction, which is workmanlike and acceptable in every detail. The cost or collecting and furnishing of samples of all test material shall be borne by the Contractor. The cost of all testing shall be borne by the Owner. Only materials, which conform to the requirements of these Specifications, shall be incorporated in the Work.

6-2 DEFECTIVE MATERIALS

All materials not conforming to the requirements of the Specifications shall be considered as defective and shall be removed from the Work; if in place, they shall be removed by the Contractor at his expense and replaced with acceptable materials. No defective materials, the defects of which have been subsequently corrected, shall be used until approval has been given. Upon failure of the Contractor to comply forthwith with any written order of the Owner pursuant to the provisions of this article, the Owner shall have authority to remove and replace defective materials and to deduct the cost of removal and replacement from any monies due to become due the Contractor.

6-3 TESTING MATERIALS

All materials should be tested and approved by the Engineer before incorporation in the Work. The Contractor shall give sufficient advance notice of placing orders to permit tests to be completed before the materials are incorporated in the Work and the Contractor shall afford such facilities as the Engineer may require for collecting and forwarding samples and making observations.

6-4 SAND, GRAVEL AND CRUSHED STONE

The source of sand, gravel and crushed stone construction shall be approved by the Engineer prior to usage. The approval shall be based upon testing of samples furnished by the Contractor and tested by the Engineer for conformance with Specifications. Approval shall be contingent upon the Contractor using materials on the job, which conform with the samples satisfactorily tested.

6-5 CONCRETE

Samples of concrete used in construction shall be taken by the Contractor and made into test cylinders in conformance with ASTM C31. The Owner shall provide the services of an independent testing laboratory to collect and test the cylinders in conformance with ASTM C39, and furnish a copy of test results to the Engineer. Any concrete, which tests indicate failed to conform to the Specifications, shall be removed and replaced at Contractor's expense. At the option of the Owner, the concrete may be accepted and agreed upon adjustment in payment.

6-6 MISCELLANEOUS MATERIALS

Fittings, valves, castings, hydrants, house service pipes, masonry blocks, bricks, manhole sections or other miscellaneous manufactured materials used in water and sewer construction shall be furnished with the implied guarantee that such materials conform with the requirements of the Specifications. The Engineer reserves the right to require a certified statement from the manufacturer of such materials that the specific materials have been inspected and tested and conform with the Specifications.

6-7 JOB SITE OBSERVATION

Regardless of any tests of materials made at the source, the Contractor shall carefully inspect all materials before installation and reject any materials, which have been damaged or have visible flaws. The Engineer also reserves the right to make such observation, but failure to detect irregularities does not relieve the Contractor of responsibility to remove and replace materials, which are found to be defective after installation.

6-8 STORED MATERIALS

If it is necessary to store materials, they shall be protected in such a manner as to insure the preservation of their quality and fitness for the Work. All stored materials shall be inspected at the time of use in the Work, even though they may have been inspected and approved before being placed in storage. The Contractor may use the right-of-way for storage of materials. If stockpiling is done outside the right-of-way, the additional space required shall be provided by the Contractor at his expense.

6-9 "OR EQUAL" CLAUSE

Whenever, in any of the Contract Documents, an article, material or equipment is defined by describing a proprietary product, or by using the name of a manufacturer, or vendor, the term "or equal", if not inserted shall be implied except where the Proposal provides for alternate bids. The specific article, materials, or equipment mentioned shall be understood as indication of the type function, minimum standard or design, efficiency and quality desired and shall not be construed in such a manner as to exclude manufacturer's products of comparable quality, design and efficiency. The Contractor shall comply with the requirements of the Contract Documents relative to an Owner's approval of materials and equipment before they are incorporated in the project.

SECTION 7. LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

7-1 LAWS TO BE OBSERVED

The Contractor shall at all times observe and comply with all Federal laws, State laws, County laws, local laws, ordinances, and regulations which in any manner affect the conduct of the Work, and all such orders or decrees as exist at the time Bids are advertised, of legislative bodies or tribunals having legal jurisdiction or authority over the work and no plea of misunderstanding or ignorance thereof will be considered. The Engineer shall not be responsible for determining whether the Contractor is in compliance with these laws, ordinances and regulations.

The Contractor shall indemnify and save harmless the Owner, the Engineer, and all of their officers, agents, employees and servants against any claim or liability, including legal fees, arising from or based on the violation of such law, ordinance, regulation, order or decree, whether by themselves or their employees.

7-1.01 INDEMNIFICATION

To the fullest extent permitted by law, the Contractor shall defend, indemnify and hold harmless Owner and REL and their respective officers, agents and employees, from and against all claims, damages, losses, costs, expenses, judgments and liabilities, including but not limited to attorney's fees, costs and expenses, arising out of or in connection with Contractor's performance of or failure to perform this Agreement, provided that any such claim, damage, loss, costs, expenses, judgments or liabilities are attributable to bodily injury, sickness, disease or death, or to injury or destruction of tangible personal property, including the loss of use resulting therefrom, that is caused in whole or in part by any act or omission of the Contractor, any subcontractor, anyone directly or indirectly employed by them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by any party indemnified hereunder.

Contractor shall defend, indemnify and hold harmless Owner, REL, and their respective officers, agents and employees from and against all claims, damages, losses, costs and expenses arising out of, relating to, or incurred in connection with the use by Contractor, its officers, agents, subcontractors and employees of any equipment, materials, tools, construction equipment, machinery, and/or motor vehicles owned or leased by Owner. The indemnification provided by this Section shall apply regardless of whether Owner consents to the use of equipment by Contractor.

In the event such indemnity as described above is prohibited by law, then said indemnity shall only be to the extent caused by the negligent acts or omissions of the Contractor, subcontractors, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, or to the extent allowed by applicable law.

The indemnification obligation under this paragraph shall not be limited in any way by any limitations on the amount or type of damages, compensation or benefits payable by or for the benefit of Contractor or any indemnities under any Worker's Compensation Act, Occupational Disease Act, Disability Benefits Act, or any other employee benefits act. The Contractor further agrees to waive any and all liability limitations based upon the Worker's Compensation Act court interpretations or otherwise.

Contractor agrees that a similar waiver of liability limitation will be incorporated in its agreements with subcontractors or anyone directly or indirectly employed by them. Contractor agrees that in the event it fails to incorporate such a waiver of liability limitation in its agreements with said subcontractors and others, then it will be responsible for any additional liability arising out of said failure. The defense and indemnification obligations set forth in this provision shall survive the termination or expiration of this Agreement.

Contractor further agrees that all future contracts in furtherance of this contract between Contractor and any of its subcontractors will designate Owner and REL as intended third party beneficiaries of that contract. Contractor hereby agrees to specifically label Owner and REL as an "intended third party beneficiaries" in all contracts entered in furtherance of this contract.

7-2 INSURANCE REQUIREMENTS

7-2.01 GENERAL

The Contractor and any Subcontractors shall obtain and thereafter keep in force for the term of the contract the insurance coverage specified in 7-2.02 MINIMUM INSURANCE REQUIREMENTS.

The Contractor shall not commence work under the Contract until all the insurance required by this section or any Special Provisions has been obtained. The insurance companies must be authorized to do business in the State of Illinois for Work in Illinois and the State of Indiana for Work in Indiana.

The insurance companies providing coverage shall be rated in the Best's Key Rating Guide with a rating not lower than A- and shall have a financial size category of not less than VII.

The Contractor shall be solely responsible for enforcing compliance with these insurance requirements by all Subcontractors of any tier.

A. PRIMARY INSURANCE

All insurance required of the Contractor shall be specifically endorsed so that it is Primary Insurance as to all additional insureds with respect to all claims arising out of operations by or on their behalf. If additional insureds have other applicable insurance coverage, those coverages shall be deemed to be on an excess or contingent basis.

B. NO WAIVER OF INSURANCE REQUIREMENT BY OWNER

Under no circumstances shall the Owner be deemed to have waived any of the insurance requirements of this Contract by any act or omission, including, but not limited to:

1. Allowing work by Contractor or any Subcontractor of any tier to start before receipt of certificates of insurance, endorsements, and other required insurance documents; or

2. Failure to examine, or to demand correction of any deficiency of, any certificate of insurance received.

The Contractor agrees that the obligation to provide insurance is solely the Contractor's responsibility and cannot be waived by any act or omission of the Owner.

C. INSURANCE DOES NOT LIMIT LIABILITY

The purchase of insurance by the Contractor under this Contract shall not be deemed to limit the liability of the Contractor in any way for damages suffered by Owner (e.g., in excess of policy limits, because of deductibles, or not covered by the policies purchased).

D. NOTIFICATION OF PERSONAL INJURY/PROPERTY DAMAGE

The Contractor shall notify the Owner, in writing, of any possible or potential claim for personal injury or property damage arising out of the work of this Contract promptly whenever the occurrence giving rise to such a potential claim becomes known to the Contractor.

7-2.02 MINIMUM INSURANCE REQUIREMENTS

The insurance coverage required of the Contractor and any Subcontractors shall be written for not less than the following, or greater if required by law:

A. Workers' Compensation and Occupational Disease Insurance in accordance with applicable state and federal laws, and Employer's Liability Insurance with a bodily injury per accident limit of liability of at least $ 500,000, bodily injury by disease limit each employee of $500,000 and bodily injury by disease policy limit of $500,000 or such greater sum as may be reasonably required by Owner.

B. ***Commercial General Liability Insurance*** provided by ISO form CG 0001 with a combined Bodily Injury and Property Damage limit of at least $1,000,000 per occurrence, $2,000,000 products and completed operations aggregate and $2,000,000 general aggregate, or such greater sum as may be reasonably required by Owner.

1. Completed Operations and Products liability insurance shall be maintained for a period of 2-years after completion and acceptance of the Project by Owner, or such longer period as may be reasonably required by the Owner.

2. The above policy shall include an endorsement identifying Owner, Robinson Engineering, Ltd, and any other parties as may be reasonably required by Owner or REL as Additional Insured. ISO endorsements CG 2010 and CG 2037 any edition, or equivalent forms, must be used to provide this coverage. Copies of the endorsements must be included with the certificate of insurance as required in paragraph L.

3. Claims-Made coverage triggers are not acceptable to Owner.

4. ISO form CG2503, Designated Construction Project(s) General Aggregate Limit or an equivalent form must be endorsed to the policy and identified on the certificate of insurance. An Owners and Contractors Protective Liability policy can be utilized in lieu of aggregate limits per project, (see 7-2.02O for OCP requirements)

5. The policy shall not contain a sunset provision, commutation clause or any other provision which would prohibit the reporting of a claim and the subsequent defense and indemnity that would normally be provided by the policy.

6. The policy shall not contain any provision, definition or endorsement which would serve to eliminate third party action over claims.

7. Residential Work exclusions or limitations, in any form, are not acceptable to Contractor.

C. ***Comprehensive Automobile Liability Insurance*** covering use of all owned, non-owned and hired vehicles with Bodily Injury and Property Damage limit of at least $1,000,000 Combined Single Limit, or such greater sum as may be reasonably required by the Owner. This policy shall include coverage for Owner, REL, and any other parties as may be reasonably required by Owner, for liability arising out of the actions of Contractor, whether by endorsement or otherwise.

D. ***Excess or Umbrella Liability Insurance*** limits of no less than $5,000,000 per occurrence for Employer's Liability, Commercial General Liability and Comprehensive Automobile Liability, in excess of the minimum policy limits stated below:

Employer's Liability	$500,000 / $500,000 / $500,000
Commercial General Liability	$1,000,000 per occurrence
Commercial General Liability	$2,000,000 general aggregate
Commercial General Liability	$2,000,000 completed operations aggregate
Comprehensive Auto Liability	$1,000,000 combined single limit

Excess/Umbrella coverage shall be provided as no less than Follow Form and shall name Owner, REL, and any other parties as may be reasonably required by Owner, as Additional Insured on a Primary and Non-Contributory basis.

E. ***Pollution Liability*** in the amount of $1,000,000 per occurrence and in the aggregate or such sum as may be reasonably required by the Owner. This requirement covers the Contractor's use of, transportation, removal and/or disposal of hazardous materials and/or pollutants. Additionally, this requirement must apply to any disposal site receiving hazardous materials and/or pollutants. Pollution means the actual or alleged discharge, dispersal, release, seepage, migration, growth, or escape of smoke, soot, fumes, acids, alkalis, toxic chemicals, mold, mildew, spores, fungi, microbes, bacterial matter, legionella pneumophila, asbestos, lead, silica, liquids or gases, waste materials, contaminants, or other irritants, into or upon land, the atmosphere, any structure on land, the atmosphere contained within that structure, or any watercourse or body of water, including groundwater. Radioactive matter shall also be considered a pollutant, except as otherwise covered or protected by insurance or protections provided pursuant to 42 U.S.C. § 2014(w), as amended, or Section 170 of the Atomic Energy Act of 1954, as amended.

F. ***Professional Liability*** in the amount of $2,000,000 per occurrence and in the aggregate or such sum as may be reasonably required by the Owner. This requirement covers the Contractor's duties that involve professional architectural, engineering, design or consultation work. Any applicable deductibles and/or retention's must be noted on the Certificate of Insurance. Policy exclusions are not allowed for pollution, including mold, fungi or bacteria including the vapor produced or arising therefrom. Please see the project *Special Provisions* for the project specific needs of this policy.

G. ***Property and Equipment*** Contractor shall purchase and maintain at its own discretion and expense, Builder's Risk/Installation Floater Insurance in an amount equal to the insurable value of the Contractor's property, whether off site or in transit, to cover any equipment, tools or tangible personal property. Contractor assumes all liability and risks, and agrees to waive all claims against Owner and REL for damage to or loss of equipment, machinery, tools, supplies and other tangible personal property owned or supplied by Contractor and utilized or intended to be utilized during the course of Contractor's Work. Any insurance carried by Contractor covering such damage or loss shall be endorsed with a waiver of subrogation in favor of Owner and REL. Any and all subcontractors agree to assume the same liabilities and risks as Contractor.

H. ***Each of Contractor's*** General Liability, Auto Liability, Pollution Liability, Professional Liability and Excess/Umbrella Liability policies must be endorsed as Primary and Non-Contributory as to any insurance maintained by the Additional Insured(s) and shown on the certificate of insurance.

I. ***An endorsement*** in favor of the Additional Insured(s) waiving the Contractor's and its insurer's rights of subrogation shall be issued with respect to the Commercial General Liability, Comprehensive Auto Liability, Pollution Liability, Professional Liability and Workers' Compensation and Employers Liability policies. Evidence of this endorsement must be noted on the certificate of insurance.

J. ***Self-funded*** or other non-risk transfer insurance mechanisms or deductibles/self-insured retentions greater than $25,000 per occurrence are not acceptable to Owner on any insurance coverage required in this agreement. If the Contractor has such a program, full disclosure must be made to Owner and REL prior to any consideration being given.

K. ***Any subcontractor*** employed by Contractor shall have equivalent coverage.

L. ***A Certificate of Insurance***, including copies of the Additional Insured endorsements, shall be sent to REL prior to the commencement of any Work (please see the sample attached at the end of Section 7). All Certificates of Insurance and Endorsements verifying the existence of the above required insurance shall be in form and content satisfactory and acceptable to Owner and REL and shall be submitted to REL in a timely manner so as to confirm Contractor's full compliance with these insurance requirements stated herein, throughout the entire term of this Agreement.

Certificates must be sent to: RELcertificates@thehortongroup.com

M. ***Contractor shall provide*** written notice via email to RELcertificates@thehortongroup.com of any cancellation notice received by Contractor from any insurer providing insurance as required in this Agreement within two (2) business days of Contractor's receipt of such notice.

N. ***Permitting Contractor*** to commence Work prior to RELs receipt of the required certificate shall not be a waiver of the Contractor's obligation to provide all of the above insurance. Acceptance by Owner or REL of insurance submitted by Contractor shall not relieve or decrease in any manner the liability of the Contractor for its performance under this Agreement.

In the event Contractor fails to obtain or maintain any of the foregoing required coverage, the Owner may purchase such coverage and charge the expense thereof to the Contractor, or may terminate this Agreement.

These Insurance provisions are intended to be a separate and distinct obligation on the part of Contractor. Therefore, these provisions shall be enforceable and Contractor shall be bound thereby regardless of whether or not the Indemnity provisions of this Agreement are determined at any time to be enforceable in the jurisdiction in which the Work covered by this Agreement is performed. The obligation of the Contractor to provide the insurance herein specified shall not limit in any way the liability or obligations assumed by the Contractor elsewhere in this Agreement.

In the event Contractor or its insurance carrier(s) defaults on any obligations under this Insurance provision, Contractor agrees that it will be liable for all reasonable expenses and attorneys' fees incurred by Owner in the enforcement of the terms of this provision.

O. ***Owner's And Contractor's Protective Liability Insurance***

If the Contractor is unable or unwilling to provide the required General Liability Additional Insured forms, an Owner's and Contractor's Protective Policy can be purchased as an acceptable alternate; Required limits of insurance;

1. Bodily Injury and Property Damage Combined

   $5,000,000 Each Occurrence

   $10,000,000 Annual Aggregate

2. The Contractor will furnish and maintain during the entire period of construction an Owner's and Contractor's Protective Liability policy written in the name of the Owner and REL with not less than the limits indicated. The named insureds shall be:

a. Owner
b. Robinson Engineering, Ltd.

3. Proof of insurance for the coverages required to be purchased by the Contractor, including the Owner's and Contractor's Protective Policy shall be submitted to REL for transmittal to the Owner for his approval prior to the start of construction. Proof of the Owner's Protective Policy shall consist of providing an entire copy of that policy to REL. With respect to all other coverages required to be purchased by the Contractor, proof of insurance shall consist of a Certificate of Insurance issued by the Contractor's insurance agency.

4. It is further understood that any insurance maintained or carried by Owner and Robinson Engineering, Ltd. shall be in excess of any coverage provided by any Contractor or Subcontractor.

P. ***Railroad Protective Insurance*** will be required by Special Provisions if needed.

Q. ***Builder's Risk Insurance*** is not provided by the Owner. The Contractor is responsible for any loss that would be insured by such coverage. On Contracts for construction of buildings, bridges, or other structures, all Builder's Risk coverage may be required by Special Provisions. Such coverage shall name the Owner, Contractor, subcontractors, and suppliers, as their interests may appear as named insureds.

7-3 PERMITS AND LICENSES

The Contractor, prior to commencing work, shall at his own expense procure all permits, licenses, and bonds necessary for the prosecution of the work, required by Municipal, County, State and Federal regulations, unless specifically provided otherwise in the Special Conditions of the Contract.

The Contractor shall also give all notice, pay all fees, and comply with all Federal, State, County and Municipal laws, ordinances, rules and regulations and building and construction codes bearing on the conduct of the Work.

7-4 PATENTS AND ROYALTIES

If any design, device, material or process covered by letters patent or copyright is used by the Contractor, he shall provide for such use by legal agreement with the owner of the patent or a duly authorized licensee of such owner, and shall save harmless the Owner and the Engineer from any and all loss or expense on account thereof, including its use by the Owner.

7-5 STATE AND FEDERAL PARTICIPATION

When the County, State, and/or the Federal Government pays all or any portion of the cost of the Work, the Work shall be subject to the inspection of the appropriate agency.

7-6 SANITARY PROVISIONS

The Contractor shall comply with all rules and regulations of the Federal, State, County, and local health departments, and shall take precautions to avoid creating unsanitary conditions. The Engineer shall not be responsible for determining whether the Contractor is in compliance with these rules and regulations.

7-7 PUBLIC CONVENIENCE AND SAFETY

The Contractor shall notify the Owner at least five (5) days in advance of the starting of Work, which might in any way inconvenience or endanger traffic, so that arrangements may be made, if necessary, for closing the road and providing suitable detours. The Contractor shall at all times conduct the Work as to insure the least obstruction to vehicular and pedestrian traffic. The convenience of the general public and of residents along the roadway shall be provided for in an adequate and satisfactory manner. (See also 7-9, 7-14 and 8-6.)

If a temporary road is required for the convenience of the general public and/or residents along the roadway, temporary road requirements will not be paid for separately, but will be incidental to the Contract and no extra compensation will be allowed.

7-8 BARRICADES AND WARNING SIGNS

When any section of road is closed to traffic, the Contractor shall provide, erect, and maintain barricades, red flags, signs and lights at each end of the closed section and at all intersecting roads in accordance with the Illinois Manual of Uniform Traffic Control Devices.

If during the progress of the work, it is necessary to provide access to private property along the road, the Contractor shall provide, erect, and maintain within the closed portion of the road, such barricades, signs, flags and lights as may be necessary to protect the Work and to safeguard local traffic.

When traffic is to be permitted to use the road during construction, the Contractor shall protect the work and provide for safe and convenient public travel by providing, erecting, and maintaining such barricades, red flags, and lights as are necessary.

The Contractor's responsibility for the work, as provided in Section 7-15, shall apply, even though barricades, signs, red flags, and lights are installed as required above.

The cost of furnishing and maintaining barricades, warning signs, red flags, and lights as required herein shall be incidental to the Contract and no extra compensation will be allowed. The Engineer shall not be responsible for determining whether the Contractor is in compliance with these rules and regulations.

7-9 DEBRIS ON TRAVELED SURFACE OR STRUCTURES

Where the Contractor's equipment is operated on any portion of the traveled surface or structures used by traffic on or adjacent to the section under construction, the Contractor shall clean the traveled surface of all dirt and debris at the end of each day's operation.

The cost of this work shall be included in the unit prices bid and no additional compensation will be allowed. The Engineer shall not be responsible for determining whether the Contractor is in compliance with these rules and regulations.

7-10 EQUIPMENT ON TRAVELED SURFACE AND STRUCTURES

The traveled surface and structures on or adjacent to the work shall be protected, from damage by lugs or cleats on treads or wheels of equipment.

All equipment used in the prosecution of the work shall comply with the legal loading limits established by the statutes of the State of Illinois or local regulations when moved over or operated on any traveled surface or structure unless permission in writing has been issued by the Owner. Before using any equipment, which may exceed the legal loading, the Contractor shall secure a permit, allowing ample time for making an analysis of stresses to determine whether or not the proposed loading would be within safe limits. The Owner will not be responsible for any delay in construction operations or for any costs incurred by the Contractor as a result of compliance with the above requirements. The Engineer shall not be responsible for determining whether the Contractor is in compliance with these rules and regulations.

7-11 USE OF EXPLOSIVES

When the use of explosives is necessary for the prosecution of the Work, the Contractor shall be governed by the rules and regulations of the Department of Mines and Minerals of the State of Illinois and any local regulations, which govern the use of explosives. The Engineer shall not be responsible for determining whether the Contractor is in compliance with these rules and regulations.

7-12 USE OF FIRE HYDRANTS

If the Contractor desires to use water from hydrants, he shall make application to the proper authorities, and shall conform to the municipal ordinances, rules or regulations concerning their use. Water from

hydrants or other sources shall be at the Contractor's expense unless otherwise provided in the Special Provisions.

Fire hydrants shall be accessible at all times to the Fire Department. No material or other obstructions shall be placed closer to a fire hydrant than permitted by municipal ordinances, rules or regulations, or within ten feet (10') of a fire hydrant, in the absence of such ordinances, rules or regulations.

7-13 PROTECTION AND RESTORATION OF PROPERTY

If corporate or private property interferes with the Work, the Contractor shall notify, in writing, the owners of such property, advising them of the nature or disposition of such property. The Contractor shall furnish the Owner with copies of such notifications and with copies of any agreements between him and the property owners concerning such protection or disposition.

The Contractor shall take all necessary precautions for the protection of corporate or private property, such as walls and foundations of buildings, vaults, underground structures of public utilities, underground drainage facilities, overhead structures of public utilities, trees, shrubbery, crops and fences contiguous to the Work, of which the Contract does not provide for removal. The Contractor shall protect and carefully preserve all official survey monuments, property marks, section markers, and Geological Survey monuments, or other similar monuments, until the Owner or an authorized surveyor or agent has witnessed or otherwise referenced their location or relocation. The Contractor shall take reasonable precautions to avoid disturbing any archeological and other historic remains encountered during construction. The Contractor shall notify the Owner of the presence of an such survey or property monuments or archeological and other historic remains as soon as they are discovered.

The Contractor shall be responsible for the damage or destruction of property of any character resulting from error, neglect, misconduct or omission in his manner or method of execution or non-execution of the Work, or caused by defective Work or the use of unsatisfactory materials, and such responsibility shall not be released until the Work shall have been completed and accepted and the requirements of the Specifications complied with.

Whenever public or private property is so damaged or destroyed, the Contractor shall at his own expense, restore such property to a condition equal to that existing before such damage or injury was done by repairing, rebuilding, or replacing it as may be directed, or he shall otherwise make good such damage or destruction in an acceptable manner. If he fails to do so, the Owner may, after the expiration of a period of forty-eight (48) hours after giving him notice in writing, proceed to repair, rebuild, or otherwise restore such property as may be deemed necessary, and the cost thereof shall be deducted from any compensation due, or which may become due the Contractor under his contract.

The Contractor shall remove all mailboxes within the limits of construction, which interfere with construction operations and shall erect them at temporary locations. As soon as construction

operations permit, he shall set the mailboxes at their permanent locations. The Contractor shall replace at his own expense any mailbox or post which has been damaged by his operations.

The cost of all materials required and all labor necessary to comply with the above provisions will not be paid for separately, but shall be considered as incidental to the Contract, unless otherwise specified in the Special Provisions.

7-14 PROTECTION AND RESTORATION OF TRAFFIC SIGNS

Any traffic sign within the limits of construction, which interferes with construction operations, may be removed by the Contractor when authorized by the traffic sign owner. Any traffic sign, which has been removed, shall be re-erected immediately by the Contractor at the temporary location designated by the traffic sign owner, and as soon as construction operations permit, the sign shall be set at its permanent location. The cost of all materials required and all labor necessary to comply with this provision will not be paid for separately, but shall be considered as incidental to the contract.

The Contractor shall replace at his own expense any traffic sign or post which has been damaged due to his operations.

Any traffic sign designated as critical by the traffic sign owner shall not be disturbed and no additional compensation will be allowed the Contractor for any delays, inconvenience, or damage sustained by him due to any special construction methods required in prosecuting his work due to the existence of such traffic signs.

7-15 CONTRACTOR'S RESPONSIBILITY FOR WORK

The Work shall be under the control and care of the Contractor until final acceptance or use or occupancy by the Owner. The Contractor shall assume all responsibility for injury or damage to the Work by action of the elements or from any other cause whatsoever, and shall rebuild, repair, restore, and make good, at his expense, all injuries or damages to the Work, except that when the Work is opened to usage by written order of the Owner, the provisions of this article shall not apply to damage caused by such use and not due to the Contractor's fault or negligence.

When materials are furnished to the Contractor by the Owner for inclusion in the work, the Contractor's responsibility for handling and installation of all such materials shall be the same as for materials furnished by him.

In case of suspension of Work by the Contractor, the Contractor shall be responsible for the Work and shall take such precautions as may be necessary to prevent damage to the Work, provide for normal drainage and shall erect any necessary temporary structures, signs, or other facilities at his expense.

7-16 GUARANTEE PERIOD

The Contractor shall warrant all Work performed for a period of one (1) year from the date of final acceptance in writing by the Engineer. In case of acceptance of a part of the work for use or occupancy prior to final acceptance of the entire Work, the guarantee for the part so accepted shall be for a period of one year from the date of such partial acceptance, in writing, by the Engineer.

In placing orders for equipment, the Contractor shall purchase same only under a written guarantee from the respective manufacturers that the equipment supplied will function satisfactorily as an integral part of the completed Work in accordance with the Plans and Specifications, and that the manufacturer will repair or otherwise make good any defects in workmanship or materials which may develop within a period of one (1) year from the date of final acceptance. Furthermore, the Contractor shall require that the manufacturer agree in writing at the time the order for equipment is placed that he will be responsible for the proper functioning of the equipment in cooperation with the Contractor, and that whenever necessary during the installation period or tuning up period following construction period, the manufacturer will supply without additional cost to the Owner, such superintendence and mechanical labor and any adjustments and additional parts and labor needed to make the equipment function satisfactorily, even if same was not shown on the approved shop drawings.

7-17 PERSONAL LIABILITY OF OWNER'S AGENTS

In carrying out the provisions of this contract, or in exercising any power or authority granted to the Owner, there shall be no personal liability upon any officer or authorized agent of the Owner provided the Owner is a governmental body, it being understood that all such persons act as agents and representatives of the Owner.

7-18 NO WAIVER OF LEGAL RIGHTS

The Owner and the Engineer shall not be precluded by any measurement, estimate, or certificate made either before or after the completion and acceptance of the Work and payment therefor, from showing the true amount and character of the Work performed and materials furnished by the Contractor, or from showing that any such measurement, estimate, or certificate is untrue or incorrectly made, or that the Work or materials do not conform in fact to the Contract. The Owner shall not be precluded, notwithstanding any such measurement, estimate, or certificate and payment in accordance therewith, from recovering from the Contractor and his sureties such damages as if it may sustain by reason of his failure to comply with the terms of the Contract. Neither the acceptance by the Owner, nor any representative of the Owner, nor any payment for or acceptance of the whole or any part of the work, nor any extension of time, nor any possession taken by the Owner, shall operate as a waiver of any portion of the Contract, or of any power herein reserved, or any right to damages herein provided. A waiver of any breach of the Contract shall not be held to be a waiver of any other or subsequent breach.

7-19 SAFETY

Contractor shall comply with State and Federal Safety regulations as outlined in latest revision of Federal Construction Safety Standards (Series 1926) and with applicable provisions and regulation of Occupation Safety and Health Administration (OSHA) Standards of the Williams-Steiger Occupational Health and Safety Act of 1970 (rev.). The Engineer shall not be responsible for determining the Contractor's compliance with these regulations.

The Contractor is solely responsible for the safety procedures, programs and methods of its employees, subcontractors of every tier, and agents. Contractor shall hold the Owner and the Engineer harmless for any and all damages resulting from violations thereof.

7-20 USE OF PRIVATE LAND

The Contractor shall not use any vacant lot or private land as a plant site, depository for materials, or as a spoil site without the written authorization of the owner of the land (or his agent), a copy of which authorization shall be filed with the Owner.

7-21 USE OF WATER

Contractors desiring to use water furnished by the Owner will be required to make application for extension to the proper authorities and conform to the rules and regulations provided in such cases by the municipal ordinances and pay the usual water rates.

7-22 COST OF SERVICES

The Contractor will be required to pay the established water rates for water obtained from the Owner. Large quantities of water for flushing trenches, filling mains, testing or other operations shall be drawn only at night or at times specifically authorized by the Owner.

The cost of all power, lighting and heating required during construction shall be paid by the Contractor and its costs merged in the contract price.

7-23 WORK IN BAD WEATHER

No construction work shall be done during stormy, freezing or inclement weather, except such as can be done satisfactorily, and to secure first-class construction throughout, and then only subject to permission of the Owner.

7-24 SUNDAY WORK

No work shall be performed under these specifications at night or on Sunday and legal holidays without the approval of the Owner. If it is found necessary to continue the work at night or on Sunday or on a legal holiday, the Contractor will be charged for the Engineering and observation at such times at the rate of Seven Hundred Fifty Dollars ($750.00) per day of eight (8) working hours for each person doing such work on the job, and the amount will be deducted from money due to the Contractor at the time of settlement.

7-25 WATCHMEN

Watchmen are to be provided by the Contractor at the site of the project to prevent loss, damage to property, or accidents.

7-26 CONSTRUCTION DEBRIS

The Contractor shall not conduct any generation, transportation, or recycling of construction or demolition debris, clean or general or uncontaminated soil generated during construction, remodeling, repair, and demolition of utilities, structures, and roads that is not commingled with any waste, without the maintenance of documentation identifying the hauler, generator, place of origin of the debris or soil, the weight or volume of the debris or soil, and the location, owner, and operator of the facility where the debris or soil was transferred, disposed, recycled or treated. This documentation must be maintained by the Contractor for 3 years.

7-27 SAMPLE INSURANCE CERTIFICATE

EMAIL ALL CERTIFICATES TO RELCERTIFICATES@THEHORTONGROUP.COM

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:
YOUR INSURANCE AGENT	PHONE (A/C, No, Ext): FAX (A/C, No):
	E-MAIL ADDRESS:

	INSURER(S) AFFORDING COVERAGE	NAIC #
INSURED YOUR NAME AND ADDRESS	INSURER A : CARRIERS MUST BE RATED	
	INSURER B : A- VII OR BETTER	
	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	GENERAL LIABILITY							
	X COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$ 1,000,000
	CLAIMS-MADE X OCCUR	Y	Y				DAMAGE TO RENTED PREMISES (Ea occurrence)	$ ANY LIMIT
				POLICY NUMBER	EFF DATE	EXP DATE	MED EXP (Any one person)	$ ANY LIMIT
							PERSONAL & ADV INJURY	$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 2,000,000
	POLICY X PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$ 2,000,000
								$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	ALL OWNED AUTOS / SCHEDULED AUTOS	Y	Y				BODILY INJURY (Per accident)	$
	X HIRED AUTOS / X NON-OWNED AUTOS			POLICY NUMBER	EFF DATE	EXP DATE	PROPERTY DAMAGE (Per accident)	$
								$
	X UMBRELLA LIAB X OCCUR						EACH OCCURRENCE	$ 5,000,000
	EXCESS LIAB / CLAIMS-MADE	Y	Y	POLICY NUMBER	EFF DATE	EFF DATE	AGGREGATE	$ 5,000,000
	DED / RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N						X WC STATU-TORY LIMITS / OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICE/MEMBER EXCLUDED? N	N/A	Y	POLICY NUMBER	EFF DTE	EFF DATE	E.L. EACH ACCIDENT	$ 500,000
	(Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 500,000
							E.L. DISEASE - POLICY LIMIT	$ 500,000
	POLLUTION PROFESSIONAL			POLICY NUMBER	EFF DATE	EFF DATE	$1,000,000/1,000,000 AGG $1,000,000/2,000,000 AGG	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

REL JOB NUMBER AND PROJECT NAME AND ADDRESS:

Additional Insured with respect to General Liability, Auto Liability and Umbrella/Excess Liability on a primary and noncontributory basis when required by written contract (Owner and Robinson Engineering ltd)) Owner is Certificate Holder. Waiver of Subrogation in favor of listed additional insureds with respect to General Liability, Auto Liability, Umbrella/Excess Liability and Workers' Compensation policies. Additional Insured with respect to General Liability coverage per ISO forms CG2Q10 and CG2037 or equivalent forms. Umbrella/Excess is on a follow form basis and is primary and non-contributory.

CERTIFICATE HOLDER	CANCELLATION
OWNER	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE

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SECTION 8. PROSECUTION AND PROGRESS

8-1 SUBLETTING OR ASSIGNMENT OF CONTRACT

The Contractor shall not sublet, sell, transfer, assign, or otherwise dispose of the Contract or Contracts or any portion thereof, or of his right, title, or interest therein, without written consent of the Owner. In case such consent is given, the Contractor will be permitted to sublet a portion thereof, but shall perform with his own organization, Work amounting to not less than 50 per cent of the total Contract, except that any items designated in the Contract as "specialty items" may be performed by subcontract and may be deducted from the total Contract price before computing the amount of work required to be performed by the Contractor with his own organization. No subcontracts, or transfer of Contract, shall in any case release the Contractor of his liability under the Contract. All transactions of the Owner shall be with the Contractor; subcontractors shall be recognized only in the capacity of employees or workmen and shall be subject to the same requirements as to character and competence.

8-2 PROGRESS SCHEDULE

Promptly after the award of the contract, if requested, the Contractor shall submit to the Owner a satisfactory progress schedule, which shall show the proposed sequence of work, and how the Contractor proposes to complete the various items of work within the number of days set up on the contract. The progress schedule shall be reviewed and revised periodically as working conditions warrant. The Contractor shall confer with the Owner in regard to the prosecution of the Work in accordance with this schedule. This schedule shall be used as a basis for establishing major construction operations, and for checking progress of the Work.

8-3 PRE-CONSTRUCTION CONFERENCE

Unless the need for a preconstruction conference is waived by the Engineer, the Contractor shall make himself and his representatives available to meet with the Engineer and other representatives of the Owner, prior to the start of construction to discuss scheduling, handling of materials, payments, etc.

8-4 PROSECUTION OF THE WORK

The Contractor shall begin the Work to be performed under the contract not later than ten (10) days after the execution and acceptance of the Contract, unless otherwise provided, but not prior to the execution of the Contract.

8-5 COMPLETION DATE

The Contractor shall complete all Work on or before the stipulated completion date, or on or before a later date determined as specified herein; otherwise, the Owner may proceed to collect liquidated damages described hereinafter.

When a delay occurs due to unforeseen causes beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of the public enemy, governmental acts, fires, floods, epidemics, strikes, extraordinary delays in delivery of materials caused by strikes, lockouts, wrecks, freight embargoes, governmental acts, or acts of God, the time of completion shall be extended in whatever amount is determined by the Owner.

An "Act of God" means an earthquake, flood, cloudburst, cyclone, or other cataclysmic phenomena of nature beyond the power of the Contractor to foresee or make preparation in defense against. A rain, windstorm or other natural phenomenon of normal intensity, based on U.S. Weather Bureau reports, for the particular locality and for the particular season of the year in which the work is being prosecuted, shall not be construed as an "Act of God", and no extension of time will be granted for the delays resulting therefrom.

8-6 LIMITATIONS OF OPERATIONS

The Contractor shall conduct his work so as to create a minimum amount of inconvenience to vehicular and pedestrian traffic. At any time when, in the judgment of the Owner, the Contractor has obstructed or closed the road or is carrying on operations on a greater portion of a street than is necessary for the proper prosecution of the Work, the Owner may require the Contractor to finish the section on which Work is in progress before the Work is started on any additional section. (See also Section 7-7).

8-7 SUSPENSION OF WORK

The Owner shall have authority to suspend the Work wholly or in part, for such period of time as he may deem necessary, due to conditions unfavorable for the satisfactory prosecution of the Work, or to conditions which in his opinion warrant such action; or for such time as is necessary by reason of failure on the part of the Contractor to carry out orders given, or to perform any or all provisions of the Contract. No additional compensation will be paid the Contractor because of any costs caused by such suspension, except when the suspension is ordered for reasons not resulting from any act or omission on the part of the Contractor. If it becomes necessary to stop Work for an indefinite period of time, the Contractor shall store all material in such manner that they will not obstruct or impede the traveling public unnecessarily or become damaged in any way, take every precaution to prevent damage or deterioration of the Work performed, provided suitable drainage of the roadway, and erect temporary structures where necessary. The Contractor shall not suspend Work without written authority from the Owner. (See also Section 7-15).

8-8 DETERMINATION AND EXTENSION OF CONTRACT TIME FOR COMPLETION

When the time for completion of the Work contemplated is specified in the Contract, it is understood that the completion of the Work within the time specified is an essential part of the Contract. If the Contractor finds it impossible to complete the Work within the time specified in the Contract, he may, at

any time prior to the last thirty (30) days of the Contract time specified, make written request to the Owner for an extension of Contract time. He shall set forth in full in his request the reasons, which he believes justify the granting of his request. If the Owner finds that the Work is delayed because of conditions beyond the control of the Contractor, or that the quantities of work done, or to be done, are in excess, he shall promptly grant an extension of time for completion, which appears reasonable and proper. The extended time for completion shall then be considered as in effect the same as if it were the original Contract time for completion.

8-9 FAILURE TO COMPLETE THE WORK ON TIME

Should the Contractor fail to complete the Work within the Contract time the Contractor shall be liable to the Owner in the amount shown in the following schedule of deductions, as liquidated damages, and not as a penalty, for each day of overrun in the Contract time or such extended time as may have been allowed.

SCHEDULE OF DEDUCTIONS FOR EACH DAY OF OVERRUN IN CONTRACT TIME

Original Contract Amount		Daily Charge	
From more than	To and Including	Calendar Day	Work Day
$ 0	100,000	$ 475	$ 675
100,000	500,000	750	1,050
500,000	1,000,000	1,025	1,425
1,000,000	3,000,000	1,275	1,725
3,000,000	6,000,000	1,425	2,000
6,000,000	12,000,000	2,300	3,450
12,000,000	And over	5,800	8,125

8-10 DEFAULT ON CONTRACT

If the Contractor fails to begin the Work under Contract within the time specified, or fails to perform the Work with sufficient workmen and equipment or with sufficient materials to insure the completion of said Work within the Contract time, or shall perform the Work unsuitable, or shall neglect or refuse to remove materials or perform anew such Work as shall be rejected as defective and unsuitable, or shall discontinue the prosecution of the Work, or if the Contractor shall become insolvent or be declared bankrupt, or shall commit any act of bankruptcy or insolvency, or shall make an assignment for the benefit of creditors, the Owner shall give notice in writing to the Contractor and his surety of such delinquency, said notice to specify the corrective measures required.

If the Contractor, within a period of ten (10) days after said notice, shall not proceed in accordance therewith, the Owner shall have full power and authority to forfeit the rights of the Contractor and at its

option to call upon the surety to complete the Work in accordance with the terms of the contract, or it may take over the Work, including any or all materials and equipment on the ground as may be suitable and acceptable, and may complete the Work with his own forces, or may enter into a new agreement for the completion of said Contract according to the terms and provisions thereof, or use such other methods as, in its opinion, shall be required for the completion of said Contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the cost of completing the work under Contract, shall be deducted from the Contract amount. In case the expense so incurred by the Owner shall be less than the sum which would have been payable under the Contract if it had been completed by the Contractor, the Contractor shall be entitled to receive the difference subject to any claims for liens thereon in case such expense shall exceed the sum which would have been payable under the Contract, the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess.

8-11 TERMINATION OF THE CONTRACTOR'S RESPONSIBILITY

Whenever the Work called for by the Contract shall have been completely performed on the part of the Contractor and all parts of the Work have been approved and deemed to be in compliance with the Technical Plans and Specifications by the Engineer, according to the Contract, and the final estimate paid, the Contractor's obligations shall be considered fulfilled, except as set forth in his Bond, in Section 7-18 and his one-year guarantee, in Section 7-16.

SECTION 9. MEASUREMENT AND PAYMENT

9-1 MEASUREMENT OF QUANTITIES

All Work completed under the Contract will be measured by the Engineer according to United States Standard Measures. The method of measurement shall be described in the Specifications or the Special Provisions.

9-2 SCOPE OF PAYMENT

The Contractor shall receive and accept the compensation as herein provided, in full payment for furnishing all materials, labor, tools and equipment; for performing all Work contemplated and embraced under the Contract; for all loss or damage arising out of the nature of the Work or from action of the elements; for any unforeseen difficulties or obstructions which may arise or be encountered during the prosecution of the Work until its final acceptance by the Owner; for all risks of every description connected with the prosecution of the Work; also, for all such expenses incurred by or in consequence of suspension or discontinuance of such prosecution of the work as herein specified, or for any infringement of patents, trademarks, or copyrights, and for completing the Work in an acceptable manner according to the Contract Documents.

Contractor will be paid in cash and/or negotiable warrants at intervals, and in accord with the terms of the Contract. Except for subdivision contracts, the Owner will retain ten percent (10%) of each periodic payment until final completion and acceptance by the Owner of all Work included in the Contract.

The payment of any current estimate prior to final acceptance of the Work by the Owner shall in no way constitute an acknowledgment of the acceptance of the Work, nor in any way prejudice or affect the obligation of the Contractor, at his expense, to repair, correct, renew, or replace any defects or imperfections in the construction or in the strength or quality of the materials used in or about the construction of the Work under Contract and its appurtenances, nor any damage due or attributable to such defects, which defects, imperfections, or damage shall have been discovered on or before the final inspection and acceptance of the Work. Defects, imperfections, or damage, shall be determined by the Engineer observing the work for compliance with the Plans and Specifications, and the Contractor shall be liable to the Owner for failure to correct the same as provided herein.

9-3 INCREASED OR DECREASED QUANTITIES

Whenever the quantity of any item of Work as given in the Proposal shall be increased or decreased, payment shall be made on the basis of the actual quantity completed at the unit price for such item named in the Proposal, except as otherwise provided in Sections 4-3 or in the detailed specifications for each class of Work.

9-4 PAYMENT FOR EXTRA WORK

Extra Work which results from any of the changes as specified in Section 4-3 shall not be started, except in case of an emergency, until receipt of a written authorization or Work order from the Owner, which authorization shall state the items of work to be performed and the method of payment for each item. Work performed without such order will not be paid for.

Extra work will be paid for:

A. Either at a lump sum price or at unit prices agreed upon by the Contractor and the Owner. (In case a Supplemental Agreement is signed between the Contractor and the Owner, the agreed prices pertaining thereto shall prevail).

B. If acceptable to the Engineer, on the following force account basis:

1. Labor. The Contractor will be paid the actual amount of wages for all labor and foreman in direct charge of the specific Work for each hour that said labor and foreman are actually engaged in such Work, to which cost shall be added twenty percent (20%) of the sum thereof.

2. Bond, Insurance, Tax, Welfare Fund and other Payments. The Contractor will receive the actual cost of Contractor's bond, public liability and property damage insurance, workmen's compensation insurance, social security tax, welfare fund and other payments, if any, in accordance with agreements applicable to the Contract, required for force account work, to which no percentage shall be added. The Contractor shall furnish satisfactory evidence of the rate or rates paid for such bond, insurance tax, welfare fund and other payments.

3. Materials. The Contractor will receive the actual cost for all materials which are an integral part of the finished Work, including freight charges as shown by the original receipted bills, to which shall be added fifteen percent (15%) of the sum thereof.

   The Contractor will be reimbursed for any materials used in the construction of the Work, such as sheeting, false work, form lumber, curing materials, etc., which are not an integral part of the finished Work. The amount of reimbursement shall be agreed upon in writing before such Work is begun, and no percent shall be added. The salvage value of such materials shall be taken into consideration in the reimbursement agreed upon.

4. Equipment. Machinery and equipment, which the Contractor has on the job for use on contract items, shall be used on extra Work as deemed necessary or desirable. The Contractor will be paid for all machinery and equipment used on extra work in accordance with the latest revision of "SCHEDULE OF AVERAGE ANNUAL EQUIPMENT OWNERSHIP EXPENSE WITH OPERATING COST" as issued by the Department of Transportation, State of Illinois, for the period that said machinery and equipment are in use on such Work, to which no percent shall be added. In the event that equipment is used which is not included in aforesaid publication, the latest edition of the "Compilation of Nationally Averaged Rental Rates for Construction Equipment" complied by Equipment Distributors, 615 West 22nd Street, Oak Brook, Illinois 60521, shall be used to determine equipment rental rates and no percent shall be added to the rates indicated in such publication.

9-5 PAYMENT FOR SUBCONTRACTING, EXTRA WORK

Where an authorized subcontractor performs some or all of the Work qualifying as an Extra Work item and compensation is to be based on the terms of paragraph 9-4 (2), the cost of labor, bonds, material and equipment shall be the cost to the subcontractor on these items and an additional allowance to the prime Contractor of five percent (5%) of all costs as determined in paragraph 9-4 (2) shall be made in such instances.

9-6 PARTIAL PAYMENTS

Once each month, the Contractor will make an approximate estimate, in writing, of the materials in place complete, the amount of Work performed, and the value thereof, at the contract unit prices. From the amount so determined of completed work there shall be deducted ten percent (10%) to be retained until after the completion of the entire Work to the satisfaction of the Owner, and the balance certified to the Owner for payment.

In addition, an estimate may, at the discretion of the Owner and upon presentation of receipted bills and freight bills, be made for payment of the value of acceptable non-perishable materials delivered at the Work site or in acceptable storage places and not used at the time of such estimate. The care and storage of such material shall be the Contractor's responsibility. In the absence of receipted bills, an estimate may, at the request of the Contractor and at the discretion of the Owner, be made for payment of the value of materials in acceptable storage places and not used at the time of the estimate, but in such an event payment shall be made of such amounts by a check requiring the endorsement of both the Contractor and materials supplier. Endorsement of such a check by the material supplier shall be construed a waiver of lien for the cost of materials covered by the check. Such materials, when so paid for by the Owner, shall become the property of the Owner, and in the event of default on the part of the Contractor, the Owner may use or cause to be used such materials in the construction of the Work

provided for in the Contract. The amount thus paid by the Owner shall be deducted from estimates due the Contractor as the material is used in the Work.

9-7 ACCEPTANCE AND FINAL PAYMENT

Whenever the Work provided for by the Contract shall have been completely performed on the part of the Contractor, and all parts of the Work have been deemed to be in substantial compliance with the Plans and Specifications by the Engineer and accepted by the Owner, a final estimate showing the value of the Work will be prepared by the Engineer as soon as the necessary measurements and computations can be made, all prior estimates upon which payments have been made being approximate only and subject to correction in the final payment. The amount of this estimate, less any sums that have been deducted or retained under the provisions of the Contract, will be paid to the Contractor as soon as practicable after the final acceptance, provided the Contractor has furnished to the Owner satisfactory evidence that all sums of money due for any labor, materials, apparatus, fixtures, or machinery furnished for the purpose of such Work have been paid or that the person or persons to whom the same may be due have consented to such final payment.

Neither the final payment on this contract by the Owner nor any provisions in the contract documents shall relieve the Contractor of the responsibility for negligence in the furnishing and installation of faulty materials or for faulty workmanship which shows up within the extent and period provided by law or within the guarantee period of one (1) year from final acceptance of the work performed under this Contract, whichever is greater, nor of the responsibility of remedying such faulty workmanship and materials.

The acceptance by the Contractor of the final payment shall constitute a release and waiver of all claims by the Contractor except those previously made and still unsettled.

9-8 OWNER'S RIGHT TO WITHHOLD CERTAIN AMOUNTS

The Owner may withhold, in addition to retained percentages, from payment to the Contractor, such an amount or amounts as may be necessary to cover:

A. Payments that may be earned or due for just claims for labor and materials furnished in and about the Work.
B. For defective Work not remedied.
C. For failure of the Contractor to make proper payments to his subcontractors.
D. For reasonable doubt that the contract can be completed for the balance then unpaid.

The Owner will disburse and shall have the right to act as agent for the Contractor in disbursing such funds as have been withheld pursuant to this paragraph to the party or parties who are entitled to payment therefrom. The Owner will render to the Contractor a proper accounting of all such funds disbursed in behalf of the Contractor.

The Owner also reserves the right, even after full completion and acceptance of the Work, to refuse payment of the final ten percent (10%) due the Contractor, until it is satisfied that all subcontractors, material suppliers, and employees of the Contractor have been paid in full.

9-9 RELEASE OF CLAIMS AND LIENS

Neither the final payment nor any part of the retained percentage shall become due until the Contractor shall deliver to the Owner a complete release of all claims or liens arising out of this contract, or receipts in full in lieu thereof and, if required in either case, an affidavit that so far as he has knowledge or information the release and receipts include all the labor and materials for which a lien or claim could be filed; but the Contractor may, if a subcontractor refuses to furnish a release or receipt in full, furnish a bond satisfactory to the Owner to indemnify the Owner against any claim or lien (in cases where such payment is not already guaranteed by surety bond). If any claim or lien remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all monies that the latter may be compelled to pay in discharging such a lien, including all costs and a reasonable attorney's fee.

DIVISION II

Technical Specifications

EXCAVATION AND CLEANUP

SECTION 1. EXCAVATION AND BACKFILL FOR UNDERGROUND CONDUITS

1-1 DESCRIPTION

For the purpose of this section, underground conduits shall be considered sewer pipe, water main or any other pipe conduit indicated on the Plans. Wherever the term "pipe" or "pipe line" is used, it shall mean underground conduit.

Excavation and backfill shall include all excavation, backfilling, compacting, disposal of surplus material, restoration of all disturbed surface, and all other work incidental to the construction of trenches, including any additional excavation which may be required for manholes or other structures forming a part of the pipe line.

1-2 CONSTRUCTION DETAILS

1-2.01 SURFACE REMOVAL AND TOPSOIL PRESERVATION

Along the proposed pipe lines as indicated on the Plans, the Contractor shall remove the surface materials only to such widths as will permit a trench to be excavated which will afford sufficient room for proper efficiency and proper construction. Where sidewalks, driveways, pavements and curb and gutter are encountered, care shall be taken to protect such against fracture or disturbance beyond reasonable working limits. In areas specified on the Plans, topsoil suitable for final grading and landscaping shall be piled separately in locations approved by the Owner and preserved so that it may be restored after the remainder of the backfill is replaced.

1-2.02 WIDTH OF EXCAVATION

A. The bottom width of the trench at and below the top of the pipe and inside the sheeting and bracing, if used, shall be in accordance with Section 550.04 of the Standard Specifications, unless otherwise noted.

Note: The strength or class of pipe shall be as indicated on the Plans.

B. Trench sheeting and bracing or a trench shield shall be used as required by the rules and regulations of O.S.H.A. The Engineer shall not be responsible for determining whether the contractor is in compliance with this provision. The bottom of the trench excavation shall conform to the details shown on the Plan.

C. If these trench widths are exceeded without the written permission of the Engineer, the pipe shall be installed with a concrete cradle or with concrete encasement or a stronger pipe than originally specified shall be used as approved by the Engineer.

1-2.03 EXCAVATION BELOW GRADE

In cases where the excavation is carried beyond or below the lines and grades given by the Engineer, the Contractor shall, at his own expense, refill all such excavated space with suitable granular material.

1-2.04 ROCK EXCAVATION

A. GENERAL

Wherever "rock" is used as the name of an excavated material, it shall mean boulders or pieces of rock, concrete, or masonry measuring one-half (1/2) cubic yard or more, hard shale or solid ledge rock and masonry which requires for its removal the continuous use of pneumatic tools or drilling and blasting.

Before payment is allowed for "Rock Excavation", the Contractor shall be required to demonstrate the material cannot be removed "by hand pick" or by power operated excavator or shovel. No payment will be made for Rock Excavation unless air tools or explosives were used by the Contractor. No payment will be made for "Rock Excavation" unless the Engineer approves such payment in writing in advance upon being satisfied that the material meets the above criteria.

B. MEASUREMENT FOR PAYMENT

Where "Rock Excavation" is to be measured for payment, quantities will be determined by the Engineer. Rock required to be removed shall be computed by the cubic yard. Width for pay purposes shall be the measured width of rock removed, but shall not exceed the width specified in Section 550.04 of the Standard Specifications, plus any sheeting and bracing if required. Depth for pay purposes shall be the difference in elevation between the top and bottom of the rock as determined by the Engineer. Where rock is encountered in the bottom of the trench, the maximum depth for payment purposes will be six inches (6") below the bottom of the pipe. Where the proposal does not contain a pay item for "Rock Excavation", the additional cost of rock removal as defined by the specifications shall be paid on extra work basis. (Division I, Section 9-4).

C. PAYMENT

Payment shall be made at the Contract unit price per cubic yard of "Rock Excavation". These prices shall be full compensation for furnishing all materials; for all preparation, excavation and disposal of rock; and for all labor, equipment, tools and incidentals necessary to complete the item.

1-2.05 SUBSURFACE EXPLORATION

All information available to the Owner, if any, on subsurface exploration will be made available for examination by prospective Bidders. However, it is understood and agreed that the Owner shall in no way be held responsible for interpretation of this information, its accuracy or its thoroughness. Prospective Bidders shall make such subsurface explorations as they believe necessary to verify and supplement information received from the Owner.

1-2.06 EXPLORATORY EXCAVATION

A. GENERAL

Whenever, in the opinion of the Engineer, it is necessary to explore an excavate in advance of the Work to determine the best line and grade for the construction of the proposed pipe line, the Contractor shall make explorations and excavations for such purposes.

B. PAYMENT

The cost of such excavation will be paid at the contract unit price per foot for "Exploration Trench", or if no Bid Item is included, on an extra work basis.

1-2.07 BRACED AND SHEETED TRENCHES

A. GENERAL

Open-cut trenches shall be sheeted and braced or otherwise protected as required by any governing Federal or State laws and municipal ordinances, and as may be necessary to protect life, property, or the Work. In any event, the minimum protection shall conform to the recommendations in the Occupational Safety and Health Act Standards for Construction (OSHA). A sand box or trench shield may be used in lieu of sheeting as permitted by OSHA. When close-sheeting is used, it shall be so driven as to prevent adjacent soil from entering the trench either below or through such sheeting. Tight sheeting shall be used in that portion of the excavation in or along state and county highways below the intersection of a 1 to 1 slope line from the nearest face of the excavation to the edge of the pavement.

Where sheeting and bracing are used, the trench width shall be increased accordingly. The sheeting will be driven to the full depth of work, or to a depth where the soil has the stability necessary to meet the OSHA standards, whichever is lower. The shallower depth of required sheeting may be established by soil boring and analysis, to be performed at the Contractor's sole cost. The owner shall have the right of consent in the selection of the soils engineer for the sampling and analysis. This provision shall not relieve the contractor, in any degree, from his responsibilities under the contract.

Sheeting and bracing, which are required to be left in place shall be cut off at the specified elevation. Trench bracing, except that specified to be left in place, may be removed when the backfilling reaches the said bracing's level. All sheeting except that required to be left in place may be removed as the excavation is refilled, in such a manner as to avoid bank cave-in(s) or disturbance to the adjacent area(s) or structure(s). The voids left by the withdrawal of the sheeting shall be carefully filled by jetting, vibrating, ramming or other satisfactory means.

B. PAYMENT

Payment for sheeting and bracing, and all other Work incidental to sheeting and bracing, shall not be made separately but shall be included in the Contract price for the pipe size, except when ordered left in place.

Payment for timber sheeting left in place when shown on the plans or directed by the Engineer shall be made at the Contract unit price per 1,000 board feet of "Timber Sheeting Left in Place."

Payment for steel sheet piling when specified shall be made at the Contract unit price per square foot for "Steel Sheet Piling."

Payment for steel sheet piling left in place when shown on the plans or directed by the Engineer shall be made at the Contract unit price per square foot for "Steel Sheet Piling Left in Place."

1-2.08 TRENCHES WITH SLOPING SIDES, LIMITED

The Contractor may, at his option, where working conditions and right-of-way permit, excavate pipe line trenches with sloping sides, but with the following limitations:

A. In general, only braced and vertical trenches will be permitted in traveled streets, alleys or narrow easements.

B. Where trenches with sloping sides are permitted, the slopes shall not extend below the top of the pipe, and trench excavations below this point shall be made with vertical sides with widths not exceeding those specified hereinbefore for the various sizes of pipe.

1-2.09 SHORT TUNNELS

In some instances, trees, fire hydrants, sidewalks and other obstructions may be encountered, the proximity of which may be a hindrance to open-cut excavation. In such cases, the Contractor shall excavate by means of short tunnels in order to protect such obstructions against damage. Where such obstructions are shown on the Plans, short tunnel work shall be considered incidental to the construction of the pipe line and shall not be grounds for extra payment or payment for tunnel work. Where such obstructions are not shown on the Plans, payment will be at the Contract unit price or as extra work in accordance with Division I, Section 9-4.

1-2.10 PILING EXCAVATION MATERIAL

All excavated material shall be stockpiled to avoid obstructing streets, sidewalks and driveways. Excavated material suitable for backfilling shall be stockpiled separately on the site. No material shall be placed closer than 2'0" to the edge of an excavation. Fire hydrants under pressure, valve pit covers, valve boxes, curb top boxes, or other utility controls shall be left unobstructed and accessible until the Work is completed. Gutters shall be kept clear or other satisfactory provisions made for street drainage. Natural watercourses shall not be obstructed or polluted. Surplus material and excavated material unsuitable for backfilling shall be transported and disposed of off the site in disposal areas obtained by the Contractor.

1-2.11 REMOVAL OF WATER

The Contractor shall at all times during construction provide and maintain ample means and devices with which 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 sanitary sewer shall be used for disposal of trench water, unless specifically approved by the Engineer and then only if the trench water does not ultimately arrive at existing pumping or sewage treatment facilities. No water containing settle able solids shall be discharged into storm sewers.

1-2.12 BLASTING

Blasting for excavation will be permitted only after securing the approval of the Owner and only when proper precautions are taken for the protections of persons and property. The hours of blasting will be reviewed by the Owner. Any damage caused by blasting shall be repaired by the Contractor at his expense. The Contractor's methods of procedure in blasting shall conform to Federal and State laws and municipal ordinances and O.S.H.A. rules and regulations. The Engineer shall not be responsible for determining whether the contractor is in compliance with these rules and regulations.

1-2.13 SAFETY

A. BARRICADES, GUARDS AND SAFETY PROVISIONS

To protect persons from injury and to avoid property damage, adequate barricades, construction signs, lights and guards as required shall be placed and maintained by the Contractor at his expense during the progress of the construction Work and until it is safe for traffic to use the roads and streets. All material piles, equipment and pipe which may serve as obstructions to traffic shall be enclosed by fences or barricades and shall be protected by proper lights when the visibility is poor. The rules and regulations of O.S.H.A. and appropriate authorities respecting safety provisions shall be observed. The Engineer shall not be responsible for determining whether the contractor is in compliance with these rules and regulations.

B. STRUCTURE PROTECTION

Temporary support, adequate protection and maintenance of all underground and surface structures, drains, sewers and other obstructions encountered in the progress of the Work shall be furnished to the Contractor at his expense. Any structures which may have been disturbed shall be restored upon completion of the Work.

C. PROTECTION OF PROPERTY AND SURFACE STRUCTURES

Trees, shrubbery, fences, poles and all other property and surface structures shall be protected during construction operations unless their removal for purposes of construction is authorized by the Engineer. Any fences, poles, or other man-made surface improvements which are moved or disturbed by the Contractor shall be restored to the original conditions, after construction is completed, at the Contractor's expense. Any trees, shrubbery or other vegetation which are approved for removal or ordered for removal by the Engineer in order to facilitate construction operations shall be removed completely, including stumps and roots, by the Contractor. Responsibility for any damage or claims for damage caused by construction operations to shrubbery or other landscape improvements which were not authorized for removal by the Engineer shall be assumed by the Contractor.

1-2.14 DEVIATIONS OCCASIONED BY STRUCTURES OR UTILITIES

Wherever obstructions are encountered during the progress of the Work and interfere to such an extent that an alteration in the plan is required, the Engineer shall have the authority to change the Plans and order a deviation from the line and grade or arrange with the owners of the structures for the removal, relocation or reconstruction of the obstructions. Where gas, water, telephone, electrical, hot water, steam, or other existing utilities are an impediment to the vertical or horizontal alignment of the proposed pipe line, the Engineer shall order a change in grade or alignment or shall direct the Contractor to arrange with the owners of the utilities for their removal.

1-2.15 INTERRUPTION TO UTILITIES

The Contractor shall proceed with caution in the excavation and preparation of the trench so that the exact location of underground structures may be determined. Prior to proceeding with trench excavation, the Contractor shall contact all utility companies in the area to aid in locating their underground services.

The Contractor shall take all reasonable precautions against damage to existing utilities. However, in the event of a break in an existing water main, gas main, sewer or underground cable, he shall immediately notify the responsible official of the organization operating the utility interrupted. The Contractor shall lend all possible assistance in restoring services and shall assume all cost, charges, or claims connected with the interruption and repair of such services if the location of said utility was marked by the owner thereof prior to excavation.

1-2.16 MAINTENANCE OF TRAFFIC AND CLOSING OF STREETS

The Contractor shall carry on the Work in a manner which will cause a minimum of interruption to traffic, and may close to through travel not more than two consecutive blocks, including the cross street intersected. Where traffic must cross open trenches, the Contractor shall provide suitable bridges at street intersections and driveways. The Contractor shall post suitable signs indicating that a street is closed and necessary detour signs for the proper maintenance of traffic. Prior to closing of any streets, the Contractor shall notify responsible municipal authorities at least five (5) days in advance of the starting of the Work, unless otherwise approved by the municipality.

1-2.17 CONSTRUCTION IN EASEMENTS

In easements across private property, the Contractor shall confine all operations in the easement area and shall be responsible and liable for all damage outside of the easement area. Trees, fences, shrubbery or other type of surface improvements located in the easements will require protection during construction. The provisions of Section 1-2.14C above shall apply to all easement areas as well as to public right-of-way. Precautions shall be taken by adequate sheeting or other approved method to prevent any cave-in or subsidence beyond the easement limits or damage to improvements within the easement. In general, the easement area is intended to provide reasonable access and working area for efficient operation by the Contractor. Where easement space for efficient operation is not provided, the Contractor shall be responsible for organizing his operations to perform within the restrictions shown on the Plans. The Owner shall make available to the Contractor a copy of the construction easements.

1-2.18 UNDERGROUND CONDUIT CONSTRUCTED IN TUNNEL

A. GENERAL

Where shown on the plans or where specifically authorized by the Engineer, pipe lines shall be constructed in tunnel. This work will be made in accordance with requirements of any permits obtained by the Owner from railroads or state or county highway departments for tunnel work or in accordance with the following paragraph.

B. MATERIALS

Pipe materials shall be as shown on the Plans or as described in the Special Provisions.

C. EXCAVATION AND LAYING

Requirements for excavation and laying and for joints shall be those applicable for the type of pipe line involved, unless otherwise specified.

Before starting excavations for tunnel shafts or jacking or augering pits, the Contractor shall submit drawings of proposed sheeting and bracing arrangements which have been prepared, signed and sealed by a structural Engineer registered in the State of Illinois for Work in Illinois and by a structural Engineer registered in the State of Indiana for Work in Indiana.

An adequate ventilation system shall be provided to properly ventilate all parts of the tunnel.

D. METHODS OF CONSTRUCTION

1. The tunnel shall be only of sufficient width and height to provide free working space. The sides and roof of the tunnel shall be braced sufficiently to support the external loads and to prevent caving, bulging, and settlement of the earth.

2. The Contractor shall backfill all tunnels with well compacted sand, fine gravel or stone screenings as rapidly as the conditions permit.

3. The backfill material shall be deposited in the tunnel in such a manner as not to injure or disturb the pipe. The filling of the tunnel shall be carried on simultaneously on both sides of the pipe in such a manner that injurious side pressures do not occur. Special care shall be taken to compact the backfill under the haunches of the pipe. The remainder of the tunnel, or such portion of the remainder as may be possible, shall then be backfilled by one of the following methods, at the option of the Contractor.

    a. The material shall be deposited in uniform layers not to exceed twelve inches (12") thick (loose measure) and such layer either inundated or deposited in water.

b. The tunnel shall be backfilled with loose material or only partly backfilled at a time, if necessary, and settlement secured in either case by introducing water through holes jetted into the material to a point approximately two feet (2') above the top of the pipe.

4. If neither of the above methods is practicable or can be used for only a portion of the backfill, the remainder of the tunnel shall be completely backfilled with material carefully deposited in uniform layers and each layer compacted by ramming or tamping with appropriate tools.

5. When sheeting and bracing have been used, sufficient bracing shall be left across the trench as the backfilling progresses to hold the sides and top firmly in place without caving or settlement before the backfilling has been placed. This bracing may be removed as soon as practicable.

6. Any depressions which may develop within the area involved in the construction operations due to settlement of the backfilling material shall be filled.

E. USE OF CASING PIPE

The Contractor may use metal casing pipe as a tunnel liner in place of timber shoring for tunnel sections. The design data for such pipe, including, but not necessarily limited to, the diameter, gauge, type of pipe, method of placing and installation will be submitted for the owner's review. The void space between tunnel liners or casing pipe and the carrier pipe shall be filled with compacted sand or other approved material.

F. JACKING OR BORING OF PIPE

The Contractor may, subject to the approval of the Owner, use special cast iron or specially designed reinforced concrete jacking pipe jacked and/or bored into position with or without tunnel liners, for tunneled sections pipe.

G. MEASUREMENT AND PAYMENT

Underground conduit constructed in tunnel will be paid for at the unit prices Bid for "Underground Conduit Constructed in Tunnel" for the various type and sizes for the actual length of tunnel Work. Payment shall include all labor, materials and equipment necessary to construct the conduit and tunnel, complete in place, including excavation and backfill, shoring and bracing, furnishing and laying casing pipe where required and carrier pipe, and all other Work necessary for a complete installation.

1-2-19 SANITARY SEWERS

A. GENERAL

The methods of excavating and backfilling sanitary sewer pipe shall be in compliance with the latest edition of the Illinois Department of Transportation, "Standard Specifications for Road and Bridge Construction", and the Metropolitan Water Reclamation District of Greater Chicago, "Manual of Procedure", latest revision. Where there is a conflict of these specifications, the MWRDGC, "Manual of Procedure" shall be used.

B. MATERIAL

Pipe material shall be as shown on the Plans or as described in the Special Provisions. No substitution of material shall be made without written approval from the Owner.

C. EXCAVATION AND BEDDING

The trench shall be excavated to an elevation to allow for the following bedding.

Bedding, other than concrete embedment, shall consist of gravel, crushed gravel, crushed stone or crushed slag, 1/4" to 1" in size. As a minimum, the material shall conform to the requirements of Article 1004.01 of the State Specifications or ASTM Designation C-33. The gradation shall conform to Section 1004, gradation CA 11 or CA 13 or to ASTM Gradation No. 67. The pipe shall be laid so that it will be uniformly supported and the entire length of the pipe barrel will have full bearing. No blocking of any kind shall be used to adjust the pipe to grade except when used with embedment concrete. Bedding shall be required for all sewer construction, except ductile iron pipe, and shall be of a thickness equal to 1/4 of the outside diameter of the sewer pipe with a maximum thickness of eight inches (8") but shall not be less than four inches (4").

Where unsuitable material is encountered at the grade established, all such unsuitable soil shall be removed under the pipe and for the width of the trench, and shall be replaced with well compacted bedding material, to the satisfaction of the Engineer.

Where rock is encountered, it shall be removed below grade and replaced with a cushion of well compacted bedding material having a thickness under the pipe of not less than eight inches (8").

The cost of furnishing, placing and compacting bedding material will be considered as incidental work and no additional compensation will be allowed.

D. BACKFILLING

The backfilling of the sanitary sewer pipe trench shall be the same as for storm sewer pipe described in Section 550.07 of the Standard Specifications.

E. METHOD OF MEASUREMENT

The method of measurement shall be the same as for storm sewer pipe described in Section 550.09 of the Standard Specifications except measurements will be made to the center of manholes.

F. BASIS OF PAYMENT

This work will be paid for at the Contract unit price per foot for "Sanitary Sewer" of the type and diameter specified and measured as specified.

"Trench Backfill", when specified, will be measured and paid for at the Contract unit price per foot unless otherwise stated in the Special Provisions or contract documents.

1-2.20 WATER MAINS

A. GENERAL

The method of excavating and backfilling water mains shall be in compliance with the latest edition of the Illinois Department of Transportation, "Standard Specifications for Road and Bridge Construction," and those below.

B. MATERIAL

Pipe material shall be as shown on the Plans or as described in the Special Provisions. No substitution of material shall be made without written approval of the Owner.

C. EXCAVATION AND BEDDING

The trench shall be excavated to an elevation to allow the minimum cover over the pipe as called for on the plans. Provision must be made by the Contractor to allow for any future cuts to be made to the ground over the pipe to assure that the minimum cover is maintained.

Bedding as described in Section 1-2.21C for sanitary sewers shall be required for all water mains, except ductile iron pipe that requires no bedding. The method of bedding for unsuitable material and where rock is encountered shall also comply with the conditions of that Section.

The cost of furnishing, placing and compacting bedding material will be considered as incidental work and no additional compensation will be allowed.

D. BACKFILLING

The backfilling of the water main pipe shall be the same as for storm sewer pipe as described in Section 550.07 of the Standard Specifications except that the moist fine aggregate backfill to the elevation of the center of the pipe will not be required for ductile iron pipe. For PVC or any other type of pipe, the moist fine aggregate shall be

brought to a level 12" above the top of the pipe and it shall be compacted as described in that Section.

E. METHOD OF MEASUREMENT

"Water main" pipe of the different types and diameters will be measured by the lineal foot in place.

Unless they are listed as separate Bid items, the water main item shall include all fittings required and all other material, except trench backfill within the specified trench.

F. BASIS OF PAYMENT

This work will be paid for at the Contract unit price per lineal foot for "Water main" of the type and diameter specified and measured as specified.

"Trench Backfill", when specified, will be measured and paid for at the Contract unit price per foot, unless otherwise specified in the special provisions or contract documents.

SECTION 2. RESTORATION OF SURFACES

2-1 GENERAL

Restoration of surfaces shall include the removal of the existing surface, the disposal of surplus material, and the construction of new surfaces as indicated on the plans or Special Provisions. The type of surface restoration required shall be shown on the Plans or described in the Special Provisions.

2-2 CONSTRUCTION DETAILS

2-2.01 TEMPORARY SURFACE OVER TRENCH

Wherever conduits are constructed under traveled roadways, driveways, sidewalks, or other traveled surfaces, a temporary surface shall be placed over the top of the trench as soon as possible after compaction, as specified above, has been satisfactorily completed. The temporary surface shall consist of a minimum of six inches (6") of coarse aggregate conforming to the current specifications of the State Specifications for Grade No. CA-9 or CA-10. The top of the temporary surface shall be smooth and meet the grade of the adjacent undisturbed surface. The temporary surface shall be maintained at the Contractor's expense until final restoration of the street surface is completed, unless specific items for temporary aggregate is specified. No permanent restoration of street surface shall be initiated until authorized by the Engineer.

2-2.02 REMOVAL OF PAVEMENT, SIDEWALK, DRIVEWAY AND CURB

Wherever the pipe is located along or across an improved surface, the width of the trench shall be held as nearly as possible to the maximum width specified in Section 1-2.02. Where brick or concrete pavement, sidewalk, driveway or curbing is cut, the width of the cut shall exceed the actual width of the top of the trench by twelve inches (12") on each side or a total of two feet (2'). Exposed surfaces of portland cement or asphaltic concrete shall be cut with a pavement saw before breaking. Care shall be taken in cutting to insure that a straight joint is sawed.

2-2.03 REPLACEMENT OF PERMANENT TYPE PAVEMENT, SIDEWALKS, DRIVEWAYS, CURBS, GUTTERS AND STRUCTURES.

The Contractor shall restore (unless otherwise specified or ordered by the Engineer) all permanent type pavements, sidewalks, driveways, curbs, gutters, shrubbery, fences, poles and other property and surface structures removed or disturbed during or as a result of construction operations to a condition which is equal in appearance and quality to the condition that existed before the Work began. The surface of all improvements shall be constructed of the same material and match in appearance the surface of the improvement which was removed. Where trench backfill is used, the restoration shall be made as soon as possible after jetting of the backfill has been completed.

2-2.04 REPLACING EXISTING TEMPORARY STREET AND ALLEY SURFACES

A. GENERAL

For the purpose of this specification, all existing street and alley surfaces shall be considered temporary except:

(1) concrete or brick pavements; (2) an asphaltic concrete or a bituminous treated surface over a soil cement, concrete, crushed stone or selected gravel base. Specifically included as temporary street surfaces, shall be compacted earth, cinders, shale, mixtures of gravel and earth or crushed stone and earth, whether or not these respective materials are further stabilized by road oil or bituminous surface treatment. This work should not be confused with Temporary Surface Over Trench as specified in Section 2-2.01.

Where conduits are constructed under temporary street or alley surfaces, or where such surfaces are used for the placement of backfill material or are disturbed by construction operations, the Contractor shall reconstruct, by grading and shaping, the entire width of roadway, and any drainage facilities which may have existed, to the original condition at the Contractor's expense, including that portion within the specified trench width where removal and restoration is paid for under a separate payment item.

Where, in the opinion of the Engineer, the conduit is located in the traveled portion of the temporary street or alley traveled surface, a new temporary surface shall be constructed over the trench, as specified in Section 2-2.01 of this Division. After this surface has been placed, it shall be maintained by the Contractor until final restoration is authorized. Just prior to final restoration, the entire width of the street to be restored shall be scarified. For final surface restoration, the Contractor shall apply a bituminous treatment to the entire width of the traveled surface, as ordered by the Engineer. The bituminous treatment shall consist of the application of a bituminous prime coat and a bituminous surface treatment corresponding to the materials and construction methods described in the State Specifications for bituminous surface treatment, Class A-1, A-2, or A-3 as specified, or shown in the bid items.

The Engineer reserves the right to order the omission of Bituminous Surface Treatment in any locations where such omission may be, in his opinion, in the public interest.

B. MEASUREMENT

Measurement for purposes of payment shall be computed by using the actual length and width of surface to which treatment is applied, in accordance with these Specifications.

C. PAYMENT

The cost of final restoration of the surface shall be paid for at the contract unit price per foot, unless so stated in the Special Provisions or for all State of Illinois projects, for "Bituminous Surface Treatment", of the type specified. Such price shall include the cost of all labor and materials necessary to provide the bituminous treatment as specified.

2-2.05 DISPOSAL OF SURPLUS EXCAVATED MATERIAL

Surplus excavated material not needed for backfill shall be promptly removed from the site to locations provided by the Contractor. The cost of removal and disposal of surplus excavated materials will be included in the respective unit prices for pipeline or conduit construction and no additional payment will be allowed therefor.

2-2.06 CLEANING UP

All surplus materials and all tools and temporary structures shall be removed from the site by the Contractor. All dirt, rubbish and excess earth from the excavation shall be hauled to a dump provided by the Contractor and the construction site left clean and acceptable to the Owner at the earliest possible date.

SECTION 3. FINISHING AND CLEAN UP FOR UNDERGROUND CONDUITS

3-1 CLEAN UP

Before acceptance of underground conduits construction, all pipes, manholes, catch basins, fire hydrants and other appurtenances shall be cleaned of all debris and foreign material.

After all backfill has been completed, the ground surface shall be shaped to conform to the contour of adjacent surfaces. General clean up of the entire construction area shall otherwise conform to applicable requirements specified.

SPECIAL PROVISIONS

TABLE OF CONTENTS

VILLAGE OF TINLEY PARK
183RD STREET AND OAK PARK AVENUE MULTI-USE PATH
FROM CONVENTION CENTER DRIVE TO S. POINTE DRIVE
SPECIAL PROVISIONS

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction", adopted April 1, 2016; the latest editions of the "Supplemental Specifications and Interim Special Provisions" and the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways"; the "Manual of Test Procedures for Materials" in effect on the date of the invitation for bids; the Division I General Requirements and Covenants; and the Division II Technical Specifications which apply to and govern the proposed improvement in Cook County, and in case of conflict with any part, or parts, of said specifications, the said Special Provisions shall take precedence and shall govern.

However, in all cases, the Division I General Requirements and Covenants of the specifications shall take precedence over the Division 100 General Requirements and Covenants of the Standard Specifications for Road and Bridge Construction and shall govern.

SCOPE OF WORK

The scope of work involves constructing a new 10-foot-wide hot-mix asphalt multi-use path along the south side of 183rd Street from Convention Center Drive to Oak Park Avenue and on the west side of Oak Park Avenue from S. Pointe Drive to 183rd Street. Proposed concrete sidewalks will also be installed along Convention Center Drive and on the north side of 183rd Street in front of Culvers. This project consists of earth excavation, hot-mix surface course, aggregate base course, concrete sidewalks, curb and gutter removal and replacement, drainage structure adjustments/reconstructions, storm sewer, pedestrian traffic signals/pushbuttons, pavement striping, restorations, and related work.

The quantities called for in this contract for ALL locations indicate the approximate amount of work to be expected. The actual amounts for the various items may vary depending upon actual field conditions. The Village reserves the right to reduce or increase the scope of project quantities and to delete entire line items. It shall be understood and agreed upon that the unit prices for these items shall prevail throughout the period of the contract and that no additional compensation per unit price or otherwise will be allowed for any increase or decrease in the quantities including, but not limited to, decreases due to the deletion of an entire location/section of the improvement. No increase in unit price will be allowed if method of construction changes due to decreased quantity.

COMPLETION DATE

The contractor is advised that all work shall be completed on or before November 30, 2018 and within requirements of the Standard Specifications as far as temperature and dates for certain items. Should the contractor fail to comply with the listed dates, the provisions of Section 108.09 shall be applied.

PROJECT CLOSE OUT / CASH SECURITY

Due to funding restrictions, this project must be fully closed out (including final payment) prior to December 31, 2018. Due to planting limitations and the likelihood that sodding and seeding will not be able to be evaluated

for successful installation until the Spring of 2019, the Contractor will be required to provide a cash security. A certified check payable to the Village of Tinley Park will be required to be submitted with the final payment request. The check shall be in the amount of $20,000 and will be held at the Village until June 15, 2019 or until the sodding/seeding is accepted by the Village. If the Contractor fails to make any corrections within 15 business days of being notified the Village will cash the held check and use the funds to make the necessary repairs. This requirement is considered incidental to the contract.

FUNDING LIMITS

The quantities called for in this contract indicate the approximate amount of work to be expected. The actual amounts for the various items may vary depending upon actual field conditions. The Village reserves the right to reduce or increase the scope of project quantities and to delete entire line items. It shall be understood and agreed upon that the unit prices for these items shall prevail throughout the period of the contract and that no additional compensation per unit price or otherwise will be allowed for any increase or decrease in the quantities including, but not limited to, decreases due to the deletion of an entire location/section of the improvement. No increase in unit price will be allowed if method of construction changes due to decreased quantity.

PREQUALIFICATION

The Contractor shall be IDOT prequalified for HMA and concrete work. A copy of the current IDOT Prequalification shall be presented at the time of bid document pick up. If this information is not supplied or on file, the bid documents shall be withheld.

PREFERENCE TO VETERANS

Attention is called to assure compliance with Illinois Compiled Statutes Veteran's Preference Act 330 ILCS 55/. "In the employment and appointment to fill positions in the construction, addition to, or alteration of all public works undertaken or contracted for by the state, or by any political subdivision thereof, preference shall be given to persons who have been members of the armed forces or allies of armed forces of allies of the United States in time of hostilities with a foreign country..."

WAGE RATES

This contract calls for the construction of a "public work," within the meaning of the Illinois Prevailing Wage Act, 820 ILCS 130/.01 *et seq.* ("the Act"). The Act requires contractors and subcontractors to pay laborers, workers and mechanics performing services on public works projects no less than the "prevailing rate of wages" (hourly cash wages plus fringe benefits) in the county where the work is performed. For information regarding current prevailing wage rates, please refer to the Illinois Department of Labor's website at: http://www.state.il.us/agency/idol/rates/rates.HTM. All contractors and subcontractors rendering services under this contract must comply with all requirements of the Act, *including but not limited to*, all wage, notice and record keeping duties.

MATERIAL INSPECTION – REPORTS

All materials incorporated in this contract are to be inspected according to the Project Procedures Guidelines (PPG) and the process and frequency of testing under the QC/QA specifications.

The Contractor shall be responsible for QC testing of these materials with the Engineer being notified at least forty-eight (48) hours in advance of the placement of any of these materials. The Local Agency shall be responsible for the QA testing of these materials on the job and at the plant per article 1030 of the Standard

Specifications. Please note that the Contractor is required to submit a QC plan to the Engineer for approval per the referenced specifications.

All concrete materials incorporated in this contract are to be inspected according to the Recurring Special Provision, "Quality Control/Quality Assurance of Concrete Mixtures". Please note that the Contractor is required to submit a QC plan to the Engineer for approval per the referenced specifications.

The contractor shall coordinate his work operations with the engineer to assure that the testing agencies can provide proper and sufficient notice to schedule their work. Also, all QC documentation is to be submitted to the Engineer, immediately following completion of this project. Five percent (5%) of the final contract amount due the Contractor will be withheld pending receipt of all documentation and approval of the Engineer's Final Payment Estimate by the Village.

PUBLIC CONSTRUCTION ACT, 30 ILCS 557/1

Pursuant to the home rule powers of the Village, Public Construction Act 30 ILCS 557/1 shall not be applicable to this contract.

INSURANCE COVERAGE

The Insurance Requirements can be found in Section 7 of the General Requirements "Legal Relations and Responsibility to the Public". The Contractor and any Subcontractors shall obtain and thereafter keep in force for the term of the contract the insurance coverage specified in this section. The Contractor shall not commence work under the Contract until all the insurance required by this section or any Special Provision has been obtained.

Section 7-2.02F Professional Liability WILL NOT be required as part of this project.
Section 7-2.02E Pollution Liability WILL be required as part of this project.

PERMITS

This improvement requires an IDOT permit bond and insurance requirements that are the responsibility of the Contractor to secure. This work will not be paid for but shall be considered incidental to the Contract.

NOTIFICATION COORDINATION

If the Contractor is required to impede access to any driveway/property for any reason during the course of this project, the Contractor shall provide 24 hour advance written notice to the affected properties. The notification shall be of a form and method as approved by the Village of Tinley Park.

GUARANTEE

All materials and equipment shall be guaranteed for a period of one (1) year from the date of written acceptance by the Owner. Upon receipt of notice from the Owner of failure of any part of the improvements during the guarantee period, replacement of the improvements shall be furnished and installed by the Contractor at no additional cost to the Village of Tinley Park.

VIDEO OF CONSTRUCTION ROUTE

Prior to the start of any construction or excavation, the contractor shall video record the existing conditions in the area of the construction route. The video shall be done on standard color DVD. The contractor shall supply the Village or Authorized Representative with two copies of the video prior to starting construction. The video shall include the following:

1. Full right-of-way
2. Parkway condition
3. Pavement condition
4. Curb condition
5. Driveway condition
6. Existing manholes
7. Fire hydrants
8. Fences
9. Trees and landscaped areas
10. Sidewalk condition

The video recordings shall also supply a continuous audio record of the location (preferably with address), all anticipated problem areas, items, and features for the complete area to be affected by the construction. The video recording shall be made on a DVD or other approved equal, and shall conform to Japan Electronics and Information Technology Industries Association (JEITA) standards. The format of recording and type of media used shall remain the same throughout the project. When the recorded video information is replayed and reviewed, it shall be free of electrical interference.

The audio portion of the composite signal shall be sufficiently free of electrical interference, background noise, and heavy foreign or regional accents to provide an oral report that is clear and complete and easily discernible. The audio portion of the video report shall be recorded by the operating technician on the video as they are being produced and shall include references to the street address and type of construction to be performed at the site as specified in the plans. Audio comments pertaining to special circumstances, which may arise during the excavation, shall also be included. Dubbing the audio information onto the video tract after the video is completed will not be permitted.

Video recordings shall be enclosed in vinyl plastic containers, which shall clearly indicate the date the video was taken, the designated section(s) of construction contained on the tape, and the label "VILLAGE OF TINLEY PARK 183RD STREET AND OAK PARK AVENUE MULTI-USE PATH (Project #18-R0455.03)." One (1) copy of the finished video shall be delivered to the Village or Authorized Representative prior to commencing excavation.

The surface condition of excavated areas after final restoration shall be the same or better than the pre-construction site conditions as shown in the video. The cost of video and log preparation shall not be compensated for separately but shall be considered incidental to the contract.

The surface condition of excavated areas after final restoration shall be the same or better than the pre-construction site conditions as shown in the videotape. The cost of videotaping and log preparation shall not be compensated for separately but shall be considered incidental to the contract.

MAINTENANCE OF ROADWAYS, ALLEYS, AND DRIVEWAYS

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

Access to driveways and alleys shall be maintained at all times by means of placing temporary aggregate. All driveways and curb and gutter removed shall be replaced within five (5) days of removal. Temporary aggregate will be required to allow residents access for all driveways and alleys that are determined to be removed and replaced. The temporary aggregate used to maintain alleys, and driveways shall not be paid separately nut shall be incidental to the various removal items.

COORDINATION/SCHEDULING OF WORK

The Contractor shall be advised that the work of all subcontractors will be coordinated by the General Contractor and not by the Village or their authorized representative.

All equipment parking and work in general must be coordinated with the Village event schedule.

All equipment must be removed off the Village streets during all holiday weekends at the request of the Village.

Work hours will be 7AM to 7PM Monday through Friday. Weekend/Holiday work hours as approved by the Village. No work including the start up of machinery can occur outside of these hours.

All sidewalk installation shall be done with a minimum form size of 2 inches by 6 inches. Form material can be wood or steel.

Any irrigation systems, signs, brick pavers, decorative rock, special corner landscaping, mailboxes, etc., within the construction area disturbed during construction will be the Contractors responsibility to repair and shall be included in the unit price for the various removal items.

Contractor is expected to inspect all locations before beginning work and have all material on hand to complete the project. No compensation will be had for inadequate inventory, shipping, trucking or re-stocking of materials.

Stockpiling of material and end of day clean up- Stockpiles shall not impede traffic, parking or access at any time. Any areas disturbed by stockpiles shall be restored to existing conditions and shall be considered incidental to the contract.

At the end of each working day, the contractor shall provide a steel plate, barricades, warning tape and any other safety measures deemed necessary by the Village/Engineer over the excavated areas so that traffic, parking or access is not impeded during non-working hours. Access to the property shall be maintained at all times. Placement of temporary aggregate in the roadway and in driveway areas disturbed by the construction shall be used until final conditions are met. Street clean up and sweeping is also required at the end of each working day. The cost for materials and traffic control items necessary to meet these requirements shall be considered incidental to the contract.

All water use shall be coordinated with the Village and be in compliance with their rules and regulations.

PUBLIC UTILITIES

There are existing underground and above ground public and private, municipal and non-municipal utilities at the site, such as, but not necessarily limited to electrical and telephone cables including fiber-optic facilities, natural gas pipes, sewers, and water main, etc. All due notifications, vertical/horizontal separations, and other safety precautions required by the owners/operators of the facilities being crossed shall be observed by the contractor and/or all sub-contractors at all times. Any damage caused by the construction to any of the existing facilities on-site shall be promptly repaired to the satisfaction of the owners/operators of the facility involved, at no additional compensation.

It shall be the contractor's responsibility to very carefully inspect the site, identify and locate both horizontally and vertically all existing facilities, contact their owner/operators for their notification, separation, and safety requirements, and follow such requirements very carefully. It shall be the Contractor's responsibility to notify J.U.L.I.E. at least 48 hours prior to excavation to verify locations of all utilities.

The contractor shall protect and save harmless the Village of Tinley Park and Robinson Engineering, Ltd from any claim(s) of damage resulting from his/her activities at the site or from failing to undertake due and proper safety measures to avoid such damage to any utilities during the construction.

The contractor shall repair any damage to any of the utilities, caused by his/her work, to the satisfaction of the involved utility and the Village of Tinley Park at no additional compensation. The cost of compliance with this provision shall be considered incidental to the contract and will not be compensated for separately.

TRAFFIC CONTROL PLAN
Effective: September 30, 1985
Revised : January 1, 2007

Traffic Control shall be in accordance with the applicable sections of the Standard Specifications, the Supplemental Specifications, and 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 Resident Engineering Representative at least 72 hours in advance of beginning work.

STANDARDS: 701001-02, 701006-05, 701101-05, 701106-02, 701301-04, 701801-06, 701901-07

DISTRICT ONE DETAILS: TC-13

SPECIAL PROVISIONS: Traffic Control Plan, Maintenance of Roadways

The Contractor shall not remove any traffic control or safety devices until the entire job is complete. The Contractor shall obtain, erect, maintain and remove all signs, barricades, flagmen and other traffic control devices as may be necessary for the purpose of regulating, warning or guiding traffic. Placement and maintenance of all traffic control devices shall be in accordance with the applicable parts of Article 107.14 of the Standard Specifications and the Illinois Manual on Uniform Traffic Control Devices for Streets and Highways and the attached special provisions. The Contractor is solely responsible for ensuring all traffic control devices are installed and maintained in accordance with applicable state standards.

Work Zone Traffic Control will not be paid for separately but will be considered incidental to the contract.

The Contractor is hereby advised that notification to all affected residents is his responsibility including the placement of No Parking signs at least 48 hours prior to paving operations. In addition, signage indicating road conditions such as "Bump, "Rough Surface", "Fresh Oil", Dip", etc., as requested by the Village will also be required at no additional expense.

SAW CUT JOINTS

The removal and/or replacement of any driveways, pavement, curb, sidewalk, etc. shall be accomplished by means of a saw cut joint, at the direction of the Engineer. This work will not be paid for separately but shall be included in the unit price bid for the various removal items.

CONTINGENCY

A contingency allowance has been included in this contract and is for the sole use of the Owner to cover unanticipated costs processed through change orders, which the Contractor shall enter as $30,000 on his proposal.

DETECTABLE WARNINGS

This item shall consist of the placement of detectable warning plates in accordance with Section 424.09 of the Standard Specifications and the applicable IDOT Highway Standards for Curb Ramps for Sidewalks. The detectable warning plate(s) shall be polymer composite material red in color and meet the Village of Tinley Park Standards. The contractor shall furnish and install detectable warning plates manufactured by ArmorTile or approved equal. The tiles must not have any hardware. The contractor is responsible for the installation of the device per the manufacturer's specifications and the handicap ramp as described in the contract documents. Material specifications shall be submitted to the Engineer for approval prior to installation of the detectable warning plates.

This work will be paid for at the contract unit price per SQUARE FOOT for DETECTABLE WARNINGS and will include all materials, equipment and labor required to complete the work as specified above.

COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12 or B-6.24

This item shall consist of the replacement of combination concrete curb and gutter, in accordance with Sections 606 and 440 of the Standard Specifications at locations as designated by the Engineer.

Topsoil must be placed in the gaps behind the replaced curb within 14 days of the curb being poured. If this topsoil is not placed the Contractor will be charged $500 per day after day 14 in liquidated damages. In addition, if the Village has to undertake this work, the Contractor will be responsible for the cost to the Village to procure the work and this amount will be withheld from any amount due the Contractor by the Village. Topsoil will be paid for at the contract price for TOPSOIL, FURNISH AND PLACE, 4" (SPECIAL).

In most cases the curb and gutter is being replaced to depress the curb for the new multi-use path or sidewalks. Curb depressions should be in accordance with the applicable included IDOT Highway Standards and be included in the cost of the replaced curb and gutter. The abutting street in front of the curb and all driveways, carriage walks and sidewalks behind the curb shall be restored to their original condition with like material. The surfaces shall be removed by full depth sawed joints and one-half inch (1/2") preformed joint filler shall be used between new concrete and existing concrete; where concrete driveways, walks, etc. meet curbs; and between the curb and all steel castings. Where curb and gutter is removed at driveway location, access to the property shall be maintained with temporary aggregate. When replacing curb near an inlet, all curbs must be drilled and dowelled using number 6 smooth rods and expansion material.

All existing pavement removed due to the removal and replacement of combination concrete curb and gutter shall be replaced in two layers with a patch consisting of Hot-Mix Binder Course, IL-19.0, N70 and Hot-Mix Asphalt Surface Course, Mix D, N50 (top two inches (2") minimum) not less than ten-inches (10") below the existing surface elevation at a minimum width of one foot wide. Saw cutting shall be required as directed by the Engineer to secure a straight joint and shall be paid for in the curb removal item. Concrete will not be allowed to fill in the gap between the new curb and existing pavement. The replacement of the HMA pavement shall be included in the cost of the replaced curb and gutter pay item.

The material, patch, any temporary aggregate, rods, required expansion material and any labor and incidentals for a complete job shall be paid for at the contract unit price bid per FOOT for COMBINATION CONCRETE

CURB AND GUTTER, TYPE B-6.12 and COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24. The removal of the existing curb and gutter will be paid for at the contract unit price bid per FOOT for COMBINATION CURB AND GUTTER REMOVAL.

CATCH BASINS TO BE RECONSTRUCTED (SPECIAL)

This work shall consist of the reconstruction of a drainage structure at the locations indicated in the plans or as directed by the engineer in the field. All work shall be in accordance with the applicable portions of Sections 602 and 603 of the Standard Specifications except as modified herein.

The existing structure includes a flat slab top and Type 8 Grate which is higher than the existing ground elevation. The proposed multi-use path will be running through this structure. The structure is to be cut, lowered, and closed with a new flat slab top with the intention of paving the HMA path over it. If it cannot be lowered due to the existing storm sewer pipes, the concrete flat slab top shall be flush with the proposed path.

This work will be paid for at the contract unit price per EACH for CATCH BASINS TO BE RECONSTRUCTED (SPECIAL) and will include all materials, equipment and labor required to complete the work as specified above.

EXPLORATORY EXCAVATION

This work shall be done in accordance with the Standard Specifications insofar as applicable included herein and including the following description.

The work of this pay item shall consist of providing service to complete an exploratory excavation at the depth necessary to establish elevation of existing public and private utilities in the field as directed by the Engineer.

After the evaluation and size of the utility has been determined, the trench (hole) shall be backfilled with trench backfill in a manner satisfactory to the Engineer. Excavated materials shall be disposed of in accordance with Article 202 of the Standard Specifications.

This work shall be paid for at the contract unit price per EACH for EXPLORATORY EXCAVATION.

FACILITY ADJUSTMENTS

This item shall include the adjustments of any sanitary sewer and water main services, as well as any water main and sewer lines, encountered by the construction of the sewer and water main. The Contractor shall make every attempt possible to avoid these facilities, and if in the opinion of the Engineer, the facilities are damaged due to carelessness by the Contractor, no compensation will be made for the replacement of same.

If adjustment of certain services is necessary, the work shall be done in a workmanlike fashion, minimizing the downtime of the residents' services, and shall include all necessary labor and materials to properly complete the adjustment. Work on these items shall be paid for at the contract unit price per EACH for WATER MAIN SERVICE ADJUSTMENT and for SANITARY SEWER SERVICE ADJUSTMENT with the costs of each item as stated in the bidding schedule which price shall include the cost of all pipe, joint materials, trench backfill, labor and equipment needed to complete the work as stated.

All sanitary services shall be replaced with ductile iron pipe for 10 feet on either side of the water main. Non-shear mission couplings shall be used.

TOPSOIL FURNISH AND PLACE, 4" (SPECIAL)

This work shall consist of the furnishing and placing of four inches (4") of pulverized topsoil at all areas disturbed by the construction. All work shall be done in accordance with Sections 211 of the Standard Specifications with the exception the timeframe. All topsoil must be placed within 14 days of the proposed curb, sidewalk, and multi-use path installations. If this topsoil is not placed the Contractor will be charged $500 per day after day 14 in liquidated damages. In addition, if the Village has to undertake this work, the Contractor will be responsible for the cost to the Village to procure the work and this amount will be withheld from any amount due the Contractor by the Village.

If, in the opinion of the Engineer, more surface area than necessary has been damaged, it shall be replaced by the Contractor as specified herein without additional compensation.

This work, including the topsoil, pulverizing, etc. shall be paid for at the contract unit price per SQUARE YARD for TOPSOIL FURNISH AND PLACE, 4" (SPECIAL).

SODDING, SPECIAL

This work shall consist of preparing the ground surface, fertilizing the areas to be sodded and furnishing and placing the salt tolerant sod. Sod shall be placed in disturbed areas along 183rd Street and Oak Park Avenue. All work shall be in accordance with the applicable portions of Section 252 of the Standard Specifications.

180 pounds of fertilizer nutrients per acre shall be applied at a 1:1:1 ratio as follows:

1. Nitrogen Fertilizer Nutrient	60 lb/acre
2. Phosphorus Fertilizer Nutrient	60 lb/acre
3. Potassium Fertilizer Nutrient	60 lb/acre

Watering shall be done as directed by the Engineer, in accordance with Article 252.08 of the Standard Specifications.

This work shall be measured in place and the area calculated in square yards and shall be paid for at the contract unit price per SQUARE YARD for SODDING, SPECIAL, which price shall be full compensation for all labor, equipment, and material needed to complete the work as specified in these Special Provisions.

SEEDING (COMPLETE)

This work shall consist of preparing the ground surface, applying seed, fertilizer, and waterings. Seeding shall be placed in disturbed areas along Convention Center Drive. Seeding shall be Class 2A. All work shall be in accordance with the applicable portions of Section 250 of the Standard Specifications.

270 pounds of fertilizer nutrients per acre shall be applied at a 1:1:1 ratio as follows:

1. Nitrogen Fertilizer Nutrient	90 lb/acre
2. Phosphorus Fertilizer Nutrient	90 lb/acre
3. Potassium Fertilizer Nutrient	90 lb/acre

Watering shall be done as directed by the Engineer, in accordance with Article 252.08 of the Standard Specifications.

This work shall be measured in place and the area calculated in square yards and shall be paid for at the contract unit price per SQUARE YARD for SEEDING (COMPLETE), which price shall be full compensation for all labor, equipment, and material needed to complete the work as specified in these Special Provisions.

MULCH

Mulch installation as described shall be performed at all new landscape locations and as directed by the Engineer. This work shall be in accordance with applicable portions of Section 251 of the Standard Specifications.

Description: This item shall consist of furnishing, transporting and placing shredded hardwood bark mulch in areas as described herein and per the direction of the Engineer.

General Requirements: The Contractor shall supply and install shredded hardwood bark mulch, as required to mulch around trees, shrubs, and herbaceous plants in landscaped areas. The color of the mulch shall match the adjacent mulch areas and shall be approved by the Village.

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

All finished mulch areas shall be left smooth and level to maintain a uniform surface and appearance. All work areas shall be cleaned of debris and mulch, prior to leaving the site.

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

A composition report, test report, sample and request for material inspection form shall be supplied to the Engineer for approval prior to performing any work.

Place mulch layer around plants as follows:

Shrubs, including shrubs and roses:

Three (3) inches deep – keep mulch away from stems, crown, or neck of shrub.

Trees, shade and ornamental:

Three (3) inches deep – keep mulch away from the trunk of the tree.

Method of Measurement: MULCH shall be measured for payment in place and in units of SQUARE YARDS of mulch installed, as described herein. This item will not be paid by Load Tickets.

Basis of Payment: MULCH will be paid for at the Contract unit price per SQUARE YARD which price shall include all labor, materials, equipment and tools necessary to complete the item described above.

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 the fourth paragraphs of Article 253.10 and substitute the following:

Trees and shrubs shall be thoroughly watered with a method approved by the Engineer. Place backfill in 6 inch-thick layers. Work each layer by hand to compact backfill and eliminate voids. Maintain plumb during backfilling. When backfill is approximately 2/3 complete, saturate backfill with water and repeat until no more water can be absorbed. Place and compact remainder of backfill and thoroughly water again. Approved watering equipment shall be at the site of the work and in operational condition PRIOR TO STARTING the planting operation and DURING all planting operations OR PLANTING WILL NOT BE ALLOWED.

Add the following to Article 253.10(e):

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

Delete Article 253.11 and substitute the following:

Within 48 hours after planting, mulch shall be placed around all plants in the entire mulched bed or saucer area specified to a depth of 3 inches. No weed barrier fabric will be required for tree and shrub planting. Pre-emergent Herbicide will be used instead of weed barrier fabric. The Pre-emergent Herbicide shall be applied prior to mulching. See specification for Weed Control, Pre-Emergent Granular Herbicide. Mulch shall not be in contact with the base of the trunk.

Delete Article 253.12 and substitute the following:

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

Add the following to Article 253.13 Bracing:

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

Method of Measurement. Trees and shrubs will be measured for payment in place as individual plants. Only acceptable plants will be measured for payment.

Basis of Payment. This work will be paid for at the contract unit price per EACH for several kinds and sizes of TREES and SHRUBS.

TRAFFIC SIGNAL GENERAL REQUIREMENTS
Effective: May 22, 2002
Revised: March 25, 2016
800.01TS

These Traffic Signal Special Provisions and the "District One Standard Traffic Signal Design Details" supplement the requirements of the State of Illinois "Standard Specifications for Road and Bridge Construction." The intent of these Special Provisions is to prescribe the materials and construction methods commonly used for traffic signal installations.

- All material furnished shall be new unless otherwise noted herein.
- Traffic signal construction and maintenance work shall be performed by personnel holding current IMSA Traffic Signal Technician Level II certification. A copy of the certification shall be immediately available upon request of the Engineer.
- The work to be done under this contract consists of furnishing, installing and maintaining all traffic signal work and items as specified in the Plans and as specified herein in a manner acceptable and approved by the Engineer.

Definitions of Terms.
Add the following to Section 101 of the Standard Specifications:

101.56 Vendor. Company that sells a particular type of product directly to the contractor or the Equipment Supplier.

101.57 Equipment supplier. Company that supplies, represents and provides technical support for IDOT District One approved traffic signal controllers and other related equipment. The Equipment Supplier shall be located within IDOT District One and shall:

- Be full service with on-site facilities to assemble, test and trouble-shoot traffic signal controllers and cabinet assemblies.
- Maintain an inventory of IDOT District One approved controllers and cabinets.
- Be staffed with permanent sales and technical personnel able to provide traffic signal controller and cabinet expertise and support.
- Technical staff shall hold current IMSA Traffic Signal Technician Level III certification and shall attend traffic signal turn-ons and inspections with a minimum 14 calendar day notice.

Submittals.
Revise Article 801.05 of the Standard Specifications to read:

All material approval requests shall be submitted electronically through the District's SharePoint System unless directed otherwise by the Engineer. Electronic material submittals shall follow the District's Traffic Operations Construction Submittals guidelines. General requirements include:

1. All material approval requests shall be made prior to or no later than the date of the preconstruction meeting. A list of major traffic signal items can be found in Article 801.05. Material or equipment which is similar or identical shall be the product of the same manufacturer, unless necessary for system

continuity. Traffic signal materials and equipment shall bear the U.L. label whenever such labeling is available.

2. Product data and shop drawings shall be assembled by pay item. Only the top sheet of each pay item submittal will be stamped by the Department with the review status, except shop drawings for mast arm pole assemblies and the like will be stamped with the review status on each sheet.
3. Original manufacturer published product data and shop drawing sheets with legible dimensions and details shall be submitted for review.
4. When hard copy submittals are necessary, four complete copies of the manufacturer's descriptive literatures and technical data for the traffic signal materials shall be submitted. For hard copy or electronic submittals, the descriptive literature and technical data shall be adequate for determining whether the materials meet the requirements of the plans and specifications. If the literature contains more than one item, the Contractor shall indicate which item or items will be furnished.
5. When hard copy submittals are necessary for structural elements, four complete copies of the shop drawings for the mast arm assemblies and poles, and the combination mast arm assemblies and poles showing, in detail, the fabrication thereof and the certified mill analyses of the materials used in the fabrication, anchor rods, and reinforcing materials shall be submitted.
6. Partial or incomplete submittals will be returned without review.
7. Certain non-standard mast arm poles and special structural elements will require additional review from IDOT's Central Office. Examples include ornamental/decorative, non-standard length mast arm pole assemblies and monotube structures. The Contractor shall account for the additional review time in his schedule.
8. The contract number or permit number, project location/limits and corresponding pay code number must be on each sheet of correspondence, catalog cuts and mast arm poles and assemblies drawings.
9. Where certifications and/or warranties are specified, the information submitted for approval shall include certifications and warranties. Certifications involving inspections, and/or tests of material shall be complete with all test data, dates, and times.
10. After the Engineer reviews the submittals for conformance with the design concept of the project, the Engineer will stamp the drawings indicating their status as 'Approved', 'Approved-As-Noted', 'Disapproved', or 'Incomplete'. Since the Engineer's review is for conformance with the design concept only, it is the Contractor's responsibility to coordinate the various items into a working system as specified. The Contractor shall not be relieved from responsibility for errors or omissions in the shop, working, layout drawings, or other documents by the Department's approval thereof. The Contractor must still be in full compliance with contract and specification requirements.
11. The Contractor shall secure approved materials in a timely manner to assure construction schedules are not delayed.
12. All submitted items reviewed and marked 'APPROVED AS NOTED', 'DISAPPROVED', or 'INCOMPLETE' are to be resubmitted in their entirety, unless otherwise indicated within the submittal comments, with a disposition of previous comments to verify contract compliance at no additional cost to the contract.
13. Exceptions to and deviations from the requirements of the Contract Documents will not be allowed. It is the Contractor's responsibility to note any deviations from Contract requirements at the time of submittal and to make any requests for deviations in writing to the Engineer. In general, substitutions will not be acceptable. Requests for substitutions must demonstrate that the proposed substitution is superior to the material or equipment required by the Contract Documents. No exceptions, deviations or substitutions will be permitted without the approval of the Engineer.
14. Contractor shall not order major equipment such as mast arm assemblies prior to Engineer approval of the Contractor marked proposed traffic signal equipment locations to assure proper placement of

contract required traffic signal displays, push buttons and other facilities. Field adjustments may require changes in proposed mast arm length and other coordination.

Marking Proposed Locations.
Revise "Marking Proposed Locations for Highway Lighting System" of Article 801.09 to read "Marking Proposed Locations for Highway Lighting System and Traffic Signals."

Add the following to Article 801.09 of the Standard Specifications:

It shall be the contractor's responsibility to verify all dimensions and conditions existing in the field prior to ordering materials and beginning construction. This shall include locating the mast arm foundations and verifying the mast arms lengths.

Inspection of Electrical Systems.
Add the following to Article 801.10 of the Standard Specifications:

(c) All cabinets including temporary traffic signal cabinets shall be assembled by an approved equipment supplier in District One. The Department reserves the right to request any controller and cabinet to be tested at the equipment supplier's facility prior to field installation, at no extra cost to this contract.

Maintenance and Responsibility.
Revise Article 801.11 of the Standard Specifications to read:

a. Existing traffic signal installations and/or any electrical facilities at all or various locations may be altered or reconstructed totally or partially as part of the work on this Contract. The Contractor is hereby advised that all traffic control equipment, presently installed at these locations, may be the property of the State of Illinois, Department of Transportation, Division of Highways, County, Private Developer, Municipality or Transit Agency in which they are located. Once the Contractor has begun any work on any portion of the project, all traffic signals within the limits of this contract or those which have the item "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation," shall become the full responsibility of the Contractor. The Contractor shall supply the Engineer, Area Traffic Signal Maintenance and Operations Engineer, IDOT ComCenter and the Department's Electrical Maintenance Contractor with two 24-hour emergency contact names and telephone numbers.

b. Automatic Traffic Enforcement equipment such as red lighting running and railroad crossing camera systems are owned and operated by others and the Contractor shall not be responsible for maintaining this equipment.

c. Regional transit, County and other agencies may also have equipment connected to existing traffic signal or peripheral equipment such as PTZ cameras, switches, transit signal priority (TSP and BRT) servers and other devices that shall be included with traffic signal maintenance at no additional cost to the contract.

d. When the project has a pay item for "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon

Installation," the Contractor must notify both the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 and the Department's Electrical Maintenance Contractor, of their intent to begin any physical construction work on the Contract or any portion thereof. This notification must be made a minimum of seven (7) working days prior to the start of construction to allow sufficient time for inspection of the existing traffic signal installation(s) and transfer of maintenance to the Contractor. The Department will attempt to full-fill the Contractor's inspection date request(s), however workload and other conditions may prevent the Department from accommodating specific dates or times. The Contractor shall not be entitled to any other compensation if the requested inspection date(s) cannot be scheduled by the Department. If work is started prior to an inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection. The Contractor will become responsible for repairing or replacing all equipment that is not operating properly or is damaged at no cost to the owner of the traffic signal. Final repairs or replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted.

e. The Contractor is advised that the existing and/or temporary traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shut down the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.

f. The Contractor shall be fully responsible for the safe and efficient operation of the traffic signals and other equipment noted herein. Any inquiry, complaint or request by the Department, the Department's Electrical Maintenance Contractor or the public, shall be investigated and repairs begun within one hour. Failure to provide this service will result in liquidated damages of $1000 per day per occurrence. In addition, the Department reserves the right to assign any work not completed within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these costs to the Electrical Maintenance Contractor within one month after the incident will result in additional liquidated damages of $1000 per month per occurrence. Unpaid bills will be deducted from the cost of the Contract. The Department may inspect any signalizing device on the Department's highway system at any time without notification.

g. Any proposed activity in the vicinity of a highway-rail grade crossing must adhere to the guidelines set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions, flagging, or other operations shall not create conditions where vehicles can be queued across the railroad tracks. If the queuing of vehicles across the tracks cannot be avoided, a uniformed law enforcement officer or flagger shall be provided at the crossing to prevent vehicles from stopping on the tracks, even if automatic warning devices are in place.

h. The Contractor shall be responsible to clear snow, ice, dirt, debris or other condition that obstructs visibility of any traffic signal display or access to traffic signal equipment.

i. The Contractor shall maintain the traffic signal in normal operation during short or long term loss of utility or battery back-up power at critical locations designated by the Engineer. Critical locations may include traffic signals interconnected to railroad warning devices, expressway ramps, intersection with an SRA route, critical corridors or other locations identified by the Engineer. Temporary power to the traffic signal must meet applicable NEC and OSHA guidelines and may include portable generators and/or replacement batteries. Temporary power to critical locations shall not be for separately but shall be included in the contract.

Damage to Traffic Signal System.
Add the following to Article 801.12(b) of the Standard Specifications to read:

Any traffic signal control equipment damaged or not operating properly from any cause shall be replaced with new equipment meeting current District One traffic signal specifications and provided by the Contractor at no additional cost to the Contract and/or owner of the traffic signal system, all as approved by the Engineer. Final replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted. Cable splices are only allowed at the bases pf post and mast arms.

Temporary replacement of damaged or knockdown of a mast arm pole assembly shall require construction of a full or partial span wire signal installation or other method approved by the Engineer to assure signal heads are located overhead and over traveled pavement. Temporary replacement of mast arm mount signals with post mount signals will not be permitted.

Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, and peripheral equipment, damaged or not operating properly from any cause, shall be the responsibility of the municipality or the Automatic Traffic Enforcement company per Permit agreement.

Traffic Signal Inspection (TURN-ON).
Revise Article 801.15(b) of the Standard Specifications to read:

It is the intent to have all electric work completed and equipment field tested by the Equipment Supplier prior to the Department's "turn-on" field inspection. If in the event the Engineer determines work is not complete and the inspection will require more than two (2) hours to complete, the inspection shall be canceled and the Contractor will be required to reschedule at another date. The maintenance of the traffic signals will not be accepted until all punch list work is corrected and re-inspected.

When the road is open to traffic, except as otherwise provided in Section 850 of the Standard Specifications, the Contractor may request a turn-on and inspection of the completed traffic signal installation at each separate location. This request must be made to the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 a minimum of seven (7) working days prior to the time of the requested inspection. The Department will attempt to full-fill the Contractor's turn-on and inspection date request(s), however workload and other conditions may prevent the Department from accommodating specific dates or times. The Contractor shall not be entitled to any other compensation if the requested turn-on and inspection date(s) cannot be scheduled by the Department. The Department will not grant a field inspection until written or

electronic notification is provided from the Contractor that the equipment has been field tested and the intersection is operating according to Contract requirements. The Contractor must invite local fire department personnel to the turn-on when Emergency Vehicle Preemption (EVP) is included in the project. When the contract includes the item RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM, OPTIMIZE TRAFFIC SIGNAL SYSTEM, or TEMPORARY TRAFFIC SIGNAL TIMINGS, the Contractor must notify the SCAT Consultant of the turn-on/detour implementation schedule, as well as stage changes and phase changes during construction.

The Contractor must have all traffic signal work completed and the electrical service installation connected by the utility company prior to requesting an inspection and turn-on of the traffic signal installation. The Contractor shall be responsible to provide a police officer to assist with traffic control at the time of testing.

The Contractor shall provide a representative from the control equipment vendor's office who is knowledgeable of the cabinet design and controller functions to attend the traffic signal inspection for both permanent and temporary traffic signal turn-ons.

Upon demonstration that the signals are operating and all work is completed in accordance with the Contract and to the satisfaction of the Engineer, the Engineer will then allow the signals to be placed in continuous operation. The Agency that is responsible for the maintenance of each traffic signal installation will assume the maintenance upon successful completion of this inspection.

The District requires the following Final Project Documentation from the Contractor at traffic signal turn-ons in electronic format in addition to hard copies where noted. A CD/DVD shall be submitted with separate folders corresponding to each numbered title below. The CD/DVD shall be labelled with date, project location, company and contract or permit number. Record Drawings, Inventory and Material Approvals shall be submitted prior to traffic signal turn-on for review by the Department as described here-in.

Final Project Documentation:

1. Record Drawings. Signal plans of record with field revisions marked in red ink. One hard copy set of 11"x17" record drawings shall also be provided.
2. Inventory. Inventory of new and existing traffic signal equipment including cabinet types and devices within cabinets in an Excel spread sheet format. One hard copy shall also be provided.
3. Pictures. Digital pictures of a minimum 12M pixels of each intersection approach showing all traffic signal displays and equipment. Pictures shall include controller cabinet equipment in enough detail to clearly identify manufacture and model of major equipment.
4. Field Testing. Written notification from the Contractor and the equipment vendor of satisfactory field testing with corresponding material performance measurements, such as for detector loops and fiber optic systems (see Article 801.13). One hard copy of all contract required performance measurement testing shall also be provided.
5. Materials Approval. The material approval letter. A hard copy shall also be provided.
6. Manuals. Operation and service manuals of the signal controller and associated control equipment. One hard copy shall also be provided.
7. Cabinet Wiring Diagram and Cable Logs. Five (5) hard copies 11" x 17" of the cabinet wiring diagrams shall be provided along with electronic pdf and dgn files of the cabinet wiring diagram. Five hard copies of the cable logs and electronic excel files shall be provided with cable #, number of conductors and spares, connected device/signal head and intersection location.

8. Controller Programming Settings. The traffic signal controller's timings; backup timings; coordination splits, offsets, and cycles; TBC Time of Day, Week and Year Programs; Traffic Responsive Program, Detector Phase Assignment, Type and Detector Switching; and any other functions programmable from the keyboard. The controller manufacturer shall also supply a printed form, not to exceed 11" x 17" for recording that data noted above. The form shall include a location, date, manufacturer's name, controller model and software version. The form shall be approved by the Engineer and a minimum of three (3) copies must be furnished at each turn-on. The manufacturer must provide all programming information used within the controller at the time of turn-on.
9. Warrantees and Guarantees. All manufacturer and contractor warrantees and guarantees required by Article 801.14.
10. GPS coordinate of traffic signal equipment as describe in the Record Drawings section herein.

Acceptance of the traffic signal equipment by the Department shall be based upon inspection results at the traffic signal "turn on", completeness of the required documentation and successful operation during a minimum 72 hour "burn-in" period following activation of the traffic signal. If approved, traffic signal acceptance shall be verbal at the "turn on" inspection followed by written correspondence from the Engineer. The Contractor shall be responsible for all traffic signal equipment and associated maintenance thereof until Departmental acceptance is granted.

All equipment and/or parts to keep the traffic signal installation operating shall be furnished by the Contractor. No spare traffic signal equipment is available from the Department.

All punch list work shall be completed within two (2) weeks after the final inspection. The Contractor shall notify the Electrical Maintenance Contractor to inspect all punch list work. Failure to meet these time constraints shall result in liquidated damage charges of $500 per month per incident.

All cost of work and materials required to comply with the above requirements shall be included in the pay item bid prices, under which the subject materials and signal equipment are paid, and no additional compensation will be allowed. Materials and signal equipment not complying with the above requirements shall be subject to removal and disposal at the Contractor's expense.

Record Drawings.

The requirements listed for Electrical Installation shall apply for Traffic Signal Installations in Article 801.16. Revise the 2nd paragraph of Article 801.16 of the Standard Specifications to read:

"When the work is complete, and seven days before the request for a final inspection, the reduced-size set of contract drawings, stamped "RECORD DRAWINGS", shall be submitted to the Engineer for review and approval and shall be stamped with the date and the signature of the Contractor's supervising Engineer or electrician. The record drawings shall be submitted in PDF format on CDROM as well as hardcopy for review and approval. If the contract consists of multiple intersections, each intersection shall be saved as an individual PDF file with TS# and location name in its file name.

In addition to the record drawings, copies of the final catalog cuts which have been Approved or Approved as Noted shall be submitted in PDF format along with the record drawings. The PDF files shall clearly indicate the pay item either by filename or PDF Table of Contents referencing the

respective pay item number for multi-item PDF files. Specific part or model numbers of items which have been selected shall be clearly visible."

As part of the record drawings, the Contractor shall inventory all traffic signal equipment, new or existing, on the project and record information in an Excel spreadsheet. The inventory shall include equipment type, model numbers, software manufacturer and version and quantities.

Add the following to Article 801.16 of the Standard Specifications:

"In addition to the specified record drawings, the Contactor shall record GPS coordinates of the following traffic signal components being installed, modified or being affected in other ways by this contract:

- All Mast Arm Poles and Posts
- Traffic Signal Wood Poles
- Rail Road Bungalow
- UPS
- Handholes
- Conduit roadway crossings
- Controller Cabinets
- Communication Cabinets
- Electric Service Disconnect locations
- CCTV Camera installations
- Fiber Optic Splice Locations
- Conduit Crossings

Datum to be used shall be North American 1983.

Data shall be provided electronically and in print form. The electronic format shall be compatible with MS Excel. Latitude and Longitude shall be in decimal degrees with a minimum of 6 decimal places. Each coordinate shall have the following information:

- File shall be named: TSXXX-YY-MM-DD (i.e. TS22157_15-01-01)
- Each intersection shall have its own file
- Row 1 should have the location name (i.e. IL 31 @ Klausen)
- Row 2 is blank
- Row 3 is the headers for the columns
- Row 4 starts the data
- Column A (Date) – should be in the following format: MM/DD/YYYY
- Column B (Item) – as shown in the table below
- Column C (Description) – as shown in the table below
- Column D and E (GPS Data) – should be in decimal form, per the IDOT special provisions

Examples:

Date	Item	Description	Latitude	Longitude
01/01/2015	MP (Mast Arm Pole)	NEQ, NB, Dual, Combination Pole	41.580493	-87.793378
01/01/2015	HH (Handhole)	Heavy Duty, Fiber, Intersection, Double	41.558532	-87.792571
01/01/2015	ES (Electrical Service)	Ground mount, Pole mount	41.765532	-87.543571
01/01/2015	CC (Controller Cabinet)		41.602248	-87.794053
01/01/2015	RSC (Rigid Steel Crossing)	IL 31 east side crossing south leg to center HH at Klausen	41.611111	-87.790222
01/01/2015	PTZ (PTZ)	NEQ extension pole	41.593434	-87.769876
01/01/2015	POST (Post)		41.651848	-87.762053
01/01/2015	MCC (Master Controller Cabinet)		41.584593	-87.793378
01/01/2015	COMC (Communication Cabinet)		41.584600	-87.793432
01/01/2015	BBS (Battery Backup System)		41.558532	-87.792571
01/01/2015	CNCR (Conduit Crossing)	4-inch IL 31 n/o of Klausen	41.588888	-87.794440

Prior to the collection of data, the contractor shall provide a sample data collection of at least six data points of known locations to be reviewed and verified by the Engineer to be accurate within 1 foot. Upon verification, data collection can begin. Data collection can be made as construction progresses, or can be collected after all items are installed. If the data is unacceptable the contractor shall make corrections to the data collection equipment and or process and submit the data for review and approval as specified.

Accuracy. Data collected is to be mapping grade. A handheld mapping grade GPS device shall be used for the data collection. The receiver shall support differential correction and data shall have a minimum 1 foot accuracy after post processing.

GPS receivers integrated into cellular communication devices, recreational and automotive GPS devices are not acceptable.

The GPS shall be the product of an established major GPS manufacturer having been in the business for a minimum of 6 years."

Delete the last sentence of the 3rd paragraph of Article 801.16.

Locating Underground Facilities.

Revise Section 803 to the Standard Specifications to read:

IDOT traffic signal facilities are not part of any of the one-call locating service such as J.U.L.I.E or Digger. If this Contract requires the services of an Electrical Contractor, the Contractor shall be responsible at his/her own expense for locating existing IDOT electrical facilities prior to performing any work. If this Contract does not require the services of an Electrical Contractor, the Contractor may request one free locate for existing IDOT electrical facilities from the District One Electrical Maintenance Contractor prior to the start of any work. Additional requests may be at the expense of the Contractor. The location of underground traffic facilities does not relieve the Contractor of their responsibility to repair any facilities damaged during construction at their expense.

The exact location of all utilities shall be field verified by the Contractor before the installation of any components of the traffic signal system. For locations of utilities, locally owned equipment, and leased enforcement camera system facilities, the local Counties or Municipalities may need to be contacted: in the City of Chicago contact Digger at (312) 744-7000 and for all other locations contact J.U.L.I.E. at 1-800-892-0123 or 811.

Restoration of Work Area.
Add the following article to Section 801 of the Standard Specifications:

801.17 Restoration of work area. Restoration of the traffic signal work area shall be included in the related pay items such as foundation, conduit, handhole, underground raceways, etc. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded. All brick pavers disturbed in the work area shall be restored to their original configuration as directed by the Engineer. All damaged brick pavers shall be replaced with a comparable material approved by the Engineer. Restoration of the work area shall be included in the contract without any extra compensation allowed to the Contractor.

Bagging Signal Heads.

Light tan colored traffic and pedestrian signal reusable covers shall be used to cover dark/un-energized signal sections and visors. Covers shall be made of outdoor fabric with urethane coating for repelling water, have elastic fully sewn around the cover ends for a tight fit over the visor, and have a minimum of two straps with buckles to secure the cover to the backplate. A center mesh strip allows viewing without removal for signal status testing purposes. Covers shall include a message indicating the signal is not in service.

RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM
Effective: May 22, 2002
Revised: July 1, 2015
800.03TS

Description.
This work shall consist of re-optimizing a closed loop traffic signal system according to the following Levels of work.

LEVEL I applies when improvements are made to an existing signalized intersection within an existing closed loop traffic signal system. The purpose of this work is to integrate the improvements to the subject intersection into the signal system while minimizing the impacts to the existing system operation. This type of work would

be commonly associated with the addition of signal phases, pedestrian phases, or improvements that do not affect the capacity at an intersection.

LEVEL II applies when improvements are made to an existing signalized intersection within an existing closed loop traffic signal system and detailed analysis of the intersection operation is desired by the engineer, or when a new signalized or existing signalized intersection is being added to an existing system, but optimization of the entire system is not required. The purpose of this work is to optimize the subject intersection, while integrating it into the existing signal system with limited impact to the system operations. This item also includes an evaluation of the overall system operation, including the traffic responsive program.

For the purposes of re-optimization work, an intersection shall include all traffic movements operated by the subject controller and cabinet.

After the signal improvements are completed, the signal shall be re-optimized as specified by an approved Consultant who has previous experience in optimizing Closed Loop Traffic Signal Systems for District One of the Illinois Department of Transportation. The Contractor shall contact the Traffic Signal Engineer at (847) 705-4424 for a listing of approved Consultants. Traffic signal system optimization work, including fine-tuning adjustments of the optimized system, shall follow the requirements stated in the most recent IDOT District 1 SCAT Guidelines, except as note herein.

A listing of existing signal equipment, interconnect information, phasing data, and timing patterns may be obtained from the Department, if available and as appropriate. The existing SCAT Report is available for review at the District One office and if the Consultant provides blank computer discs, copies of computer simulation files for the existing optimized system and a timing database will be made for the Consultant. The Consultant shall confer with the Traffic Signal Engineer prior to optimizing the system to determine if any extraordinary conditions exist that would affect traffic flows in the vicinity of the system, in which case, the Consultant may be instructed to wait until the conditions return to normal or to follow specific instructions regarding the optimization.

(a) LEVEL I Re-Optimization

1. The following tasks are associated with LEVEL I Re-Optimization.
   a. Appropriate signal timings shall be developed for the subject intersection and existing timings shall be utilized for the rest of the intersections in the system.
   b. Proposed signal timing plan for the modified intersection(s) shall be forwarded to IDOT for review prior to implementation.
   c. Consultant shall conduct on-site implementation of the timings at the turn-on and make fine-tuning adjustments to the timings of the subject intersection in the field to alleviate observed adverse operating conditions and to enhance operations. The consultant shall respond to IDOT comments and public complaints for a minimum period of 60 days from date of timing plan implementation.

2. The following deliverables shall be provided for LEVEL I Re-Optimization.
   a. Consultant shall furnish to IDOT a cover letter describing the extent of the re-optimization work performed.
   b. Consultant shall furnish an updated intersection graphic display for the subject intersection to IDOT and to IDOT's Traffic Signal Maintenance Contractor.

(b) LEVEL II Re-Optimization

1. In addition to the requirements described in the LEVEL I Re-Optimization above, the following tasks are associated with LEVEL II Re-Optimization.
   a. Traffic counts shall be taken at the subject intersection(s) after the traffic signals are approved for operation by the Area Traffic Signal Operations Engineer. Manual turning movement counts shall be conducted from 6:30 a.m. to 9:30 a.m., 11:00 a.m. to 1:00 p.m., and 3:30 p.m. to 6:30 p.m. on a typical weekday from midday Monday to midday Friday and on a Saturday and/or Sunday, as directed by the Engineer, to account for special traffic generators such as shopping centers, educational institutes and special event facilities. The turning movement counts shall identify cars, and single-unit, multi-unit heavy vehicles, and transit buses.
   b. As necessary, the intersection(s) shall be re-addressed and all system detectors reassigned in the master controller according to the current standard of District One.
   c. Traffic responsive program operation shall be evaluated to verify proper pattern selection and lack of oscillation and a report of the operation shall be provided to IDOT.

2. The following deliverables shall be provided for LEVEL II Re-Optimization.
   a. Consultant shall furnish to IDOT one (1) copy of a technical memorandum for the optimized system. The technical memorandum shall include the following elements:
      (1) Brief description of the project
      (2) Printed copies of the analysis output from Synchro (or other appropriate, approved optimization software file)
      (3) Printed copies of the traffic counts conducted at the subject intersection
   b. Consultant shall furnish to IDOT two (2) CDs for the optimized system. The CDs shall include the following elements:
      (1) Electronic copy of the technical memorandum in PDF format
      (2) Revised Synchro files (or other appropriate, approved optimization software file) including the new signal and the rest of the signals in the closed loop system
      (3) Traffic counts conducted at the subject intersection(s)
      (4) New or updated intersection(s) graphic display file for the subject intersection(s)
      (5) The CD shall be labeled with the IDOT system number and master location, as well as the submittal date and the consultant logo. The CD case shall include a clearly readable label displaying the same information securely affixed to the side and front.

Basis of Payment.
This work shall be paid for at the contract unit price each for RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM – LEVEL I or RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM – LEVEL II, which price shall be payment in full for performing all work described herein per intersection. Following completion of the timings and submittal of specified deliverables, 100 percent of the bid price will be paid. Each intersection will be paid for separately.

GROUNDING OF TRAFFIC SIGNAL SYSTEMS
Effective: May 22, 2002
Revised: July 1, 2015
806.01TS

Revise Section 806 of the Standard Specifications to read:

General.
All traffic signal systems, equipment and appurtenances shall be properly grounded in strict conformance with the NEC. This work shall be in accordance with IDOT's District One Traffic Signal Design Details.

The grounding electrode system shall include a ground rod installed with each traffic signal controller concrete foundation and all mast arm and post concrete foundations. An additional ground rod will be required at locations were measured resistance exceeds 25 ohms. Ground rods are included in the applicable concrete foundation or service installation pay item and will not be paid for separately.

Testing shall be according to Article 801.13 (a) (4) and (5).

(a) The grounded conductor (neutral conductor) shall be white color coded. This conductor shall be bonded to the equipment grounding conductor only at the Electric Service Installation. All power cables shall include one neutral conductor of the same size.

(b) The equipment grounding conductor shall be green color coded. The following is in addition to Article 801.04 of the Standard Specifications.

1. Equipment grounding conductors shall be bonded to the grounded conductor (neutral conductor) only at the Electric Service Installation. The equipment grounding conductor is paid for separately and shall be continuous. The Earth shall not be used as the equipment grounding conductor.

2. Equipment grounding conductors shall be bonded, using a UL Listed grounding connector, to all traffic signal mast arm poles, traffic signal posts, pedestrian posts, pull boxes, handhole frames and covers, conduits, and other metallic enclosures throughout the traffic signal wiring system, except where noted herein. Bonding shall be made with a splice and pigtail connection, using a sized compression type copper sleeve, sealant tape, and heat-shrinkable cap. A UL listed electrical joint compound shall be applied to all conductors' terminations, connector threads and contact points. Conduit grounding bushings shall be installed at all conduit terminations including spare or empty conduits.

3. All metallic and non-metallic raceways shall have a continuous equipment grounding conductor, except raceways containing only detector loop lead-in circuits, circuits under 50 volts and/or fiber optic cable will not be required to include an equipment grounding conductor.

4. Individual conductor splices in handholes shall be soldered and sealed with heat shrink. When necessary to maintain effective equipment grounding, a full cable heat shrink shall be provided over individual conductor heat shrinks.

(c) The grounding electrode conductor shall be similar to the equipment grounding conductor in color coding (green) and size. The grounding electrode conductor is used to connect the ground rod to the equipment grounding conductor and is bonded to ground rods via exothermic welding, UL listed pressure connectors, and UL listed clamps.

UNDERGROUND RACEWAYS
Effective: May 22, 2002
Revised: July 1, 2015

810.02TS

Revise Article 810.04 of the Standard Specifications to read:

"Installation. All underground conduits shall have a minimum depth of 30-inches (700 mm) below the finished grade."

Add the following to Article 810.04 of the Standard Specifications:

"All metal conduit installed underground shall be Rigid Steel Conduit unless otherwise indicated on the plans."

Add the following to Article 810.04 of the Standard Specifications:

"All raceways which extend outside of a structure or duct bank but are not terminated in a cabinet, junction box, pull box, handhole, post, pole, or pedestal shall extend a minimum or 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."

HANDHOLES
Effective: January 01, 2002
Revised: July 1, 2015
814.01TS

Description.
Add the following to Section 814 of the Standard Specifications:

All conduits shall enter the handhole at a depth of 30 inches (762 mm) except for the conduits for detector loops when the handhole is less than 5 feet (1.52 m) from the detector loop. All conduit ends should be sealed with a waterproof sealant to prevent the entrance of contaminants into the handhole.

Steel cable hooks shall be coated with hot-dipped galvanization in accordance with AASHTO Specification M111. Hooks shall be a minimum of 1/2 inch (13 mm) diameter with two 90 degree bends and extend into the handhole at least 6 inches (152 mm). Hooks shall be placed a minimum of 12 inches (305 mm) below the lid or lower if additional space is required.

Precast round handholes shall not be used unless called out on the plans.

The cover of the handhole frame shall be labeled "Traffic Signals" with legible raised letters.

Revise the third paragraph of Article 814.03 of the Standard Specifications to read:

"Handholes shall be constructed as shown on the plans and shall be cast-in-place, or precast concrete units. Heavy duty handholes shall be either cast-in-place or precast concrete units."

Add the following to Article 814.03 of the Standard Specifications:

"(c) Precast Concrete. Precast concrete handholes shall be fabricated according to Article 1042.17. Where a handhole is contiguous to a sidewalk, preformed joint filler of 1/2 inch (13 mm) thickness shall be placed between the handhole and the sidewalk."

Cast-In-Place Handholes.
All cast-in-place handholes shall be concrete, with inside dimensions of 21-1/2 inches (546 mm) minimum. Frames and lid openings shall match this dimension.

For grounding purposes the handhole frame shall have provisions for a 7/16 inch (11 mm) diameter stainless steel bolt cast into the frame. The covers shall have a stainless steel threaded stint extended from the eye hook assembly for the purpose of attaching the grounding conductor to the handhole cover.

The minimum wall thickness for heavy duty hand holes shall be 12 inches (305mm).

Precast Round Handholes.
All precast handholes shall be concrete, with inside dimensions of 30 inches (762mm) diameter. Frames and covers shall have a minimum opening of 26 inches (660mm) and no larger than the inside diameter of the handhole.

For grounding purposes the handhole frame shall have provisions for a 7/16 inch (11 mm) diameter stainless steel bolt cast into the frame. For the purpose of attaching the grounding conductor to the handhole cover, the covers shall either have a 7/16 inch (11 mm) diameter stainless steel bolt cast into the cover or a stainless steel threaded stint extended from an eye hook assembly. A hole may be drilled for the bolt if one cannot be cast into the frame or cover. The head of the bolt shall be flush or lower than the top surface of the cover.

The minimum wall thickness for precast heavy duty hand holes shall be 6 inches (152 mm).

Precast round handholes shall be only produced by an approved precast vendor.

Materials.
Add the following to Section 1042 of the Standard Specifications:

"1042.17 Precast Concrete Handholes. Precast concrete handholes shall be according to Articles 1042.03(a)(c)(d)(e)."

GROUNDING CABLE
Effective: May 22, 2002
Revised: July 1, 2015
817.01TS

The cable shall meet the requirements of Section 817 of the "Standard Specifications," except for the following:

Add the following to Article 817.02 (b) of the Standard Specifications:

Unless otherwise noted on the Plans, traffic signal grounding conductor shall be one conductor, #6 gauge copper, with a green color coded XLP jacket.

The traffic signal grounding conductor shall be bonded, using a UL Listed grounding connector to all proposed and existing traffic signal mast arm poles and traffic/pedestrian signal posts, including push button posts. The grounding conductor shall be bonded to all proposed and existing pull boxes, handhole frames and covers and other metallic enclosures throughout the traffic signal wiring system and noted herein and detailed on the plans. The grounding conductor shall be bonded to conduit terminations using rated grounding bushings. Bonding to existing handhole frames and covers shall be paid for separately.

Add the following to Article 817.05 of the Standard Specifications:

Basis of Payment.
Grounding cable shall be measured in place for payment in foot (meter). Payment shall be at the contract unit price for ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C, which price includes all associated labor and material including grounding clamps, splicing, exothermic welds, grounding connectors, conduit grounding bushings, and other hardware.

MAINTENANCE OF EXISTING TRAFFIC SIGNAL AND FLASHING BEACON INSTALLATION
Effective: May 22, 2002
Revised: July 1, 2015
850.01TS

General.

1. Full maintenance responsibility shall start as soon as the Contractor begins any physical work on the Contract or any portion thereof. If Contract work is started prior to a traffic signal inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection.

2. The Contractor shall have electricians with IMSA Level II certification on staff to provide signal maintenance. A copy of the certification shall be immediately available upon request of the Engineer.

3. This item shall include maintenance of all traffic signal equipment and other connected and related equipment such as flashing beacons, emergency vehicle pre-emption equipment, master controllers, uninterruptable power supply (UPS and batteries), PTZ cameras, vehicle detection, handholes, lighted signs, telephone service installations, communication cables, conduits to adjacent intersections, and other traffic signal equipment.

4. Regional transit, County and other agencies may also have equipment connected to existing traffic signal or peripheral equipment such as PTZ cameras, switches, transit signal priority (TSP and BRT) servers, radios and other devices that shall be included with traffic signal maintenance at no additional cost to the contract.

8. The undersigned further agrees that the Owner may at any time during the progress of work covered by this contract order other work or materials incidental thereto and that all such work and materials as do not appear in the proposal or contract as a specific item accompanied by a unit price, and which are not included under the bid price for other items in this contract, shall be performed as extra work, and that he will accept as full compensation therefore the actual cost plus fifteen per cent (15%), the actual cost to be determined as provided in the specifications.

9. The undersigned further agrees to execute a contract for this work and present the same to the Owner within fifteen (15) days after the date of notice of the award of the contract to him.

10. The undersigned further agrees that he and his surety will execute and present within fifteen (15) days after the date of notice of the award of contract, a contract bond satisfactory to and in the form prescribed by the Owner, in the penal sum of the full amount of the contract, guaranteeing the faithful performance of the work in accordance with the terms of the contract.

11. The undersigned further agrees to begin work not later than ten (10) days after the execution and approval of the contract and contract bond, unless otherwise provided, and to prosecute the work in such manner and with sufficient materials, equipment, labor and safety precautions as will insure its completion within the time limit specified herein, it being understood and agreed that the completion within the time limit is an essential part of the contract. The undersigned agrees to complete the work within _____ calendar days after the date of the execution of the contract by both parties, or by_____if this is a completion day contract, unless additional time shall be granted by the Engineer in accordance with the provisions of the specifications. In case of failure to complete the work within the time names herein or within such extra time as may have been allowed by extensions, the undersigned agrees that the Owner shall withhold from such sums as may be due him under the terms of this contract, the costs set forth in the specifications, which cost shall be considered and treated not as a penalty, but as damages due the Owner form the undersigned by reason of inconvenience to the public, added cost of engineering and construction observation, maintenance of detours, and other items which have caused an expenditure of public funds resulting from the failure of the undersigned to complete the work within the time specified in the contract.

12. Accompanying this proposal is a bank draft, bank cashier's check, certified check or bid bond, complying with the requirements of the specifications, made payable to:_____

_____

The amount of the bond, check or draft is_____

_____($_____).

5. Maintenance shall not include Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, or peripheral equipment. This equipment is operated and maintained by the local municipality and should be de-activated while on contractor maintenance.

6. The energy charges for the operation of the traffic signal installation shall be paid for by the Contractor.

Maintenance.

1. The Contractor shall check all controllers every two (2) weeks, which will include visually inspecting all timing intervals, relays, detectors, and pre-emption equipment to ensure that they are functioning properly. The Contractor shall check signal system communications and phone lines to assure proper operation. This item includes, as routine maintenance, all portions of emergency vehicle pre-emption equipment. The Contractor shall maintain in stock at all times a sufficient amount of materials and equipment to provide effective temporary and permanent repairs. Prior to the traffic signal maintenance transfer, the contractor shall supply a detailed maintenance schedule that includes dates, locations, names of electricians providing the required checks and inspections along with any other information requested by the Engineer.

2. The Contractor is advised that the existing and/or span wire traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shut down the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.

3. The Contractor shall provide immediate corrective action when any part or parts of the system fail to function properly. Two far side heads facing each approach shall be considered the minimum acceptable signal operation pending permanent repairs. When repairs at a signalized intersection require that the controller be disconnected or otherwise removed from normal operation, and power is available, the Contractor shall place the traffic signal installation on flashing operation. The signals shall flash RED for all directions unless a different indication has been specified by the Engineer. The Contractor shall be required to place stop signs (R1-1-36) at each approach of the intersection as a temporary means of regulating traffic. When the signals operate in flash, the Contractor shall furnish and equip all their vehicles assigned to the maintenance of traffic signal installations with a sufficient number of stop signs as specified herein. The Contractor shall maintain a sufficient number of spare stop signs in stock at all times to replace stop signs which may be damaged or stolen.

4. The Contractor shall provide the Engineer with 2 (two) 24 hour telephone numbers for the maintenance of the traffic signal installation and for emergency calls by the Engineer.

5. Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of the Standard Specifications and these special provisions.

6. The Contractor shall respond to all emergency calls from the Department or others within one (1) hour after notification and provide immediate corrective action. When equipment has been damaged or becomes faulty beyond repair, the Contractor shall replace it with new and identical equipment. The

cost of furnishing and installing the replaced equipment shall be borne by the Contractor at no additional charge to the contract. The Contractor may institute action to recover damages from a responsible third party. If at any time the Contractor fails to perform all work as specified herein to keep the traffic signal installation in proper operating condition or if the Engineer cannot contact the Contractor's designated personnel, the Engineer shall have the State's Electrical Maintenance Contractor perform the maintenance work. The Contractor shall be responsible for all of the State's Electrical Maintenance Contractor's costs and liquidated damages of $1000 per day per occurrence. The State's Electrical Maintenance Contractor shall bill the Contractor for the total cost of the work. The Contractor shall pay this bill within thirty (30) days of the date of receipt of the invoice or the cost of such work will be deducted from the amount due the Contractor. The Contractor shall allow the Electrical Maintenance Contractor to make reviews of the Existing Traffic Signal Installation that has been transferred to the Contractor for Maintenance.

7. Any proposed activity in the vicinity of a highway-rail grade crossing must adhere to the guidelines set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions, flagging, or other operations shall not create conditions where vehicles can be queued across the railroad tracks. If the queuing of vehicles across the tracks cannot be avoided, a uniformed law enforcement officer or flagger shall be provided at the crossing to prevent vehicles from stopping on the tracks, even if automatic warning devices are in place.

8. Equipment included in this item that is damaged or not operating properly from any cause shall be replaced with new equipment meeting current District One traffic signal specifications and provided by the Contractor at no additional cost to the Contract and/or owner of the traffic signal system, all as approved by the Engineer. Final replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted. Cable splices outside the controller cabinet shall not be allowed.

9. Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, and peripheral equipment, damaged or not operating properly from any cause, shall be the responsibility of the municipality or the Automatic Traffic Enforcement Company per Permit agreement.

10. The Contractor shall be responsible to clear snow, ice, dirt, debris or other condition that obstructs visibility of any traffic signal display or access to traffic signal equipment.

11. The Contractor shall maintain the traffic signal in normal operation during short or long term loss of utility or battery back-up power at critical locations designated by the Engineer. Critical locations may include traffic signals interconnected to railroad warning devices, expressway ramps, intersection with an SRA route, critical corridors or other locations identified by the Engineer. Temporary power to the traffic signal must meet applicable NEC and OSHA guidelines and may include portable generators and/or replacement batteries. Temporary power to critical locations shall not be paid for separately but shall be included in the contract.

12. Temporary replacement of damaged or knockdown of a mast arm pole assembly shall require construction of a full or partial span wire signal installation or other method approved by the Engineer to assure signal heads are located overhead and over traveled pavement. Temporary replacement of mast arm mount signals with post mount signals will not be permitted.

Basis of Payment.
This work will be paid for at the contract unit price per each for MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION. Each intersection will be paid for separately. Maintenance of a standalone and or not connected flashing beacon shall be paid for at the contract unit price for MAINTENANCE OF EXISITNG FLASHING BEACON INSTALLATION. Each flashing beacon will be paid for separately.

ELECTRIC CABLE
Effective: May 22, 2002
Revised: July 1, 2015
873.01TS

Delete "or stranded, and No. 12 or" from the last sentence of Article 1076.04 (a) of the Standard Specifications.

Add the following to the Article 1076.04(d) of the Standard Specifications:

Service cable may be single or multiple conductor cable.

LIGHT EMITTING DIODE (LED) PEDESTRIAN SIGNAL HEAD
Effective: May 22, 2002
Revised: July 1, 2015
881.01TS

Add the following to the third paragraph of Article 881.03 of the Standard Specifications:

No mixing of different types of pedestrian traffic signals or displays will be permitted.

Add the following to Article 881.03 of the Standard Specifications:

(a) Pedestrian Countdown Signal Heads.

(1) Pedestrian Countdown Signal Heads shall not be installed at signalized intersections where traffic signals and railroad warning devices are interconnected.

(2) Pedestrian Countdown Signal Heads shall be 16 inch (406mm) x 18 inch (457mm), for single units with glossy yellow or black polycarbonate housings. All pedestrian head housings shall be the same color (yellow or black) at the intersection. For new signalized intersections and existing signalized intersections where all pedestrian heads are being replaced, the proposed head housings shall be black. Where only selected heads are being replaced, the proposed head housing color (yellow or black) shall match existing head housings. Connecting hardware and mounting brackets shall be polycarbonate (black). A corrosion resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on.

(3) Each pedestrian signal LED module shall be fully MUTCD compliant and shall consist of double overlay message combining full LED symbols of an Upraised Hand and a Walking Person. "Egg

Crate" type sun shields are not permitted. Numerals shall measure 9 inches (229mm) in height and easily identified from a distance of 120 feet (36.6m).

Materials.
Add the following to Article 1078.02 of the Standard Specifications:

General.

1. The module shall operate in one mode: Clearance Cycle Countdown Mode Only. The countdown module shall display actual controller programmed clearance cycle and shall start counting when the flashing clearance signal turns on and shall countdown to "0" and turn off when the steady Upraised Hand (symbolizing Don't Walk) signal turns on. Module shall not have user accessible switches or controls for modification of cycle.

2. At power on, the module shall enter a single automatic learning cycle. During the automatic learning cycle, the countdown display shall remain dark.

3. The module shall re-program itself if it detects any increase or decrease of Pedestrian Timing. The counting unit will go blank once a change is detected and then take one complete pedestrian cycle (with no counter during this cycle) to adjust its buffer timer.

4. If the controller preempts during the Walking Person (symbolizing Walk), the countdown will follow the controller's directions and will adjust from Walking Person to flashing Upraised Hand. It will start to count down during the flashing Upraised Hand.

5. If the controller preempts during the flashing Upraised Hand, the countdown will continue to count down without interruption.

6. The next cycle, following the preemption event, shall use the correct, initially programmed values.

7. If the controller output displays Upraised Hand steady condition and the unit has not arrived to zero or if both the Upraised Hand and Walking Person are dark for some reason, the unit suspends any timing and the digits will go dark.

8. The digits will go dark for one pedestrian cycle after loss of power of more than 1.5 seconds.

9. The countdown numerals shall be two (2) "7 segment" digits forming the time display utilizing two rows of LEDs.

10. The LED module shall meet the requirements of the Institute of Transportation Engineers (ITE) LED purchase specification, "Pedestrian Traffic Control Signal Indications - Part 2: LED Pedestrian Traffic Signal Modules," or applicable successor ITE specifications, except as modified herein.

11. The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or set on a non-dimming operation.

12. In the event of a power outage, light output from the LED modules shall cease instantaneously.

13. The LEDs utilized in the modules shall be AlInGaP technology for Portland Orange (Countdown Numerals and Upraised Hand) and GaN technology for Lunar White (Walking Person) indications.

14. The individual LEDs shall be wired such that a catastrophic loss or the failure of one or more LED will not result in the loss of the entire module.

Basis of Payment.
Add the following to the first paragraph of Article 881.04 of the Standard Specifications:

The price shall include furnishing the equipment described above, all mounting hardware and installing them in satisfactory operating condition.

Add the following to Article 881.04 of the Standard Specifications:

If the work consists of retrofitting an existing polycarbonate pedestrian signal head and pedestrian countdown signal head with light emitting diodes (LEDs), it will be paid for as a PEDESTRIAN SIGNAL HEAD, LED, RETROFIT, of the type specified, and of the particular kind of material, when specified. Price shall be payment in full for furnishing the equipment described above including LED modules, all mounting hardware, and installing them in satisfactory operating condition.

PEDESTRIAN PUSH-BUTTON
Effective: May 22, 2002
Revised: July 1, 2015
888.01TS

Description.
Revise Article 888.01 of the Standard Specifications to read:

This work shall consist of furnishing and installing a latching (single call) or non-latching (dual call) pedestrian push-button and a regulatory pedestrian instruction sign according to MUTCD, sign series R10-3e 9" x 15" sign with arrow(s) for a count-down pedestrian signal. The pedestrian station sign size without count-down pedestrian signals shall accommodate a MUTCD sign series R10-3b or R10-3d 9" x 12" sign with arrow(s).

Installation.
Add the following to Article 888.03 of the Standard Specifications:

A mounting bracket and/or extension shall be used to assure proper orientation when two pedestrian push buttons are required for one post. The price of the bracket and/or extension shall be included in the cost of the pedestrian push button. The contractor is not allowed to install a push-button assembly with the sign below the push-button in order to meet mounting requirements.

Materials.
Revise Article 1074.02(a) of the Standard Specifications to read:

The pedestrian push-button housing shall be constructed of aluminum alloy according to ASTM B 308 6061-T6 and powder coated yellow, unless otherwise noted on the plans. The housing shall be furnished with suitable mounting hardware.

Revise Article 1074.02(e) of the Standard Specifications to read:

Stations shall be designed to be mounted to a post, mast arm pole or wood pole. The station shall be aluminum and shall accept a 3 inch (75mm) round push-button assembly and a regulatory pedestrian instruction sign according to MUTCD, sign series R10-3e 9" x 15" sign with arrow(s) for a count-down pedestrian signal. The pedestrian station size without count-down pedestrian signals shall accommodate a MUTCD sign series R10-3b or R10-3d 9" x 12" sign with arrow(s).

Add the following to Article 1074.02 of the Standard Specifications:

(f) Location. Pedestrian push-buttons and stations shall be mounted to a post, mast arm pole or wood pole as shown on the plans and shall be fully ADA accessible from a paved or concrete surface. See the District's Detail sheets for orientation and mounting details.

Basis of Payment.
Revise Article 888.04 of the Standard Specifications to read:

This work will be paid for at the contract unit price per each for PEDESTRIAN PUSH-BUTTON or PEDESTRIAN PUSH-BUTTON, NON-LATCHING.

MODIFY EXISTING CONTROLLER CABINET
Effective: May 22, 2002
Revised: July 1, 2015
895.01TS

The work shall consist of modifying an existing controller cabinet as follows:

(a) Uninterruptable Power Supply (UPS). The addition of uninterruptable power supply (UPS) to an existing controller cabinet could require the relocation of the existing controller cabinet items to allow for the installation of the uninterruptable power supply (UPS) components inside the existing controller cabinet as outlined under Sections 862 and 1074.04 of the Standard Specifications and the wiring of UPS alarms.

(b) Light Emitting Diode (LED) Signal Heads, Light Emitting Diode (LED) Optically Programmed Signal Heads and Light Emitting Diode (LED) Pedestrian Signal Heads. The contractor shall verify that the existing load switches meet the requirements of Section 1074.03(b)(2) of the Standard Specifications and the recommended load requirements of the light emitting diode (LED) signal heads that are being installed at the existing traffic signal. If any of the existing load switches do not meet these requirements, they shall be replaced, as directed by the Engineer.

(c) Light Emitting Diode (LED), Signal Head, Retrofit. The contractor shall verify that the existing load switches meet the requirements of Section 1074.03(b)(2) of the Standard Specifications and the recommended load requirements of light emitting diode (LED) traffic signal modules, pedestrian signal

modules, and pedestrian countdown signal modules as specified in the plans. If any of the existing load switches do not meet these requirements, they shall be replaced, as directed by the Engineer.

(d) This item shall include the upgrade of all non-railroad controller software to the latest version available at the time of the signal TURN-ON.

Basis of Payment.
Modifying an existing controller cabinet will be paid for at the contract unit price per each for MODIFY EXISTING CONTROLLER CABINET. This shall include all material and labor required to complete the work as described above, the removal and disposal of all items removed from the controller cabinet, as directed by the Engineer. The equipment for the Uninterruptable Power Supply (UPS) and labor to install it in the existing controller cabinet shall be included in the pay item Uninterruptable Power Supply, Special or Uninterruptable Power Supply, Ground Mounted.

RELOCATE EXISTING LIGHTING CONTROLLER

1. DESCRIPTION:

This work shall consist of removing and relocating the existing lighting controller and reconnecting all wiring and conduit as needed, including the work necessary to connect the proposed lighting to the existing controller at the relocated position. This work shall be performed in accordance with Section 825 of the Standard Specifications except as modified herein.

The proposed location of the relocated controller has been selected with the aim of reusing the existing lighting and service cables if possible. If the cables cannot be reused, new wiring shall be installed to the next light pole in line, and to the existing electrical service in kind, and all splices shall be accomplished in the light pole handhole or at the controller. No underground splices will be allowed. Where new cable or conduit be required, it will be paid according to the unit prices bid for the corresponding cable, duct, conduit etc.

This work shall include the removal and disposal of existing lighting controller foundation, and the backfilling of the excavated areas. This work shall be done in accordance with Article 842.04 of the Standard Specifications, except as modified herein. Concrete foundations shall be removed to at least 3 feet below grade with removed material disposed of off-site. The cost of removing the controller foundation will not be paid for separately but shall be considered incidental to the cost of the controller relocation.

The removal shall extend deeper where required to facilitate multi-use path construction at no additional cost. Underground conduits and cables shall be separated from the foundation at 2.5 feet below grade and shall be abandoned or re-used as indicated. The space caused by the removal of the foundations shall be backfilled with trench backfill in accordance with Section 208 of the Standard Specifications. The cost of backfilling will not be paid for separately but shall be considered incidental to the cost of the controller relocation.

As part of the relocation of the existing controller, the existing incandescent internal bulb shall be replaced with an LED equivalent bulb meeting the approval of the engineer. The cost of replacing the existing bulb will not be paid for separately but shall be considered incidental to the cost of the controller relocation.

The installation of the new foundation and work pad shall be in accordance with the plan details provided and shall be considered included in the cost of the controller relocation.

2. BASIS OF PAYMENT:
This work shall be paid for at the contract unit price per EACH for RELOCATE EXISTING LIGHTING CONTROLLER, which shall be payment in full for the relocation, removal and disposal of foundations and all work as specified herein.

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.

CLEAN CONSTRUCTION OR DEMOLITION DEBRIS (CCDD) REQUIREMENTS PER 35 IAC 1100

If the Contractor is planning on disposing of uncontaminated soils at an Illinois Environmental Protection Agency (IEPA) permitted CCDD facility, the work shall be conducted in accordance with the criteria set forth in 35 Illinois Administrative Code (IAC) 1100 as amended on August 27, 2012. The following protocol must be followed:

1. The Contractor must identify in writing the name / location of the Contractor's intended CCDD facility to the Owner (or Engineer) prior to the commencement of any construction activities.
2. The Owner (or Engineer) will contact the Contractor's CCDD facility to identify the laboratory testing or certifications required for disposal acceptance.
3. The Contractor will assist the Owner (or Engineer) in obtaining the sample(s) through the use of the Contractor's equipment at locations determined by the Owner (or Engineer). The Contractor shall expose soils at one or more distinct locations as directed by the Owner (or Engineer). The Contractor may need to remove pavement, sidewalk or other surface improvements to expose the soil. The Owner (or Engineer) will determine the number, location and depth of the samples that will need to be collected for characterization of the excess soil that will be generated during the construction project.
4. The Owner (or Engineer) will be responsible for the sampling / testing of the soil and preparation of the required certification form.
5. The samples will be run with standard 5 to 7 working day turnaround time unless a rush is required by the Contractor. If so, the Contractor will be responsible for additional fees associates with fast-tracking the samples.
6. Once the appropriate certifications have been prepared, the Contractor will be responsible for all hauling/disposal of material at the CCDD facility.

The work contained within this special provision shall be considered incidental to the contract.

The owner will test for the following: VOC's, SVOC's, Pesticides, RCRA 8 total metals and pH. If the Contractor elects to utilize a CCDD facility that requires the full MAC list, the Contractor will be responsible for paying all sampling costs above $2,500.00.

If any contaminated soil is encountered that requires landfill disposal as a non-special waste, special waste or hazardous waste, it will be paid for per Article 109.04 of the Standard Specifications.

VILLAGE OF TINLEY PARK LOCAL VENDOR PURCHASING POLICY

The Village of Tinley Park believes it is important to provide local vendors with opportunities to provide goods and services to the Village of Tinley Park. This belief is based upon the fact that the active uses of commercial properties in Tinley Park benefits the community through stabilization of property tax, the creation of local sales tax and the provision of employment opportunities for citizens of the community and surrounding region. In an effort to promote the aforementioned benefits, the Village of Tinley Park wishes to provide local vendors with preferential treatment when competing for contracts with the Village. A local vendor is defined as a business that has an actual business location within the Village of Tinley Park and is licensed by the Village. The Village

will not award a contract to a local vendor when the difference between the local vendors bid and the otherwise lowest responsive and responsible bid exceeds the applicable percentage indicated as follows. As such, when considering contracts, the Village of Tinley Park reserves the right to forego the lowest responsive and responsible bid exceeds the applicable percentage indicated as follows. As such, when considering contracts, the Village of Tinley Park reserves the right to forego the lowest responsive and responsible bid in favor of a local vendor under the following circumstances:

Contract Value	Range (up to a maximum of)
$0 to $250,000	5%
$250,000 to $500,000	4%
$500,000 to $750,000	3%
$750,000 to $1,000,000	2%
$1,000,000 to $2,000,000	1%

Under no circumstances will any contract be awarded to a local vendor when the local vendor's bid exceeds the lowest responsive and responsible bid by $25,000 or more.

This policy shall ONLY apply if formal notice of the aforementioned criteria is provided as part of the bid specifications. In addition, it should be noted that the Village of Tinley Park shall not be obligated to forego the low bidder in favor of the local vendor under any circumstances. However, this policy simply provides the Village with the option of doing so when applicable. Furthermore, this policy shall not apply in any situation where any portion of the contract amount is being paid with funds other than Village monies. Specifically, this policy shall not apply in any situation where the Village has received a grant or otherwise received a source of funds other than its own funds.

RESPONSIBLE BIDDER

For any construction project undertaken by the Village to which the Illinois Prevailing Wage Act, 820 ILCS 130/0.01 et seq. is applicable, in order to be considered a "responsible bidder" on Village Public Works Projects, a bidder must comply with the following criteria, and submit acceptable evidence of such compliance, in addition to any other requirements as determined from time to time by the Village for the specific type of work to be performed:

(a) Compliance with all applicable laws and Village Codes and Ordinances prerequisite to doing business in Illinois and in the Village;

(b) Compliance with:

a. Submittal of Federal Employer Tax Identification Number or Social Security Number (for individual), and

b. Provisions of Section 2000e of Chapter 21, Title 42 of the United States Code and Federal Executive Order No. 11246 as amended by Federal Executive Order No. 11375 (known as the Equal Employment Opportunity Provisions);

(c) Furnishing certificates of insurance indicating at least the following coverages at minimum limits established by the Village: general liability, workers'

compensation, completed operations, automobile, hazardous occupation, product liability, and professional liability;

(d) Compliance with all provisions of the Illinois Prevailing Wage Act, including wages, medical and hospitalization insurance and retirement for those trades covered by the Act;

(e) Participation in apprenticeship and training programs approved by and registered with the United States Department of Labor's Bureau of Apprenticeship and Training;

(f) Compliance with the applicable provisions of the Illinois Human Rights Act and the rules of the Illinois Human Rights Commission, including the adoption of a written sexual harassment policy;

(g) Furnishing of required performance and payment bonds;

(h) Furnishing certification of no delinquency in the payment of any tax administered by the Illinois Department of Revenue;

(i) Furnishing certification that the bidder is not barred from bidding or contracting as a result of a violation of either Section 33E or 33E-4 of Chapter 720, Article 5 of the Illinois Compiled Statutes; and

(j) Furnishing evidence that the bidder has not only the financial responsibility but also the ability to respond to the needs of the Village by the discharge of the contractor's obligations in accordance with what is expected or demanded under the terms of the contract.

INDEX
FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2018

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 1-1-18)

SUPPLEMENTAL SPECIFICATIONS

Illinois Department of Transportation

Check Sheet For Recurring Special Provisions

The Following Recurring Special Provisions Indicated By An "X" Are Applicable To This Contract And Are Included By Reference:

Recurring Special Provisions

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The Following Local Roads And Streets Recurring Special Provisions Indicated By An "X" Are Applicable To This Contract And Are Included By Reference:

Local Roads And Streets Recurring Special Provisions

State of Illinois
Department of Transportation

SPECIAL PROVISION
FOR
QUALITY CONTROL/QUALITY ASSURANCE OF CONCRETE MIXTURES

Effective: April 1, 1992
Revised: January 1, 2015

Add the following to Section 1020 of the Standard Specifications:

"**1020.16 Quality Control/Quality Assurance of Concrete Mixtures.** This Article specifies the quality control responsibilities of the Contractor for concrete mixtures (except Class PC and PS concrete), cement aggregate mixture II, and controlled low-strength material incorporated in the project, and defines the quality assurance and acceptance responsibilities of the Engineer.

A list of quality control/quality assurance (QC/QA) documents is provided in Article 1020.16(g), Schedule D.

A Level I Portland Cement Concrete (PCC) Technician shall be defined as an individual who has successfully completed the Department's training for concrete testing.

A Level II Portland Cement Concrete (PCC) Technician shall be defined as an individual who has successfully completed the Department's training for concrete proportioning.

A Level III Portland Cement Concrete (PCC) Technician shall be defined as an individual who has successfully completed the Department's training for concrete mix design.

A Concrete Tester shall be defined as an individual who has successfully completed the Department's training to assist with concrete testing and is monitored on a daily basis.

Aggregate Technician shall be defined as an individual who has successfully completed the Department's training for gradation testing involving aggregate production and mixtures.

Mixture Aggregate Technician shall be defined as an individual who has successfully completed the Department's training for gradation testing involving mixtures.

Gradation Technician shall be defined as an individual who has successfully completed the Department's training to assist with gradation testing and is monitored on a daily basis.

(a) Equipment/Laboratory. The Contractor shall provide a laboratory and test equipment to perform their quality control testing.

The laboratory shall be of sufficient size and be furnished with the necessary equipment, supplies, and current published test methods for adequately and safely performing all required tests. The laboratory will be approved by the Engineer according to the current Bureau of Materials and Physical Research Policy Memorandum "Minimum Private Laboratory Requirements for Construction Materials Testing or Mix Design". Production of a mixture shall not begin until the Engineer provides written approval of the laboratory. The Contractor shall refer to the Department's "Required Sampling and Testing Equipment for Concrete" for equipment requirements.

Test equipment shall be maintained and calibrated as required by the appropriate test method, and when required by the Engineer. This information shall be documented on the Department's "Calibration of Concrete Testing Equipment" forms BMPR PCCQ01 through BMPR PCCQ09.

Test equipment used to determine compressive or flexural strength shall be calibrated each 12 month period by an independent agency, using calibration equipment traceable to the National Institute of Standards and Technology (NIST). The Contractor shall have the calibration documentation available at the test equipment location.

The Engineer will have unrestricted access to the plant and laboratory at any time to inspect measuring and testing equipment, and will notify the Contractor of any deficiencies. Defective equipment shall be immediately repaired or replaced by the Contractor.

(b) Quality Control Plan. The Contractor shall submit, in writing, a proposed Quality Control (QC) Plan to the Engineer. The QC Plan shall be submitted a minimum of 45 calendar days prior to the production of a mixture. The QC Plan shall address the quality control of the concrete, cement aggregate mixture II, and controlled low-strength material incorporated in the project. The Contractor shall refer to the Department's "Model Quality Control Plan for Concrete Production" to prepare a QC Plan. The Engineer will respond in writing to the Contractor's proposed QC Plan within 15 calendar days of receipt.

Production of a mixture shall not begin until the Engineer provides written approval of the QC Plan. The approved QC Plan shall become a part of the contract between the Department and the Contractor, but shall not be construed as acceptance of any mixture produced.

The QC Plan may be amended during the progress of the work, by either party, subject to mutual agreement. The Engineer will respond in writing to a Contractor's proposed QC Plan amendment within 15 calendar days of receipt. The response will indicate the approval or denial of the Contractor's proposed QC Plan amendment.

(c) Quality Control by Contractor. The Contractor shall perform quality control inspection, sampling, testing, and documentation to meet contract requirements. Quality control includes the recognition of obvious defects

and their immediate correction. Quality control also includes appropriate action when passing test results are near specification limits, or to resolve test result differences with the Engineer. Quality control may require increased testing, communication of test results to the plant or the jobsite, modification of operations, suspension of mixture production, rejection of material, or other actions as appropriate. The Engineer shall be immediately notified of any failing tests and subsequent remedial action. Passing tests shall be reported no later than the start of the next work day.

When a mixture does not comply with specifications, the Contractor shall reject the material, unless the Engineer accepts the material for incorporation in the work, according to Article 105.03.

(1) Personnel Requirements. The Contractor shall provide a Quality Control (QC) Manager who will have overall responsibility and authority for quality control. The jobsite and plant personnel shall be able to contact the QC Manager by cellular phone, two-way radio, or other methods approved by the Engineer.

The QC Manager shall visit the jobsite a minimum of once a week. A visit shall be performed the day of a bridge deck pour, the day a non-routine mixture is placed as determined by the Engineer, or the day a plant is anticipated to produce more than 1000 cu yd (765 cu m). Any of the three required visits may be used to meet the once per week minimum requirement.

The Contractor shall provide personnel to perform the required inspections, sampling, testing, and documentation in a timely manner. The Contractor shall refer to the Department's "Qualifications and Duties of Concrete Quality Control Personnel" document.

A Level I PCC Technician shall be provided at the jobsite during mixture production and placement, and may supervise concurrent pours on the project. For concurrent pours, a minimum of one Concrete Tester shall be required at each pour location. If the Level I PCC Technician is at one of the pour locations, a Concrete Tester is still required at the same location. Each Concrete Tester shall be able to contact the Level I PCC Technician by cellular phone, two-way radio, or other methods approved by the Engineer. A single Level I PCC Technician shall not supervise concurrent pours for multiple contracts.

A Level II PCC Technician shall be provided at the plant, or shall be available, during mixture production and placement. A Level II PCC Technician may supervise a maximum of three plants. Whenever the Level II PCC Technician is not at the plant during mixture production and placement, a Concrete Tester or Level I PCC Technician shall be present at the plant to perform any necessary concrete tests. The Concrete Tester, Level I PCC Technician, or other individual shall also be trained to perform any necessary aggregate moisture tests, if the Level II PCC Technician is not at the plant during mixture production and placement. The Concrete Tester, Level I PCC Technician, plant personnel, and jobsite personnel shall have the ability to contact the

Level II PCC Technician by cellular phone, two-way radio, or other methods approved by the Engineer.

For a mixture which is produced and placed with a mobile portland cement concrete plant as defined in Article 1103.04, a Level II PCC Technician shall be provided. The Level II PCC Technician shall be present at all times during mixture production and placement. However, the Level II PCC Technician may request to be available if operations are satisfactory. Approval shall be obtained from the Engineer, and jobsite personnel shall have the ability to contact the Level II PCC Technician by cellular phone, two-way radio, or other methods approved by the Engineer.

A Concrete Tester, Mixture Aggregate Technician, and Aggregate Technician may provide assistance with sampling and testing. A Gradation Technician may provide assistance with testing. A Concrete Tester shall be supervised by a Level I or Level II PCC Technician. A Gradation Technician shall be supervised by a Level II PCC Technician, Mixture Aggregate Technician, or Aggregate Technician.

(2) Required Plant Tests. Sampling and testing shall be performed at the plant, or at a location approved by the Engineer, to control the production of a mixture. The required minimum Contractor plant sampling and testing is indicated in Article 1020.16(g) Schedule A.

(3) Required Field Tests. Sampling and testing shall be performed at the jobsite to control the production of a mixture, and to comply with specifications for placement. For standard curing, after initial curing, and for strength testing, the location shall be approved by the Engineer. The required minimum Contractor jobsite sampling and testing is indicated in Article 1020.16(g), Schedule B.

(d) Quality Assurance by Engineer. The Engineer will perform quality assurance tests on independent samples and split samples. An independent sample is a field sample obtained and tested by only one party. A split sample is one of two equal portions of a field sample, where two parties each receive one portion for testing. The Engineer may request the Contractor to obtain a split sample. Aggregate split samples and any failing strength specimen shall be retained until permission is given by the Engineer for disposal. The results of all quality assurance tests by the Engineer will be made available to the Contractor. However, Contractor split sample test results shall be provided to the Engineer before Department test results are revealed. The Engineer's quality assurance independent sample and split sample testing are indicated in Article 1020.16(g), Schedule C.

(1) Strength Testing. For strength testing, Article 1020.09 shall apply, except the Contractor and Engineer strength specimens may be placed in the same field curing box for initial curing and may be cured in the same water storage tank for final curing.

(2) Comparing Test Results. Differences between the Engineer's and the Contractor's split sample test results will be considered reasonable if within the following limits:

Test Parameter	Acceptable Limits of Precision
Slump	0.75 in. (20 mm)
Air Content	0.9%
Compressive Strength	900 psi (6200 kPa)
Flexural Strength	90 psi (620 kPa)
Slump Flow (Self-Consolidating Concrete (SCC))	1.5 in. (40 mm)
Visual Stability Index (SCC)	Not Applicable
J-Ring (SCC)	1.5 in. (40 mm)
L-Box (SCC)	10 %
Hardened Visual Stability Index (SCC)	Not Applicable
Dynamic Segregation Index (SCC)	1.0 %
Flow (Controlled Low-Strength Material (CLSM))	1.5 in. (40 mm)
Strength (CLSM)	40 psi (275 kPa)
Aggregate Gradation	See "Guideline for Sample Comparison" in Appendix "A" of the Manual of Test Procedures for Materials.

When acceptable limits of precision have been met, but only one party is within specification limits, the failing test shall be resolved before the material may be considered for acceptance.

(3) Test Results and Specification Limits.

a. Split Sample Testing. If either the Engineer's or the Contractor's split sample test result is not within specification limits and the other party is within specification limits, immediate retests on a split sample shall be performed for slump, air content, slump flow, visual stability index, J-Ring, L-Box, dynamic segregation index, flow (CLSM), or aggregate gradation. A passing retest result by each party will require no further action. If either the Engineer's or Contractor's slump, air content, slump flow, visual stability index, J-Ring, L-Box, dynamic segregation index, flow (CLSM), or aggregate gradation split sample retest result is a failure; or if either the Engineer's or Contractor's strength or hardened visual stability index test result is a failure and the other party is within specification limits; the following actions shall be initiated to investigate the test failure:

1. The Engineer and the Contractor shall investigate the sampling method, test procedure, equipment condition, equipment calibration, and other factors.

2. The Engineer or the Contractor shall replace test equipment, as determined by the Engineer.

3. The Engineer and the Contractor shall perform additional testing on split samples, as determined by the Engineer.

For aggregate gradation, jobsite slump, jobsite air content, jobsite slump flow, jobsite visual stability index, jobsite J-Ring, jobsite L-Box, jobsite dynamic segregation index, and jobsite flow (CLSM), if the failing split sample test result is not resolved according to 1., 2., or 3., and the mixture has not been placed, the Contractor shall reject the material; unless the Engineer accepts the material for incorporation in the work, according to Article 105.03. If the mixture has already been placed, or if a failing strength or hardened visual stability index test result is not resolved according to 1., 2., or 3., the material will be considered unacceptable.

If a continued trend of difference exists between the Engineer's and the Contractor's split sample test results, or if split sample test results exceed the acceptable limits of precision, the Engineer and the Contractor shall investigate according to items 1., 2., and 3.

b. Independent Sample Testing. For aggregate gradation, jobsite slump, jobsite air content, jobsite slump flow, jobsite visual stability index, jobsite J-Ring, jobsite L-Box, jobsite dynamic segregation index, jobsite flow (CLSM), if the result of a quality assurance test on a sample independently obtained by the Engineer is not within specification limits, and the mixture has not been placed, the Contractor shall reject the material; unless the Engineer accepts the material for incorporation in the work, according to Article 105.03. If the mixture has already been placed or the Engineer obtains a failing strength or hardened visual stability index test result, the material will be considered unacceptable.

(e) Acceptance by the Engineer. Final acceptance will be based on the Standard Specifications and the following:

(1) The Contractor's compliance with all contract documents for quality control.

(2) Validation of Contractor quality control test results by comparison with the Engineer's quality assurance test results using split samples. Any quality control or quality assurance test determined to be flawed may be declared invalid only when reviewed and approved by the Engineer. The Engineer will declare a test result invalid only if it is proven that improper sampling or testing occurred. The test result is to be recorded and the reason for declaring the test invalid will be provided by the Engineer.

(3) Comparison of the Engineer's quality assurance test results with specification limits using samples independently obtained by the Engineer.

The Engineer may suspend mixture production, reject materials, or take other appropriate action if the Contractor does not control the quality of concrete, cement aggregate mixture II, or controlled low-strength material for acceptance. The decision will be determined according to (1), (2), or (3).

(f) Documentation.

(1) Records. The Contractor shall be responsible for documenting all observations, inspections, adjustments to the mix design, test results, retest results, and corrective actions in a bound hardback field book, bound hardback diary, or appropriate Department form, which shall become the property of the Department. The documentation shall include a method to compare the Engineer's test results with the Contractor's results. The Contractor shall be responsible for the maintenance of all permanent records whether obtained by the Contractor, the consultants, the subcontractors, or the producer of the mixture. The Contractor shall provide the Engineer full access to all documentation throughout the progress of the work.

The Department's form BMPR MI504, form BMPR MI654, and form BMPR MI655 shall be completed by the Contractor, and shall be submitted to the Engineer weekly or as required by the Engineer. A correctly completed form BMPR MI504, form BMPR MI654, and form BMPR MI655 are required to authorize payment by the Engineer for applicable pay items.

(2) Delivery Truck Ticket. The following information shall be recorded on each delivery ticket or in a bound hardback field book: initial revolution counter reading (final reading optional) at the jobsite, if the mixture is truck-mixed; time discharged at the jobsite; total amount of each admixture added at the jobsite; and total amount of water added at the jobsite.

(g) Basis of Payment and Schedules. Quality Control/Quality Assurance of portland cement concrete mixtures will not be paid for separately, but shall be considered as included in the cost of the various concrete contract items.

CHECK SHEET #25

SCHEDULE A

CONTRACTOR PLANT SAMPLING AND TESTING			
Item	Test	Frequency	IL Modified AASHTO, IL Modified ASTM, or Illinois Test Procedure [1/]
Aggregates (Arriving at Plant)	Gradation [2/]	As needed to check source for each gradation number	ITP 2, ITP 11, ITP 27, and ITP 248
Aggregates (Stored at Plant in Stockpiles or Bins)	Gradation [2/]	2500 cu yd (1900 cu m) for each gradation number [3/]	ITP 2, ITP 11, ITP 27, and ITP 248
Aggregates (Stored at Plant in Stockpiles or Bins)	Moisture [4/]: Fine Aggregate	Once per week for moisture sensor, otherwise daily for each gradation number	Flask, Dunagan, Pychnometer Jar, or ITP 255
	Moisture [4/]: Coarse Aggregate	As needed to control production for each gradation number	Dunagan, Pychnometer Jar, or ITP 255
Mixture [5/]	Slump Air Content Unit Weight / Yield Slump Flow (SCC) Visual Stability Index (SCC) J-Ring (SCC) [6/] L-Box (SCC) [6/] Temperature	As needed to control production	R 60 and T 119 R 60 and T 152 or T 196 R 60 and T 121 ITP SCC-1 and ITP SCC-2 ITP SCC-1 and ITP SCC-2 ITP SCC-1 and ITP SCC-3 ITP SCC-1 and ITP SCC-4 R 60 and ASTM C 1064
Mixture (CLSM) [7/]	Flow Air Content Temperature	As needed to control production	ITP 307

1/ Refer to the Department's "Manual of Test Procedures for Materials".

2/ All gradation tests shall be washed. Testing shall be completed no later than 24 hours after the aggregate has been sampled.

3/ One per week (Sunday through Saturday) minimum, unless the stockpile has not received additional aggregate material since the previous test.

One per day minimum for a bridge deck pour, unless the stockpile has not received additional aggregate material since the previous test. The sample shall be taken and testing completed prior to the pour. The bridge deck aggregate sample may be taken the day before the pour or as approved by the Engineer.

4/ If the moisture test and moisture sensor disagree by more than 0.5 percent, retest. If the difference remains, adjust the moisture sensor to an average of two or more moisture tests. The Department's "Water/Cement Ratio Worksheet" form (BMPR PCCW01) shall be completed, when applicable.

5/ The Contractor may also perform strength testing according to Illinois Modified AASHTO R 60, T 23, and T 22 or T 177; or water content testing according to Illinois Modified AASHTO T 318.

The Contractor may also perform other available self-consolidating concrete (SCC) tests at the plant to control mixture production.

6/ The Contractor shall select the J-Ring or L-Box test for plant sampling and testing.

7/ The Contractor may also perform strength testing according to ITP 307.

CHECK SHEET #25

SCHEDULE B

CONTRACTOR JOBSITE SAMPLING & TESTING [1/]			
Item	Measured Property	Random Sample Testing Frequency per Mix Design and per Plant [2/]	IL Modified AASHTO, IL Modified ASTM, or Illinois Test Procedure
Pavement, Shoulder, Base Course, Base Course Widening, Driveway Pavement, Railroad Crossing, Cement Aggregate Mixture II	Slump [3/ 4/]	1 per 500 cu yd (400 cu m) or minimum 1/day	R 60 and T 119
	Air Content [3/ 5/ 6/]	1 per 100 cu yd (80 cu m) or minimum 1/day	R 60 and T 152 or T 196
	Compressive Strength [7/ 8/] or Flexural Strength [7/ 8/]	1 per 1250 cu yd (1000 cu m) or minimum 1/day	R 60, T 22 and T 23 or R 60, T 177 and T 23
Bridge Approach Slab [9/], Bridge Deck [9/], Bridge Deck Overlay [9/], Superstructure [9/], Substructure, Culvert, Miscellaneous Drainage Structures, Retaining Wall, Building Wall, Drilled Shaft Pile & Encasement Footing, Foundation, Pavement Patching, Structural Repairs	Slump [3/ 4/]	1 per 50 cu yd (40 cu m) or minimum 1/day	R 60 and T 119
	Air Content [3/ 5/ 6/]	1 per 50 cu yd (40 cu m) or minimum 1/day	R 60 and T 152 or T 196
	Compressive Strength [7/ 8/] or Flexural Strength [7/ 8/]	1 per 250 cu yd (200 cu m) or minimum 1/day	R 60, T 22 and T 23 or R 60, T 177 and T 23
Seal Coat	Slump [3/]	1 per 250 cu yd (200 cu m) or minimum 1/day	R 60 and T 119
	Air Content [3/ 5/ 6/]	1 per 250 cu yd (200 cu m) or minimum 1/day when air is entrained	R 60 and T 152 or T 196
	Compressive Strength [7/ 8/] or Flexural Strength [7/ 8/]	1 per 250 cu yd (200 cu m) or minimum 1/day	R 60, T 22 and T 23 or R 60, T 177 and T 23

CONTRACTOR JOBSITE SAMPLING & TESTING [1/]			
Curb, Gutter, Median, Barrier, Sidewalk, Slope Wall, Paved Ditch, Fabric Formed Concrete Revetment Mat [10/], Miscellaneous Items, Incidental Items	Slump [3/ 4/]	1 per 100 cu yd (80 cu m) or minimum 1/day	R 60 and T 119
	Air Content [3/ 5/ 6/]	1 per 50 cu yd (40 cu m) or minimum 1/day	R 60 and T 152 or T 196
	Compressive Strength [7/ 8/] or Flexural Strength [7/ 8/]	1 per 400 cu yd (300 cu m) or minimum 1/day	R 60, T 22 and T 23 or R 60, T 177 and T 23
Items Using Self-Consolidating Concrete	Slump Flow [3/] VSI [3/] J-Ring [3/ 11/] L-Box [3/ 11/]	Perform at same frequency that is specified for the Item's slump	ITP SCC-1 & ITP SCC-2 ITP SCC-1 & ITP SCC-2 ITP SCC-1 & ITP SCC-3 ITP SCC-1 & ITP SCC-4
	HVSI [12/]	Minimum 1/day at start of production for that day	ITP SCC-1 and ITP SCC-6
	Dynamic Segregation Index (DSI)	Minimum 1/week at start of production for that week	ITP SCC-1 and ITP SCC-8 (Option C)
	Air Content [3/ 5/ 6/]	Perform at same frequency that is specified for the Item's air content	ITP SCC-1 and T 152 or T 196
	Compressive Strength [7/ 8/] or Flexural Strength [7/ 8/]	Perform at same frequency that is specified for the Item's strength	ITP SCC-1, T 22 and T 23 or ITP SCC-1, T 177 and T 23
All	Temperature [3/]	As needed to control production	R 60 and ASTM C 1064
Controlled Low-Strength Material (CLSM)	Flow, Air Content, Compressive Strength (28-day) [13/], and Temperature	First truck load delivered and as needed to control production thereafter	ITP 307

1/ Sampling and testing of small quantities of curb, gutter, median, barrier, sidewalk, slope wall, paved ditch, miscellaneous items, and incidental items may be waived by the Engineer, if requested by the Contractor. However, quality control personnel are still required according to Article 1020.16(c)(1). The Contractor shall also provide recent evidence that similar material has been found to be satisfactory under normal sampling and testing

procedures. The total quantity that may be waived for testing shall not exceed 100 cu yd (76 cu m) per contract.

If the Contractor's or Engineer's test result for any jobsite mixture test is not within the specification limits, all subsequent truck loads delivered shall be tested by the Contractor until the problem is corrected.

2/ If one mix design is being used for several construction items during a day's production, one testing frequency may be selected to include all items. The construction items shall have the same slump, air content, and water/cement ratio specifications. For self-consolidating concrete, the construction items shall have the same slump flow, visual stability index, J-Ring, L-Box, air content, and water/cement ratio specifications. The frequency selected shall equal or exceed the testing required for the construction item.

One sufficiently sized sample shall be taken to perform the required test(s). Random numbers shall be determined according to the Department's "Method for Obtaining Random Samples for Concrete". The Engineer will provide random sample locations.

3/ The temperature, slump, and air content tests shall be performed on the first truck load delivered, for each pour. For self-consolidating concrete, the temperature, slump flow, visual stability index, J-Ring or L-Box, and air content tests shall be performed on the first truck load delivered, for each pour. Unless a random sample is required for the first truck load, testing the first truck load does not satisfy random sampling requirements.

4/ The slump random sample testing frequency shall be a minimum 1/day for a construction item which is slipformed.

5/ If a pump or conveyor is used for placement, a correction factor shall be established to allow for a loss of air content during transport. The first three truck loads delivered shall be tested, before and after transport by the pump or conveyor, to establish the correction factor. Once the correction is determined, it shall be re-checked after an additional 50 cu yd (38 cu m) is pumped, or an additional 100 cu yd (76 cu m) is transported by conveyor. This shall continue throughout the pour. If the re-check indicates the correction factor has changed, a minimum of two truckloads is required to re-establish the correction factor. The correction factor shall also be re-established when significant changes in temperature, distance, pump or conveyor arrangement, and other factors have occurred. If the correction factor is greater than 3.0 percent, the Contractor shall take corrective action to reduce the loss of air content during transport by the pump or conveyor. The Contractor shall record all air content test results, correction factors, and corrected air contents. The corrected air content shall be reported on form BMPR MI654.

6/ If the Contractor's or Engineer's air content test result is within the specification limits, and 0.2 percent or closer to either limit, the next truck load delivered shall be tested by the Contractor. For example, if the specified air content range is 5.0 to 8.0 percent and the test result is 5.0, 5.1, 5.2, 7.8, 7.9, or 8.0 percent, the next truck shall be tested by the Contractor.

7/ The test of record for strength shall be the day indicated in Article 1020.04. For cement aggregate mixture II, a strength requirement is not specified and testing is not required. Additional strength testing to determine early falsework and form removal, early pavement or bridge opening to traffic, or to monitor strengths is at the discretion of the Contractor. Strength shall be defined as the average of two 6 x 12 in. (150 x 300 mm) cylinder breaks, three 4 x 8 in. (100 x 200 mm) cylinder breaks, or two beam breaks for field tests. Per Illinois Modified AASHTO T 23, cylinders shall be 6 x 12 in. (150 x 300 mm) when the nominal maximum size of the coarse aggregate exceeds 1 in. (25 mm). Nominal maximum size is defined as the largest sieve which retains any of the aggregate sample particles.

8/ In addition to the strength test, a slump test, air content test, and temperature test shall be performed on the same sample. For self-consolidating concrete, a slump flow test, visual stability index test, J-Ring or L-Box test, air content test, and temperature test shall be performed on the same sample as the strength test. For mixtures pumped or conveyored, the Contractor shall sample according to Illinois Modified AASHTO R 60.

9/ The air content test will be required for each delivered truck load.

10/ For fabric formed concrete revetment mat, the slump test is not required and the flexural strength test is not applicable.

11/ The Contractor shall select the J-Ring or L-Box test for jobsite sampling and testing.

12/ In addition to the hardened visual stability index (HVSI) test, a slump flow test, visual stability index (VSI) test, J-Ring or L-Box test, air content test, and temperature test shall be performed on the same sample. The Contractor shall retain all hardened visual stability index cut cylinder specimens until the Engineer notifies the Contractor that the specimens may be discarded.

13/ The test of record for strength shall be the day indicated in Article 1019.04. In addition to the strength test, a flow test, air content test, and temperature test shall be performed on the same sample. The strength test may be waived by the Engineer if future removal of the material is not a concern.

SCHEDULE C

ENGINEER QUALITY ASSURANCE INDEPENDENT SAMPLE TESTING		
Location	Measured Property	Testing Frequency [1/]
Plant	Gradation of aggregates stored in stockpiles or bins, Slump and Air Content	As determined by the Engineer.
Jobsite	Slump, Air Content, Slump Flow, Visual Stability Index, J-Ring, L-Box, Hardened Visual Stability Index, Dynamic Segregation Index, and Strength	As determined by the Engineer.
	Flow, Air Content, Strength (28-day), and Dynamic Cone Penetration for Controlled Low-Strength Material (CLSM)	As determined by the Engineer

ENGINEER QUALITY ASSURANCE SPLIT SAMPLE TESTING [2/]		
Location	Measured Property	Testing Frequency [1/]
Plant	Gradation of aggregates stored in stockpiles or bins	At the beginning of the project, the first test performed by the Contractor. Thereafter, a minimum of 10% of total tests required of the Contractor will be performed per aggregate gradation number and per plant.
	Slump, Air Content, Slump Flow (SCC), Visual Stability Index (SCC), J-Ring (SCC), and L-Box (SCC)	As determined by the Engineer.
Jobsite	Slump, Air Content [3/], Slump Flow, Visual Stability Index, J-Ring and L-Box	At the beginning of the project, the first three tests performed by the Contractor. Thereafter, a minimum of 20% of total tests required of the Contractor will be performed per plant, which will include a minimum of one test per mix design.
	Hardened Visual Stability Index	As determined by the Engineer.
	Dynamic Segregation Index	As determined by the Engineer.
	Strength	At the beginning of the project, the first test performed by the Contractor. Thereafter, a minimum of 20% of total tests required of the Contractor will be performed per plant, which will include a minimum of one test per mix design.
	Flow, Air Content, and Strength (28-day) for Controlled Low-Strength Material (CLSM)	As determined by the Engineer.

1/ The Engineer will perform the testing throughout the period of quality control testing by the Contractor.

2/ The Engineer will witness and take immediate possession of or otherwise secure the Department's split sample obtained by the Contractor.

3/ Before transport by pump or conveyor, a minimum of 20 percent of total tests required of the Contractor will be performed per mix design and per plant. After transport by pump or conveyor, a minimum of 20 percent of total tests required of the Contractor will be performed per mix design and per plant.

CHECK SHEET #25

SCHEDULE D

CONCRETE QUALITY CONTROL AND QUALITY ASSURANCE DOCUMENTS

(a) Model Quality Control Plan for Concrete Production (*)

(b) Qualifications and Duties of Concrete Quality Control Personnel (*)

(c) Development of Gradation Bands on Incoming Aggregate at Mix Plants (*)

(d) Required Sampling and Testing Equipment for Concrete (*)

(e) Method for Obtaining Random Samples for Concrete (*)

(f) Calibration of Concrete Testing Equipment (BMPR PCCQ01 through BMPR PCCQ09) (*)

(g) Water/Cement Ratio Worksheet (BMPR PCCW01) (*)

(h) Field/Lab Gradations (BMPR MI504) (*)

(i) Concrete Air, Slump and Quantity (BMPR MI654) (*)

(j) P.C. Concrete Strengths (BMPR MI655) (*)

(k) Aggregate Technician Course or Mixture Aggregate Technician Course (*)

(l) Portland Cement Concrete Tester Course (*)

(m) Portland Cement Concrete Level I Technician Course - Manual of Instructions for Concrete Testing (*)

(n) Portland Cement Concrete Level II Technician Course - Manual of Instructions for Concrete Proportioning (*)

(o) Portland Cement Concrete Level III Technician Course - Manual of Instructions for Design of Concrete Mixtures (*)

(p) Manual of Test Procedures for Materials

* Refer to Appendix C of the Department's "Manual of Test Procedures for Materials" for more information.

BDE SPECIAL PROVISIONS
For the August 3 and September 21, 2018 Lettings

The following special provisions indicated by an "x" are applicable to this contract and will be included by the Project Development and Implementation Section of the BD&E. An * indicates a new or revised special provision for the letting.

	File Name	#		Special Provision Title	Effective	Revised
	80099	1		Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2014
	80382	2	✓	Adjusting Frames and Grates	April 1, 2017	
	80274	3		Aggregate Subgrade Improvement	April 1, 2012	April 1, 2016
	80192	4		Automated Flagger Assistance Device	Jan. 1, 2008	
	80173	5		Bituminous Materials Cost Adjustments	Nov. 2, 2006	Aug. 1, 2017
	80241	6		Bridge Demolition Debris	July 1, 2009	
	5026I	7		Building Removal-Case I (Non-Friable and Friable Asbestos)	Sept. 1, 1990	April 1, 2010
	5048I	8		Building Removal-Case II (Non-Friable Asbestos)	Sept. 1, 1990	April 1, 2010
	5049I	9		Building Removal-Case III (Friable Asbestos)	Sept. 1, 1990	April 1, 2010
	5053I	10		Building Removal-Case IV (No Asbestos)	Sept. 1, 1990	April 1, 2010
	80366	11		Butt Joints	July 1, 2016	
	80386	12		Calcium Aluminate Cement for Class PP-5 Concrete Patching	Nov. 1, 2017	
	80396	13		Class A and B Patching	Jan. 1, 2018	
	80384	14		Compensable Delay Costs	June 2, 2017	
	80198	15		Completion Date (via calendar days)	April 1, 2008	
	80199	16		Completion Date (via calendar days) Plus Working Days	April 1, 2008	
	80293	17		Concrete Box Culverts with Skews > 30 Degrees and Design Fills ≤ 5 Feet	April 1, 2012	July 1, 2016
	80311	18		Concrete End Sections for Pipe Culverts	Jan. 1, 2013	April 1, 2016
	80277	19		Concrete Mix Design – Department Provided	Jan. 1, 2012	April 1, 2016
	80261	20	✓	Construction Air Quality – Diesel Retrofit	June 1, 2010	Nov. 1, 2014
	80387	21		Contrast Preformed Plastic Pavement Marking	Nov. 1, 2017	
*	80029	22		Disadvantaged Business Enterprise Participation	Sept. 1, 2000	April 2, 2018
	80378	23		Dowel Bar Inserter	Jan. 1, 2017	Jan. 1, 2018
	80388	24		Equipment Parking and Storage	Nov. 1, 2017	
	80229	25		Fuel Cost Adjustment	April 1, 2009	Aug. 1, 2017
	80304	26		Grooving for Recessed Pavement Markings	Nov. 1, 2012	Nov. 1, 2017
*	80246	27		Hot-Mix Asphalt – Density Testing of Longitudinal Joints	Jan. 1, 2010	Aug. 1, 2018
*	80398	28		Hot-Mix Asphalt – Longitudinal Joint Sealant	Aug. 1, 2018	
*	80399	29		Hot-Mix Asphalt – Oscillatory Roller	Aug. 1, 2018	
*	80347	30		Hot-Mix Asphalt – Pay for Performance Using Percent Within Limits – Jobsite Sampling	Nov. 1, 2014	Aug. 1, 2018
	80383	31		Hot-Mix Asphalt – Quality Control for Performance	April 1, 2017	Nov. 1, 2017
	80376	32		Hot-Mix Asphalt – Tack Coat	Nov. 1, 2016	
	80392	33		Lights on Barricades	Jan. 1, 2018	
	80336	34		Longitudinal Joint and Crack Patching	April 1, 2014	April 1, 2016
*	80393	35	✓	Manholes, Valve Vaults, and Flat Slab Tops	Jan. 1, 2018	March 2, 2018
*	80400	36		Mast Arm Assembly and Pole	Aug. 1, 2018	
	80045	37		Material Transfer Device	June 15, 1999	Aug. 1, 2014
	80394	38		Metal Flared End Section for Pipe Culverts	Jan. 1, 2018	April 1, 2018
	80165	39		Moisture Cured Urethane Paint System	Nov. 1, 2006	Jan. 1, 2010
	80349	40		Pavement Marking Blackout Tape	Nov. 1, 2014	April 1, 2016
	80371	41	✓	Pavement Marking Removal	July 1, 2016	
	80390	42		Payments to Subcontractors	Nov. 2, 2017	
	80377	43		Portable Changeable Message Signs	Nov. 1, 2016	April 1, 2017
	80389	44	✓	Portland Cement Concrete	Nov. 1, 2017	
	80359	45		Portland Cement Concrete Bridge Deck Curing	April 1, 2015	Nov. 1, 2017
*	80401	46		Portland Cement Concrete Pavement Connector for Bridge Approach	Aug. 1, 2018	

File Name	#		Special Provision Title	Effective	Revised
			Slab		
80385	47	✓	Portland Cement Concrete Sidewalk	Aug. 1, 2017	
80300	48		Preformed Plastic Pavement Marking Type D - Inlaid	April 1, 2012	April 1, 2016
80328	49		Progress Payments	Nov. 2, 2013	
3426I	50		Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2006
80157	51		Railroad Protective Liability Insurance (5 and 10)	Jan. 1, 2006	
80306	52		Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)	Nov. 1, 2012	Jan. 1, 2018
80395	53		Sloped Metal End Section for Pipe Culverts	Jan. 1, 2018	
80340	54		Speed Display Trailer	April 2, 2014	Jan. 1, 2017
80127	55		Steel Cost Adjustment	April 2, 2004	Aug. 1, 2017
* 80397	56		Subcontractor and DBE Payment Reporting	April 2, 2018	
80391	57		Subcontractor Mobilization Payments	Nov. 2, 2017	
80317	58		Surface Testing of Hot-Mix Asphalt Overlays	Jan. 1, 2013	April 1, 2016
80298	59		Temporary Pavement Marking (NOTE: This special provision was previously named *"Pavement Marking Tape Type IV"*.)	April 1, 2012	April 1, 2017
20338	60		Training Special Provisions	Oct. 15, 1975	
80318	61		Traversable Pipe Grate for Concrete End Sections (NOTE: This special provision was previously named "*Traversable Pipe Grate*".)	Jan. 1, 2013	Jan. 1, 2018
80288	62		Warm Mix Asphalt	Jan. 1, 2012	April 1, 2016
80302	63		Weekly DBE Trucking Reports	June 2, 2012	April 2, 2015
80071	64		Working Days	Jan. 1, 2002	

The following special provisions are in the 2018 Supplemental Specifications and Recurring Special Provisions.

File Name	Special Provision Title	New Location	Effective	Revised
80368	Light Tower	Article 1069.08	July 1, 2016	
80369	Mast Arm Assembly and Pole	Article 1077.03(a)(1)	July 1, 2016	
80338	Portland Cement Concrete Partial Depth Hot-Mix Asphalt Patching	Recurring CS #35	April 1, 2014	April 1, 2016
80379	Steel Plate Beam Guardrail	Articles 630.02, 630.05, 630.06, and 630.08	Jan. 1, 2017	
80381	Traffic Barrier Terminal, Type 1 Special	Article 631.04	Jan. 1, 2017	
80380	Tubular Markers	Articles 701.03, 701.15, 701.18, and 1106.02	Jan. 1, 2017	

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

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

ADJUSTING FRAMES AND GRATES (BDE)

Effective: April 1, 2017

Add the following to Article 602.02 of the Standard Specifications:

"(s) High Density Expanded Polystyrene Adjusting Rings with Polyurea Coating (Note 4) 1043.04

(t) Expanded Polypropylene (EPP) Adjusting Rings (Note 5) 1043.05

Note 4. High density expanded polystyrene adjusting rings with polyurea coating shall meet the design load requirements of AASHTO HS20/25. The rings may be used to adjust the frames and grates of drainage and utility structures up to a maximum of 6 in. (150 mm). They shall be installed and sealed underneath the frames according to the manufacturer's specifications.

Note 5. Riser rings fabricated from EPP may be used to adjust the frames and grates of drainage and utility structures up to a maximum of 6 in. (150 mm). An adhesive meeting ASTM C 920, Type S, Grade N5, Class 25 shall be used with EPP adjustment rings. The top ring of the adjustment stack shall be a finish ring with grooves on the lower surface and flat upper surface. The joints between all manhole adjustment rings and the frame and cover shall be sealed using the approved adhesive. In lieu of the use of an adhesive, an internal or external mechanical frame-chimney seal may be used for watertight installation. EPP adjustment rings shall not be used with heat shrinkable infiltration barriers."

Add the following to Section 1043 of the Standard Specifications:

"**1043.04 High Density Expanded Polystyrene Adjusting Rings with Polyurea Coating.** High density expanded polystyrene adjustment rings with polyurea coating shall be designed and tested to meet or exceed an HS25 wheel load according to the AASHTO Standard Specifications for Highway Bridges (AASHTO M306 HS-25). The raw material suppliers shall provide certifications of quality or testing using the following ASTM standards, and upon request, certify that only virgin material was used in the manufacturing of the expanded polystyrene rings.

Physical Property	Test Standard	Value	
		3.0 lb/cu ft	4.5 lb/cu ft
Compression Resistance at 10% deformation at 5% deformation at 2% deformation	ASTM D 1621	 50 - 70 45 - 60 15 - 20	 70 - 90 60 - 80 20 - 40
Flexural Strength	ASTM D 790	90 - 120	130 - 200
Water Absorption	ASTM D 570	2.0%	1.7%
Coefficient of Linear Expansion	ASTM D 696	2.70E-06 in./in./°F	2.80E-06 in./in./°F
Sheer Strength	ASTM D 732	55	80

Tensile Strength	ASTM D 1623	70 - 90	130 - 140
Water Vapor Transmission	ASTM C 355	0.82 – 0.86 perm – in.	

High density expanded polystyrene adjustment rings with polyurea coating shall have no void areas, cracks, or tears. The actual diameter or length shall not vary more than 0.125 in. (3 mm) from the specified diameter or length. Variations in height are limited to ± 0.063 in. (± 1.6 mm). Variations shall not exceed 0.25 in. (6 mm) from flat (dish, bow, or convoluting edge) or 0.125 in. (3 mm) for bulges or dips in the surface.

1043.05 Expanded Polypropylene (EPP) Adjusting Rings. The EPP adjusting rings shall be manufactured using a high compression molding process to produce a minimum finished density of 7.5 lb/cu ft (120 g/l). The EPP rings shall be made of materials meeting ASTM D 3575 and ASTM D 4819-13. The grade adjustments shall be designed and tested according to the AASHTO Standard Specifications for Highway Bridges (AASHTO M 306 HS-25).

Grade rings shall contain upper and lower keyways (tongue and groove) for proper vertical alignment and sealing. The top ring, for use directly beneath the cast iron frame, shall have keyways (grooves) on the lower surface with a flat upper surface.

Adhesive or sealant used for watertight installation of the manhole grade adjustment rings shall meet ASTM C 920, Type S, Grade NS, Class 25, Uses NT, T, M, G, A, and O.

EPP adjustment rings shall have no void areas, cracks, or tears. The actual diameter or length shall not vary more than 0.125 in. (3 mm) from the specified diameter or length. Variations in height are limited to ± 0.063 in. (± 1.6 mm). Variations shall not exceed 0.25 in. (6 mm) from flat (dish, bow, or convoluting edge) or 0.125 in. (3 mm) for bulges or dips in the surface."

80382

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

MANHOLES, VALVE VAULTS, AND FLAT SLAB TOPS (BDE)

Effective: January 1, 2018
Revised: March 2, 2018

Description. Manholes, valve vaults, and flat slab tops manufactured according to the current or previous Highway Standards listed below will be accepted on this contract:

Product	Current Standard	Previous Standard
Precast Manhole Type A, 4' (1.22 m) Diameter	602401-04	602401-03
Precast Manhole Type A, 5' (1.52 m) Diameter	602402	602401-03
Precast Manhole Type A, 6' (1.83 m) Diameter	602406-08	602406-07
Precast Manhole Type A, 7' (2.13 m) Diameter	602411-06	602411-05
Precast Manhole Type A, 8' (2.44 m) Diameter	602416-06	602416-05
Precast Manhole Type A, 9' (2.74 m) Diameter	602421-06	602421-05
Precast Manhole Type A, 10' (3.05 m) Diameter	602426	n/a
Precast Valve Vault Type A, 4' (1.22 m) Diameter	602501-03	602501-02
Precast Valve Vault Type A, 5' (1.52 m) Diameter	602506	602501-02
Precast Reinforced Concrete Flat Slab Top	602601-05	602601-04

When manufacturing to the current standards, the following revisions to the Standard Specifications shall apply:

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)."

Add the following paragraph after the first paragraph of Article 602.07 of the Standard Specifications:

"Threaded rods connecting precast sections shall be brought to a snug tight condition."

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 according to AASHTO M 199 (M 199M), except the minimum wall thickness shall be 3 in. (75 mm). 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

PORTLAND CEMENT CONCRETE SIDEWALK (BDE)

Effective: August 1, 2017

Revise the first paragraph of Article 424.12 of the Standard Specifications to read:

"**424.12 Method of Measurement.** This work will be measured for payment in place and the area computed in square feet (square meters). Curb ramps, including side curbs and side flares, will be measured for payment as sidewalk. No deduction will be made for detectable warnings located within the ramp."

80385

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

PREVAILING WAGES

Prevailing Wage Rates for Cook County Effectie Aug. 15, 2018

County	Trade Title	Region	Type	Class	Base Wage	Foreman Wage	OT M-F	OT Sa	OT Su	OT Hol	H/W	Pension	Vacation	Training	Other Fringe Benefit
Cook	ASBESTOS ABT-	All	ALL		42.72	43.72	1.5	1.5	2	2	14.9	12.57	0	0.68	0
Cook	ASBESTOS ABT-	All	BLD		37.88	40.38	1.5	1.5	2	1.5	12.92	11.82	0	0.72	0
Cook	BOILERMAKER	All	BLD		49.46	53.91	1.5	1.5	2	2	6.97	20.4	0	1.6	0
Cook	BRICK MASON	All	BLD		46.19	50.8	1.5	2	2	2	10.65	17.92	0	1.77	0
Cook	CARPENTER	All	ALL		47.35	49.35	1.5	1.5	2	2	11.79	20.41	0	0.63	0
Cook	CEMENT MASO	All	ALL		45.25	47.25	2	1.5	2	2	14.25	17.03	0	1.1	1.36
Cook	CERAMIC TILE F	All	BLD		39.56		2	1.5	2	2	10.75	12.02	0	0.97	0
Cook	COMM. ELECT.	All	BLD		43.96	46.76	1.5	1.5	2	2	9.85	13.26	1.25	0.85	0
Cook	ELECTRIC PWR	All	ALL		51.9	56.9	1.5	1.5	2	2	12.04	17.18	0	3.23	0
Cook	ELECTRIC PWR	All	ALL		39.39		1.5	1.5	2	2	3.77	24.62	0	0	0
Cook	ELECTRIC PWR	All	ALL		50.5	55.5	1.5	1.5	2	2	11.69	17.2	0	2.61	0
Cook	ELECTRICIAN	All	ALL		48.35	51.35	1.5	1.5	2	2	15.13	16.52	1.25	1.28	0
Cook	ELEVATOR CON	All	BLD		54.85		2	2	2	2	15.43	16.61	4.39	0.61	0
Cook	FENCE ERECTOI	All	ALL		40.88	42.88	1.5	1.5	2	1.5	13.59	14.76	0	0.65	0
Cook	GLAZIER	All	BLD		43.85	45.35	1.5	2	2	2	14.37	21.11	0	0.94	0
Cook	HT/FROST INSU	All	BLD		50.5	53	1.5	1.5	2	2	12.92	13.16	0	0.87	0
Cook	IRON WORKER	All	ALL		48.33	51.83	2	2	2	2	14.15	23.28	0	0.35	0
Cook	LABORER	All	ALL		42.72	44.32	1.5	1.5	2	2	14.9	12.57	0	0.72	0
Cook	LATHER	All	ALL		47.35	49.35	1.5	1.5	2	2	11.79	20.41	0	0.63	0
Cook	MACHINIST	All	BLD		48.38	50.88	1.5	1.5	2	2	7.23	8.95	1.85	1.32	0
Cook	MARBLE FINISH	All	ALL		34.65	47.7	1.5	1.5	2	2	10.65	16.46	0	0.49	0
Cook	MARBLE MASO	All	BLD		45.43	49.97	1.5	1.5	2	2	10.65	17.39	0	0.61	0
Cook	MATERIAL TEST	All	ALL		32.72		1.5	1.5	2	2	13.77	13.7	0	0.72	0
Cook	MATERIALS TES	All	ALL		40.37		1.5	1.5	2	2	18.55	8.85	0	1.1	1.5
Cook	MILLWRIGHT	All	ALL		46.35	48.35	1.5	1.5	2	2	13.05	18.87	0	0	0
Cook	OPERATING EN	All	BLD	1	51.1		2	2	2	2	18.8	14.35	2	1.3	0
Cook	OPERATING EN	All	BLD	2	48.8		2	2	2	2	18.8	14.35	2	1.3	0
Cook	OPERATING EN	All	BLD	3	46.75		1.5	1.5	2	2	15.05	19.13	2	1.3	0
Cook	OPERATING EN	All	BLD	4	44.5		2	2	2	2	18.8	14.35	2	1.3	0
Cook	OPERATING EN	All	BLD	5	54.85	55.1	2	2	2	2	19.65	15.1	2	1.4	0
Cook	OPERATING EN	All	BLD	6	53.1		2	2	2	2	0	0	0	0	36.45
Cook	OPERATING EN	All	BLD	7	54.1	55.1	2	2	2	2	19.65	15.1	2	1.4	0
Cook	OPERATING EN	All	FLT	1	57.05	57.05	1.5	1.5	2	2	18.8	14.35	2	1.3	0
Cook	OPERATING EN	All	FLT	2	55.55	57.05	1.5	1.5	2	2	18.8	14.35	2	1.3	0
Cook	OPERATING EN	All	FLT	3	49.45	57.05	1.5	1.5	2	2	18.8	14.35	2	1.3	0
Cook	OPERATING EN	All	FLT	4	41.1	57.05	1.5	1.5	2	2	18.8	14.35	2	1.3	0
Cook	OPERATING EN	All	FLT	5	58.55	57.05	1.5	1.5	2	2	18.8	14.35	2	1.3	0
Cook	OPERATING EN	All	FLT	6	38	57.05	1.5	1.5	2	2	18.8	14.35	2	1.3	0
Cook	OPERATING EN	All	HWY	1	48.3		1.5	1.5	2	2	18.8	12.05	2	4.63	0
Cook	OPERATING EN	All	HWY	2	48.75		1.5	1.5	2	2	19.65	15.1	2	1.4	0
Cook	OPERATING EN	All	HWY	3	48.7		1.5	1.5	2	2	19.65	12.55	2	5	0
Cook	OPERATING EN	All	HWY	4	51.2		1.5	1.5	2	2	18	21.28	1.5	0.15	0
Cook	OPERATING EN	All	HWY	5	43.1		1.5	1.5	2	2	18.8	14.35	2	1.3	0
Cook	OPERATING EN	All	HWY	6	52.3		1.5	1.5	2	2	19.65	15.1	2	1.4	0
Cook	OPERATING EN	All	HWY	7	50.3		1.5	1.5	2	2	19.65	15.1	2	1.4	0
Cook	ORNAMNTL IRC	All	ALL		48.05	50.55	2	2	2	2	14.09	20.59	0	1.25	0.38
Cook	PAINTER	All	ALL		46.55	47.55	1.5	1.5	1.5	2	11.81	11.94	0	2.24	0
Cook	PAINTER SIGNS	All	BLD		39.24	0	1.5	1.5	1.5	2	2.6	3.18	0	0	0
Cook	PILEDRIVER	All	ALL		47.35	49.35	1.5	1.5	2	2	11.79	20.41	0	0.63	0

Prevailing Wage Rates for Cook County Effectie Aug. 15, 2018

County	Trade Title	Region	Type	Class	Base Wage	Foreman Wage	OT M-F	OT Sa	OT Su	OT Hol	H/W	Pension	Vacation	Training	Other Fringe Benefit
Cook	PLUMBER	All	BLD		50.25	53.25	1.5	1.5	2	1.5	14.34	14.42	0	1.7	0
Cook	ROOFER	All	BLD		43.65	47.65	1.5	1.5	2	2	9.73	12.44	0	0.53	0
Cook	SHEETMETAL W	All	BLD		44.25	47.79	1.5	1.5	2	2	11.35	24.68	0	1.68	0
Cook	SIGN HANGER	All	BLD		31.31		1.5	1.5	2	2	4.85	3.28	0	0	0
Cook	SPRINKLER FITT	All	BLD		48.1	50.6	1.5	1.5	2	2	13.25	15.9	0	0.68	0
Cook	STEEL ERECTOR	ALL	ALL		42.07	44.07	2	2	2	2	13.45	19.59	0	0.35	0
Cook	STONE MASON	All	BLD		46.19	50.81	1.5	1.5	2	2	10.65	17.92	0	0.92	0
Cook	TERRAZZO FINI	All	BLD		41.54	44.54	1.5	1.5	2	2	10.75	13.47	0	0.4	0
Cook	TERRAZZO MAS	All	BLD		45.38	48.38	1.5	1.5	2	2	10.75	15.89	0	0.4	0
Cook	TILE MASON	All	BLD		46.49		2	1.5	2	2	10.75	14.99	0	1.13	0
Cook	TRAFFIC SAFETY	All	HWY		37	38.6	1.5	1.5	2	2	8.9	9.27	0	0.5	0
Cook	TRUCK DRIVER	E	ALL	1	35.6		1.5	1.5	2	2	8.6	10.61	1	0.15	1
Cook	TRUCK DRIVER	E	ALL	2	36.7	37.1	1.5	1.5	2	2	9.68	13.25	0	0.15	0
Cook	TRUCK DRIVER	E	ALL	3	36.9		1.5	1.5	2	2	9.68	13.25	0	0.15	0
Cook	TRUCK DRIVER	E	ALL	4	37.1		1.5	1.5	2	2	9.68	13.25	0	0.15	0
Cook	TRUCK DRIVER	W	ALL	1	37.69		1.5	1.5	2	2	10.5	8.5	0	0.15	0
Cook	TRUCK DRIVER	W	ALL	2	36.13		1.5	1.5	2	2	18.85	8.85	0	2.6	0
Cook	TRUCK DRIVER	W	ALL	3	40.34		1.5	1.5	2	2	10.47	12.5	0	0.5	2.81
Cook	TRUCK DRIVER	W	ALL	4	38.16		1.5	1.5	2	2	8.9	11.16	0	0.5	0
Cook	TUCKPOINTER	All	BLD		46	48	1.5	1.5	2	2	8.34	16.81	0	1.76	0

Explanations COOK COUNTY
The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.
TRUCK DRIVERS (WEST) - That part of the county West of Barrington Road.

EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished at the time or at some close future date. ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

CERAMIC TILE FINISHER
The grouting, cleaning, and polishing of all classes of tile, whether for interior or exterior purposes, all burned, glazed or unglazed products; all composition materials, granite tiles, warning detectable tiles, cement tiles, epoxy composite materials, pavers, glass, mosaics, fiberglass, and all substitute materials, for tile made in tile-like units; all mixtures in tile like form of cement, metals, and other materials that are for and intended for use as a finished floor surface, stair treads, promenade roofs, walks, walls, ceilings, swimming pools, and all other places where tile is to form a finished interior or exterior. The mixing of all setting mortars including but not limited to thin-set mortars, epoxies, wall mud, and any other sand and cement mixtures or adhesives when used in the preparation, installation, repair, or maintenance of tile and/or similar materials. The handling and unloading of all sand, cement, lime, tile, fixtures, equipment, adhesives, or any other materials to be used in the preparation, installation, repair, or maintenance of tile and/or similar materials. Ceramic Tile Finishers shall fill all joints and voids regardless of method on all tile work, particularly and especially after installation of said tile work. Application of any and all protective coverings to all types of tile installations including, but not be limited to, all soap compounds, paper products, tapes, and all polyethylene coverings, plywood, masonite, cardboard, and any new type of products that may be used to protect tile installations, Blastrac equipment, and all floor scarifying equipment used in preparing floors to receive tile. The clean up and removal of all waste and materials. All demolition of existing tile floors and walls to be re-tiled.

COMMUNICATIONS ELECTRICIAN
Installation, operation, inspection, maintenance, repair and service of radio, television, recording, voice sound vision production and reproduction, telephone and telephone interconnect, facsimile, data apparatus, coaxial, fibre optic and wireless equipment, appliances and systems used for the transmission and reception of signals of any nature, business, domestic, commercial, education, entertainment, and residential purposes, including but not limited to, communication and telephone, electronic and sound equipment, fibre optic and data communication systems, and the performance of any task directly related to such installation or service whether at new or existing sites, such tasks to include the placing of wire and cable and electrical power conduit or other raceway work within the equipment room and pulling wire and/or cable through conduit and the installation of any incidental conduit, such that the employees covered hereby can complete any job in full.

MARBLE FINISHER
Loading and unloading trucks, distribution of all materials (all stone, sand, etc.), stocking of floors with material, performing all rigging for heavy work, the handling of all material that may be needed for the installation of such materials, building of scaffolding, polishing if needed, patching, waxing of material if damaged, pointing up, caulking, grouting and cleaning of marble, holding water on diamond or Carborundum blade or saw for setters cutting, use of tub saw or any other saw needed for preparation of material, drilling of holes for wires that anchor material set by setters, mixing up of molding plaster for installation of material, mixing up thin set for the installation of material, mixing up of sand to cement for the installation of material and such other work as may be required in helping a Marble Setter in the handling of all material in the erection or installation of interior marble, slate, travertine, art marble, serpentine, alberene stone, blue stone, granite and other stones (meaning as to stone any foreign or domestic materials as are specified and used in building interiors and exteriors and customarily known as stone in the trade), carrara, sanionyx, vitrolite and similar opaque glass and the laying of all marble tile, terrazzo tile, slate tile and precast tile, steps, risers treads, base, or any other materials that may be used as substitutes for any of the aforementioned materials and which are used on interior and exterior which are installed in a similar manner.

MATERIAL TESTER I: Hand coring and drilling for testing of materials; field inspection of uncured concrete and asphalt.

MATERIAL TESTER II: Field inspection of welds, structural steel, fireproofing, masonry, soil, facade, reinforcing steel, formwork, cured concrete, and concrete and asphalt batch plants; adjusting proportions of bituminous mixtures.

OPERATING ENGINEER - BUILDING
Class 1. Asphalt Plant; Asphalt Spreader; Autograde; Backhoes with Caisson Attachment; Batch Plant; Benoto (requires Two Engineers); Boiler and Throttle Valve; Caisson Rigs; Central Redi-Mix Plant; Combination Back Hoe Front End-loader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Conveyor (Truck Mounted); Concrete Paver Over 27E cu. ft; Concrete Paver 27E cu. ft. and Under: Concrete Placer; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes, All; Cranes, Hammerhead; Cranes, (GCI and similar Type); Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derricks, Traveling; Formless Curb and Gutter Machine; Grader, Elevating; Grouting Machines; Heavy Duty Self-Propelled Transporter or Prime Mover; Highlift Shovels or Front Endloader 2-1/4 yd. and over; Hoists, Elevators, outside type rack and pinion and similar machines; Hoists, One, Two and Three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes; Hydraulic Boom Trucks; Hydro Vac (and similar equipment); Locomotives, All; Motor Patrol; Lubrication Technician; Manipulators; Pile Drivers and Skid Rig; Post Hole Digger; Pre-Stress Machine; Pump Cretes Dual Ram; Pump Cretes: Squeeze Cretes-Screw Type Pumps; Gypsum Bulker and Pump; Raised and Blind Hole Drill; Roto Mill Grinder; Scoops - Tractor Drawn; Slip-Form Paver; Straddle Buggies; Operation of Tie Back Machine; Tournapull; Tractor with Boom and Side Boom; Trenching Machines.
Class 2. Boilers; Broom, All Power Propelled; Bulldozers; Concrete Mixer (Two Bag and Over); Conveyor, Portable; Forklift Trucks; Highlift Shovels or Front Endloaders under 2-1/4 yd.; Hoists, Automatic; Hoists, Inside Elevators; Hoists, Sewer Dragging Machine; Hoists, Tugger Single Drum;

Laser Screed; Rock Drill (Self-Propelled); Rock Drill (Truck Mounted); Rollers, All; Steam Generators; Tractors, All; Tractor Drawn Vibratory Roller; Winch Trucks with "A" Frame.
Class 3. Air Compressor; Combination Small Equipment Operator; Generators; Heaters, Mechanical; Hoists, Inside Elevators (remodeling or renovation work); Hydraulic Power Units (Pile Driving, Extracting, and Drilling); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Low Boys; Pumps, Well Points; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.
Class 4. Bobcats and/or other Skid Steer Loaders; Oilers; and Brick Forklift.
Class 5. Assistant Craft Foreman.
Class 6. Gradall.
Class 7. Mechanics; Welders.

OPERATING ENGINEERS - HIGHWAY CONSTRUCTION
Class 1. Asphalt Plant; Asphalt Heater and Planer Combination; Asphalt Heater Scarfire; Asphalt Spreader; Autograder/GOMACO or other similar type machines: ABG Paver; Backhoes with Caisson Attachment; Ballast Regulator; Belt Loader; Caisson Rigs; Car Dumper; Central Redi-Mix Plant; Combination Backhoe Front Endloader Machine, (1 cu. yd. Backhoe Bucket or over or with attachments); Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Paver over 27E cu. ft.; Concrete Placer; Concrete Tube Float; Cranes, all attachments; Cranes, Tower Cranes of all types: Creter Crane: Spider Crane; Crusher, Stone, etc.; Derricks, All; Derrick Boats; Derricks, Traveling; Dredges; Elevators, Outside type Rack & Pinion and Similar Machines; Formless Curb and Gutter Machine; Grader, Elevating; Grader, Motor Grader, Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard Rail Post Driver Truck Mounted; Hoists, One, Two and Three Drum; Heavy Duty Self-Propelled Transporter or Prime Mover; Hydraulic Backhoes; Backhoes with shear attachments up to 40' of boom reach; Lubrication Technician; Manipulators; Mucking Machine; Pile Drivers and Skid Rig; Pre-Stress Machine; Pump Cretes Dual Ram; Rock Drill - Crawler or Skid Rig; Rock Drill - Truck Mounted; Rock/Track Tamper; Roto Mill Grinder; Slip-Form Paver; Snow Melters; Soil Test Drill Rig (Truck Mounted); Straddle Buggies; Hydraulic Telescoping Form (Tunnel); Operation of Tieback Machine; Tractor Drawn Belt Loader; Tractor Drawn Belt Loader (with attached pusher - two engineers); Tractor with Boom; Tractaire with Attachments; Traffic Barrier Transfer Machine; Trenching; Truck Mounted Concrete Pump with Boom; Raised or Blind Hole Drills (Tunnel Shaft); Underground Boring and/or Mining Machines 5 ft. in diameter and over tunnel, etc; Underground Boring and/or Mining Machines under 5 ft. in diameter; Wheel Excavator; Widener (APSCO).
Class 2. Batch Plant; Bituminous Mixer; Boiler and Throttle Valve; Bulldozers; Car Loader Trailing Conveyors; Combination Backhoe Front Endloader Machine (Less than 1 cu. yd. Backhoe Bucket or over or with attachments); Compressor and Throttle Valve; Compressor, Common Receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding Machine; Concrete Mixer or Paver 7S Series to and including 27 cu. ft.;
Concrete Spreader; Concrete Curing Machine, Burlap Machine, Belting Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck Cars (Haglund or Similar Type); Drills, All; Finishing Machine - Concrete; Highlift Shovels or Front Endloader; Hoist - Sewer Dragging Machine; Hydraulic Boom Trucks (All Attachments); Hydro-Blaster; Hydro Excavating (excluding hose work); Laser Screed; All Locomotives, Dinky; Off-Road Hauling Units (including articulating) Non Self-Loading Ejection Dump; Pump Cretes: Squeeze Cretes - Screw Type Pumps, Gypsum Bulker and Pump; Roller, Asphalt; Rotary Snow Plows; Rototiller, Seaman, etc., self-propelled; Self-Propelled Compactor; Spreader - Chip - Stone, etc.; Scraper - Single/Twin Engine/Push and Pull; Scraper - Prime Mover in Tandem (Regardless of Size); Tractors pulling attachments, Sheeps Foot, Disc, Compactor, etc.; Tug Boats.
Class 3. Boilers; Brooms, All Power Propelled; Cement Supply Tender; Compressor, Common Receiver (2); Concrete Mixer (Two Bag and Over); Conveyor, Portable; Farm-Type Tractors Used for Mowing, Seeding, etc.; Forklift Trucks; Grouting Machine; Hoists, Automatic; Hoists, All Elevators; Hoists, Tugger Single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-Hole Digger; Power Saw, Concrete Power Driven; Pug Mills; Rollers, other than Asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with "A" Frame; Work Boats; Tamper-Form-Motor Driven.
Class 4. Air Compressor; Combination - Small Equipment Operator; Directional Boring Machine; Generators; Heaters, Mechanical; Hydraulic Power Unit (Pile Driving, Extracting, or Drilling); Light Plants, All (1 through 5); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Pumps, Well Points; Vacuum Trucks (excluding hose work); Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 5. SkidSteer Loader (all); Brick Forklifts; Oilers.
Class 6. Field Mechanics and Field Welders
Class 7. Dowell Machine with Air Compressor; Gradall and machines of like nature.
OPERATING ENGINEER - FLOATING
Class 1. Craft Foreman; Master Mechanic; Diver/Wet Tender; Engineer; Engineer (Hydraulic Dredge).
Class 2. Crane/Backhoe Operator; Boat Operator with towing endorsement; Mechanic/Welder; Assistant Engineer (Hydraulic Dredge); Leverman (Hydraulic Dredge); Diver Tender.
Class 3. Deck Equipment Operator, Machineryman, Maintenance of Crane (over 50 ton capacity) or Backhoe (115,000 lbs. or more); Tug/Launch Operator; Loader/Dozer and like equipment on Barge, Breakwater Wall, Slip/Dock, or Scow, Deck Machinery, etc.
Class 4. Deck Equipment Operator, Machineryman/Fireman (4 Equipment Units or More); Off Road Trucks; Deck Hand, Tug Engineer, Crane Maintenance (50 Ton Capacity and Under) or Backhoe Weighing (115,000 pounds or less); Assistant Tug Operator.
Class 5. Friction or Lattice Boom Cranes.
Class 6. ROV Pilot, ROV Tender

TERRAZZO FINISHER
The handling of sand, cement, marble chips, and all other materials that may be used by the Mosaic Terrazzo Mechanic, and the mixing, grinding, grouting, cleaning and sealing of all Marble, Mosaic, and Terrazzo work, floors, base, stairs, and wainscoting by hand or machine, and in addition, assisting and aiding Marble, Masonic, and Terrazzo Mechanics.

TRAFFIC SAFETY
Work associated with barricades, horses and drums used to reduce lane usage on highway work, the installation and removal of temporary lane markings, and the installation and removal of temporary road signs.

TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION - EAST & WEST
Class 1. Two or three Axle Trucks. A-frame Truck when used for transportation purposes; Air Compressors and Welding Machines, including those pulled by cars, pick-up trucks and tractors; Ambulances; Batch Gate Lockers; Batch Hopperman; Car and Truck Washers; Carry-alls; Fork Lifts and Hoisters; Helpers; Mechanics Helpers and Greasers; Oil Distributors 2-man operation; Pavement Breakers; Pole Trailer, up to 40 feet; Power Mower Tractors; Self-propelled Chip Spreader; Skipman; Slurry Trucks, 2-man operation; Slurry Truck Conveyor Operation, 2 or 3 man; Teamsters; Unskilled Dumpman; and Truck Drivers hauling warning lights, barricades, and portable toilets on the job site.
Class 2. Four axle trucks; Dump Crets and Adgetors under 7 yards; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnapulls or Turnatrailers when pulling other than self-loading equipment or similar equipment under 16 cubic yards; Mixer Trucks under 7 yards; Ready-mix Plant Hopper Operator, and Winch Trucks, 2 Axles.
Class 3. Five axle trucks; Dump Crets and Adgetors 7 yards and over; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnatrailers or turnapulls when pulling other than self-loading equipment or similar equipment over 16 cubic yards; Explosives and/or Fission Material Trucks; Mixer Trucks 7 yards or over; Mobile Cranes while in transit; Oil Distributors, 1-man operation; Pole Trailer, over 40 feet; Pole and Expandable Trailers hauling material over 50 feet long; Slurry trucks, 1-man operation; Winch trucks, 3 axles or more; Mechanic--Truck Welder and Truck Painter.
Class 4. Six axle trucks; Dual-purpose vehicles, such as mounted crane trucks with hoist and accessories; Foreman; Master Mechanic; Self-loading equipment like P.B. and trucks with scoops on the front.
Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available. If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

LANDSCAPING

Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the classifications of operating engineer. The work performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

MATERIAL TESTER & MATERIAL TESTER/INSPECTOR I AND II

Notwithstanding the difference in the classification title, the classification entitled "Material Tester I" involves the same job duties as the classification entitled "Material Tester/Inspector I". Likewise, the classification entitled "Material Tester II" involves the same job duties as the classification entitled "Material Tester/Inspector II".

STANDARD DRAWINGS

ABV	ABOVE
A/C	ACCESS CONTROL
AC	ACRE
ADJ	ADJUST
AS	AERIAL SURVEYS
AGG	AGGREGATE
AH	AHEAD
APT	APARTMENT
ASPH	ASPHALT
AUX	AUXILIARY
AGS	AUXILIARY GAS VALVE (SERVICE)
AVE	AVENUE
AX	AXIS OF ROTATION
BK	BACK
B-B	BACK TO BACK
BKPL	BACKPLATE
B	BARN
BARR	BARRICADE
BGN	BEGIN
BM	BENCHMARK
BIND	BINDER
BIT	BITUMINOUS
BTM	BOTTOM
BLVD	BOULEVARD
BRK	BRICK
BBOX	BUFFALO BOX
BLDG	BUILDING
CIP	CAST IRON PIPE
CB	CATCH BASIN
C-C	CENTER TO CENTER
CL	CENTERLINE OR CLEARANCE
CL-E	CENTERLINE TO EDGE
CL-F	CENTERLINE TO FACE
CTS	CENTERS
CERT	CERTIFIED
CHSLD	CHISELED
CS	CITY STREET
CP	CLAY PIPE
CLSD	CLOSED
CLID	CLOSED LID
CT	COAT OR COURT
COMB	COMBINATION
C	COMMERCIAL BUILDING
CE	COMMERCIAL ENTRANCE
CONC	CONCRETE
CONST	CONSTRUCT
CONTD	CONTINUED
CONT	CONTINUOUS
COR	CORNER
CORR	CORRUGATED
CMP	CORRUGATED METAL PIPE
CNTY	COUNTY
CH	COUNTY HIGHWAY
CSE	COURSE
XSECT	CROSS SECTION
m^3	CUBIC METER
mm^3	CUBIC MILLIMETER
CU YD	CUBIC YARD
CULV	CULVERT
C&G	CURB & GUTTER
D	DEGREE OF CURVE
DC	DEPRESSED CURVE
DET	DETECTOR
DIA	DIAMETER
DIST	DISTRICT
DOM	DOMESTIC
DBL	DOUBLE
DSEL	DOWNSTREAM ELEVATION
DSFL	DOWNSTREAM FLOWLINE
DR	DRAINAGE OR DRIVE
DI	DRAINAGE INLET OR DROP INLET
DRV	DRIVEWAY
DCT	DUCT
EA	EACH
EB	EASTBOUND
EOP	EDGE OF PAVEMENT
E-CL	EDGE TO CENTERLINE
E-E	EDGE TO EDGE
EL	ELEVATION
ENTR	ENTRANCE
EXC	EXCAVATION
EX	EXISTING
EXPWAY	EXPRESSWAY
E	EXTERNAL DISTANCE OF HORIZONTAL CURVE
E	OFFSET DISTANCE TO VERTICAL CURVE
F-F	FACE TO FACE
FA	FEDERAL AID
FAI	FEDERAL AID INTERSTATE
FAP	FEDERAL AID PRIMARY
FAS	FEDERAL AID SECONDARY
FAUS	FEDERAL AID URBAN SECONDARY
FP	FENCE POST
FE	FIELD ENTRANCE
FH	FIRE HYDRANT
FL	FLOW LINE
FB	FOOT BRIDGE
FDN	FOUNDATION
FR	FRAME
F&G	FRAME & GRATE
FRWAY	FREEWAY
GAL	GALLON
GALV	GALVANIZED
G	GARAGE
GM	GAS METER
GV	GAS VALVE
GRAN	GRANULAR
GR	GRATE
GRVL	GRAVEL
GND	GROUND
GUT	GUTTER
GP	GUY POLE
GW	GUY WIRE
HH	HANDHOLE
HATCH	HATCHING
HD	HEAD
HDW	HEADWALL
HDUTY	HEAVY DUTY
ha	HECTARE
HMA	HOT MIX ASPHALT
HWY	HIGHWAY
HORIZ	HORIZONTAL
HSE	HOUSE
IL	ILLINOIS
IMP	IMPROVEMENT
IN DIA	INCH DIAMETER
INL	INLET
INST	INSTALLATION
IDS	INTERSECTION DESIGN STUDY
INV	INVERT
IP	IRON PIPE
IR	IRON ROD
JT	JOINT
kg	KILOGRAM
km	KILOMETER
LS	LANDSCAPING
LN	LANE
LT	LEFT
LP	LIGHT POLE
LGT	LIGHTING
LF	LINEAL FEET OR LINEAR FEET
L	LITER OR CURVE LENGTH
LC	LONG CHORD
LNG	LONGITUDINAL
L SUM	LUMP SUM
MACH	MACHINE
MB	MAIL BOX
MH	MANHOLE
MATL	MATERIAL
MED	MEDIAN
m	METER
METH	METHOD
M	MID-ORDINATE
mm	MILLIMETER
mm DIA	MILLIMETER DIAMETER
MIX	MIXTURE
MBH	MOBILE HOME
MOD	MODIFIED
MFT	MOTOR FUEL TAX
N & BC	NAIL & BOTTLE CAP
N & C	NAIL & CAP
N & W	NAIL & WASHER
NOAA	NATIONAL OCEANIC ATMOSPHERIC ADMINISTRATION
NC	NORMAL CROWN
NB	NORTHBOUND
NE	NORTHEAST
NW	NORTHWEST
OLID	OPEN LID
PAT	PATTERN
PVD	PAVED
PVMT	PAVEMENT
PM	PAVEMENT MARKING
PED	PEDESTAL
PNT	POINT
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION OF HORIZONTAL CURVE
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENCY
POT	POINT ON TANGENT
POLYETH	POLYETHYLENE
PCC	PORTLAND CEMENT CONCRETE
PP	POWER POLE OR PRINCIPAL POINT
PRM	PRIME
PE	PRIVATE ENTRANCE
PROF	PROFILE
PGL	PROFILE GRADELINE
PROJ	PROJECT
P.C.	PROPERTY CORNER
PL	PROPERTY LINE
PR	PROPOSED
R	RADIUS
RR	RAILROAD
RRS	RAILROAD SPIKE
RPS	REFERENCE POINT STAKE
REF	REFLECTIVE
RCCP	REINFORCED CONCRETE CULVERT PIPE
REINF	REINFORCEMENT
REM	REMOVAL
RC	REMOVE CROWN
REP	REPLACEMENT
REST	RESTAURANT
RESURF	RESURFACING
RET	RETAINING
RT	RIGHT
ROW	RIGHT-OF-WAY
RD	ROAD
RDWY	ROADWAY
RTE	ROUTE
SAN	SANITARY
SANS	SANITARY SEWER
SEC	SECTION
SEED	SEEDING
SHAP	SHAPING
S	SHED
SH	SHEET
SHLD	SHOULDER
SW	SIDEWALK OR SOUTHWEST
SIG	SIGNAL
SOD	SODDING
SM	SOLID MEDIAN
SB	SOUTHBOUND
SE	SOUTHEAST
SPL	SPECIAL
SD	SPECIAL DITCH
SQ FT	SQUARE FEET
m^2	SQUARE METER
mm^2	SQUARE MILLIMETER
SQ YD	SQUARE YARD
STB	STABILIZED
STD	STANDARD
SBI	STATE BOND ISSUE
SR	STATE ROUTE
STA	STATION
SPBGR	STEEL PLATE BEAM GUARDRAIL
SS	STORM SEWER
STY	STORY
ST	STREET
STR	STRUCTURE
e	SUPERELEVATION RATE
S.E. RUN.	SUPERELEVATION RUNOFF LENGTH
SURF	SURFACE
SMK	SURVEY MARKER
T	TANGENT DISTANCE
T.R.	TANGENT RUNOUT DISTANCE
TEL	TELEPHONE
TB	TELEPHONE BOX
TP	TELEPHONE POLE
TEMP	TEMPORARY
TBM	TEMPORARY BENCH MARK
TD	TILE DRAIN
TBE	TO BE EXTENDED
TBR	TO BE REMOVED
TBS	TO BE SAVED
TWP	TOWNSHIP
TR	TOWNSHIP ROAD
TS	TRAFFIC SIGNAL
TSCB	TRAFFIC SIGNAL CONTROL BOX
TSC	TRAFFIC SYSTEMS CENTER
TRVS	TRANSVERSE
TRVL	TRAVEL
TRN	TURN
TY	TYPE
T-A	TYPE A
TYP	TYPICAL
UNDGND	UNDERGROUND
USGS	U.S. GEOLOGICAL SURVEY
USEL	UPSTREAM ELEVATION
USFL	UPSTREAM FLOWLINE
UTIL	UTILITY
VBOX	VALVE BOX
VV	VALVE VAULT
VLT	VAULT
VEH	VEHICLE
VP	VENT PIPE
VERT	VERTICAL
VC	VERTICAL CURVE
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
WM	WATER METER
WV	WATER VALVE
WMAIN	WATER MAIN
WB	WESTBOUND
WILDFL	WILDFLOWERS
W	WITH
WO	WITHOUT

Illinois Department of Transportation

PASSED January 1, 2011
Michael Beard
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2011
Scott Schaefer
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-11	Updated abbreviations
	and symbols.
1-1-08	Updated abbreviations
	and symbols.

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

STANDARD 000001-06

ADJUSTMENT ITEMS

	EX	PR
Structure To Be Adjusted		ADJ
Structure To Be Cleaned		C
Main Structure To Be Filled		FM
Structure To Be Filled		F
Structure To Be Filled Special		FSP
Structure To Be Removed		R
Structure To Be Reconstructed		REC
Structure To Be Reconstructed Special		RSP
Frame and Grate To Be Adjusted		A
Frame and Lid To Be Adjusted		(A)
Domestic Service Box To Be Adjusted		◇A
Valve Vault To Be Adjusted		(A)
Special Adjustment		SP
Item To Be Abandoned		AB
Item To Be Moved		M
Item To Be Relocated		REL
Pavement Removal and Replacement		

Illinois Department of Transportation

PASSED January 1, 2011
Michael Brand
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2011
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-07

ALIGNMENT ITEMS

	EX	PR
Baseline		
Centerline		
Centerline Break Circle		
Baseline Symbol		
Centerline Symbol		
PI Indicator		
Point Indicator		
Horizontal Curve Data (Half Size)	CURVE P.I. STA= Δ= D= R= T= L= E= θ= T.R.= S.E. RUN= P.C. STA= P.T. STA=	CURVE P.I. STA= Δ= D= R= T= L= E= θ= T.R.= S.E. RUN= P.C. STA= P.T. STA=

BOUNDARIES ITEMS

	EX	PR
Dashed Property Line		
Solid Property/Lot Line		
Section/Grant Line		
Quarter Section Line		
Quarter/Quarter Section Line		
County/Township Line		
State Line		
Iron Pipe Found		
Iron Pipe Set		
Survey Marker		
Property Line Symbol		
Same Ownership Symbol (Half Size)		
Northwest Quarter Corner (Half Size)		
Section Corner (Half Size)		
Southeast Quarter Corner (Half Size)		

CONTOUR ITEMS

	EX	PR
Approx. Index Line		
Approx. Intermediate Line		
Index Contour		
Intermediate Contour		

DRAINAGE ITEMS

	EX	PR
Channel or Stream Line		
Culvert Line		
Grading & Shaping Ditches		
Drainage Boundary Line		
Paved Ditch		
Aggregate Ditch		
Pipe Underdrain		
Storm Sewer		
Flowline		
Ditch Check		
Headwall		
Inlet		
Manhole		
Summit		
Roadway Ditch Flow		
Swale		
Catch Basin		
Culvert End Section		
Water Surface Indicator		
Riprap		

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 2 of 8)

STANDARD 000001-06

EROSION & SEDIMENT CONTROL ITEMS

	EX	PR
Cleaning & Grading Limits		
Dike		
Erosion Control Fence		
Perimeter Erosion Barrier		
Temporary Fence		
Ditch Check Temporary		
Ditch Check Permanent		
Inlet & Pipe Protection		
Sediment Basin		
Erosion Control Blanket		
Fabric Formed Concrete Revetment Mat		
Turf Reinforcement Mat		
Mulch Temporary		
Mulch Method 1		
Mulch Method 2 Stabilized		
Mulch Method 3 Hydraulic		

NON-HIGHWAY IMPROVEMENT ITEMS

	EX	PR
Noise Attn./Levee		
Field Line	E	
Fence		
Base of Levee		
Mailbox		
Multiple Mailboxes		
Pay Telephone		
Advertising Sign		

LANDSCAPING ITEMS

	EX	PR
Contour Mounding Line		
Fence		
Fence Post		
Shrubs		
Mowline		
Perennial Plants		
Seeding Class 2		
Seeding Class 2A		
Seeding Class 4		
Seeding Class 4 & 5 Combined		

EXISTING LANDSCAPING ITEMS (contd.)

	EX	PR
Seeding Class 5		
Seeding Class 7		
Seedlings Type 1		
Seedlings Type 2		
Sodding		
Mowstake w/Sign		
Tree Trunk Protection		
Evergreen Tree	E	
Shade Tree	E	+

LIGHTING

	EX	PR
Duct		
Conduit		
Electrical Aerial Cable	A	A
Electrical Buried Cable	L	L
Controller		
Underpass Luminaire		
Power Pole		

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Michael Beard
ENGINEER OF POLICY AND PROCEDURES

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STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 3 of 8)

STANDARD 000001-06

LIGHTING (contd.)

	EX	PR
Pull Point		
Handhole		
Heavy Duty Handhole		
Junction Box		
Light Unit Comb.		
Electrical Ground		
Traffic Flow Arrow		
High Mast Pole (Half Size)		
Light Unit-1		

PAVEMENT (MISC.)

	EX	PR
Keyed Long. Joint		
Keyed Long. Joint w/Tie Bars		
Sawed Long. Joint w/Tie Bars		
Bituminous Shoulder		
Bituminous Taper		
Stabilized Driveway		
Widening		

PAVEMENT MARKINGS

	EX	PR
Bike Lane Symbol		
Bike Lane Text		
Handicap Symbol		
RR Crossing		
Raised Marker Amber 1 Way		
Raised Marker Amber 2 Way		
Raised Marker Crystal 1 Way		
Two Way Turn Left		
Shoulder Diag. Pattern		
Skip-Dash White		
Skip-Dash Yellow		
Stop Line		
Solid Line		
Double Centerline		
Dotted Lines		
CL 2Ln 2Way RRPM 12.2 m (40') o.c.		
CL 2Ln 2Way RRPM 80' (24.4 m) o.c.		
CL Multilane Div. RRPM 40' (12.2 m) o.c.		
CL Multilane Div. RRPM 80' (24.4 m) o.c.		
CL Multilane Div. Dbl. RRPM 80' (24.4 m) o.c.		
CL Multilane Undiv.		
Two Way Turn Left Line		

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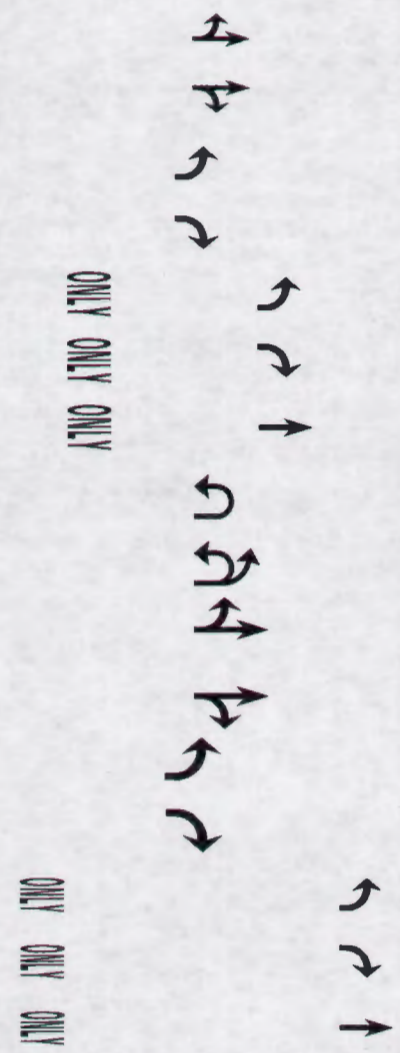
STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 4 of 8)

STANDARD 000001-06

PAVEMENT MARKINGS (contd.)

	EX	PR
Urban Combination Left		
Urban Combination Right		
Urban Left Turn Arrow		
Urban Right Turn Arrow		
Urban Left Turn Only		
Urban Right Turn Only		
Urban Thru Only		
Urban U-Turn		
Urban Combined U-Turn		
Rural Combination Left		
Rural Combination Right		
Rural Left Turn Arrow		
Rural Right Turn Arrow		
Rural Left Turn Only		
Rural Right Turn Only		
Rural Thru Only		



RAILROAD ITEMS	EX	PR
Abandoned Railroad		
Railroad		
Railroad Point		
Control Box		
Crossing Gate		
Flashing Signal		
Railroad Cant. Mast Arm		
Crossbuck		

REMOVAL ITEMS	EX	PR
Removal Tic		
Bituminous Removal		
Hatch Pattern		
Tree Removal Single		

RIGHT OF WAY ITEMS	EX	PR
Future ROW Corner Monument		
ROW Marker		
ROW Line		
Easement		
Temporary Easement		

Illinois Department of Transportation

PASSED January 1, 2011
Michael Brand
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2011
Scott Schaffer
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

STANDARD 000001-06

RIGHT OF WAY ITEMS (contd.)

	EX	PR
Access Control Line		AC
Access Control Line & ROW	AC	AC
Access Control Line & ROW with Fence	AC	AC
Excess ROW Line		XS

ROADWAY PLAN ITEMS

	EX	PR
Cable Barrier		
Concrete Barrier		
Edge of Pavement		
Bit Shoulders, Medians and C&G Line		
Aggregate Shoulder		
Sidewalks, Driveways		
Guardrail		
Guardrail Post		
Traffic Sign		
Corrugated Median		
Impact Attenuator		
North Arrow with District Office (Half Size)		
Match Line		STA. 45+00
Slope Limit Line		
Typical Cross-Section Line		

ROADWAY PROFILES

	EX	PR
P.I. Indicator		
Point Indicator		
Earthworks Balance Point		
Begin Point		
Vert. Curve Data	VPI = ELEV = L = E =	VPI = ELEV = L = E =
Ditch Profile Left Side		
Ditch Profile Right Side		
Roadway Profile Line		
Storm Sewer Profile Left Side		
Storm Sewer Profile Right Side		

SIGNING ITEMS

	EX	PR
Cone, Drum or Barricade		
Barricade Type II		
Barricade Type III		
Barricade With Edge Line		
Flashing Light Sign		
Panels I		
Panels II		
Direction of Traffic		
Sign Flag (Half Size)		

SIGNING ITEMS (contd.)

	EX	PR
Reverse Left W1-4L (Half Size)		
Reverse Right W1-4R (Half Size)		
Two Way Traffic Sign W6-3 (Half Size)		
Detour Ahead W20-2(O) (Half Size)		DETOUR AHEAD
Left Lane Closed Ahead W20-5L(O) (Half Size)		LEFT LANE CLOSED AHEAD
Right Lane Closed Ahead W20-5R(O) (Half Size)		RIGHT LANE CLOSED AHEAD
Road Closed Ahead W20-3(O) (Half Size)		ROAD CLOSED AHEAD
Road Construction Ahead W20-1-(O) (Half Size)		ROAD CONSTRUCTION AHEAD
Single Lane Ahead (Half Size)		SINGLE LANE AHEAD
Transition Left W4-2L (Half Size)		
Transition Right W4-2R (Half Size)		

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BDE/SSRS 1-1-07

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 6 of 8)

STANDARD 000001-06

SIGNING ITEMS (contd.)

	EX	PR
One Way Arrow Lrg. W1-6-(O) (Half Size)		
Two Way Arrow Large W1-7-(O) (Half Size)		
Detour M4-10L-(O) (Half Size)		
Detour M4-10R-(O) (Half Size)		
One Way Left R6-1L (Half Size)		
One Way Right R6-1R (Half Size)		
Left Turn Lane R3-1100L (Half Size)		
Keep Left R4-7AL (Half Size)		
Keep Left R4-7BL (Half Size)		
Keep Right R4-7AR (Half Size)		
Keep Right R4-7BR (Half Size)		
Stop Here On Red R10-6-AL (Half Size)		
Stop Here On Red R10-6-AR (Half Size)		
No Left Turn R3-2 (Half Size)		
No Right Turn R3-1 (Half Size)		
Road Closed R11-2 (Half Size)		
Road Closed Thru Traffic R11-2 (Half Size)		

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STRUCTURES ITEMS

	EX	PR
Box Culvert Barrel		
Box Culvert Headwall		
Bridge Pier		
Bridge		
Retaining Wall		
Temporary Sheet Piling		

TRAFFIC SHEET ITEMS

	EX	PR
Cable Number		
Left Turn Green		
Left Turn Yellow		
Signal Backplate		
Signal Section 8" (200 mm)		
Signal Section 12" (300 mm)		
Walk/Don't Walk Letters		
Walk/Don't Walk Symbols		

TRAFFIC SIGNAL ITEMS

	EX	PR
Galv. Steel Conduit		
Underground Cable		
Detector Loop Line		
Detector Loop Large		
Detector Loop Small		
Detector Loop Quadrapole		

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

STANDARD 000001-06

TRAFFIC SIGNAL ITEMS (contd.)

	EX	PR
Detector Raceway		
Aluminum Mast Arm		
Steel Mast Arm		
Veh. Detector Magnetic		
Conduit Splice		
Controller		
Gulfbox Junction		
Wood Pole		
Temp. Signal Head		
Handhole		
Double Handhole		
Heavy Duty Handhole		
Junction Box		
Ped. Pushbutton Detector		
Ped. Signal Head		
Power Pole Service		
Priority Veh. Detector		
Signal Head		
Signal Head w/Backplate		
Signal Post		
Closed Circuit TV		
Video Detector System		

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UNDERGROUND UTILITY ITEMS

	EX	PR	ABANDONED
Cable TV	CTV	CTV	CTV
Electric Cable	E	E	E
Fiber Optic	FO	FO	FO
Gas Pipe	G	G	G
Oil Pipe	O	O	O
Sanitary Sewer			
Telephone Cable	T	T	T
Water Pipe	W	W	W

UTILITIES ITEMS

	EX	PR
Controller		
Double Handhole		
Fire Hydrant		
GuyWire or Deadman Anchor		
Handhole		
Heavy Duty Handhole		
Junction Box		
Light Pole		
Manhole		
Pipeline Warning Sign		
Power Pole		
Power Pole with Light		
Sanitary Sewer Cleanout		
Splice Box Above Ground		
Telephone Splice Box Above Ground		
Telephone Pole		

UTILITY ITEMS (contd.)

	EX	PR
Traffic Signal		
Traffic Signal Control Box		
Water Meter		
Water Meter Valve Box		
Profile Line		
Aerial Power Line	A	A

VEGETATION ITEMS

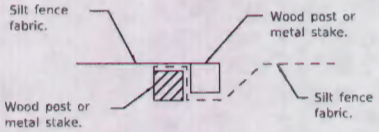
	EX	PR
Deciduous Tree		
Bush or Shrub		
Evergreen Tree		
Stump		
Orchard/Nursery Line		
Vegetation Line		
Woods & Bush Line		

WATER FEATURE ITEMS

	EX	PR
Stream or Drainage Ditch		
Waters Edge		
Water Surface Indicator		
Water Point		
Disappearing Ditch		
Marsh		
Marsh/Swamp Boundary		

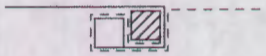
STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

STANDARD 000001-06



Place end-post (stake) of first silt fence adjacent to end-post (stake) of second silt fence with fabric positioned as swown.

STEP 1

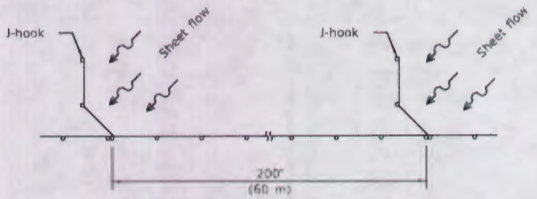


Rotate posts (stakes) together 180° clockwise and drive both posts (stakes) 18 (450) into ground.

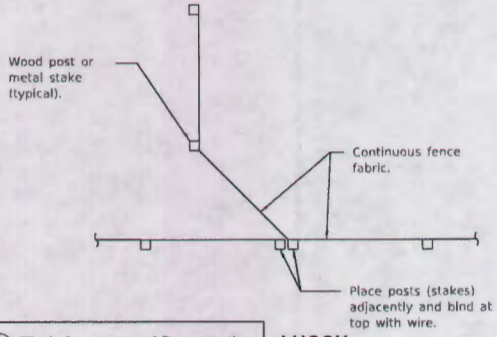
STEP 2

ATTACHING TWO SILT FILTER FENCES

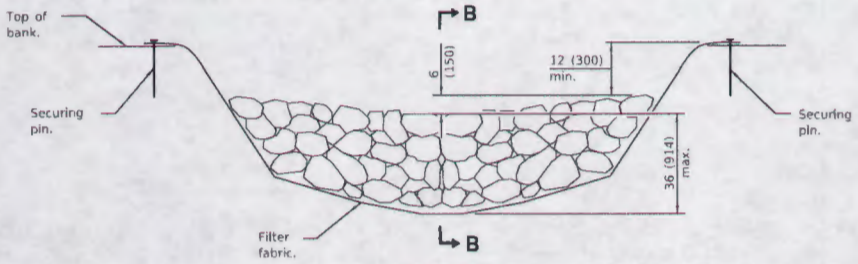
(Not applicable for J-hooks)



SILT FILTER J-HOOK PLACEMENT

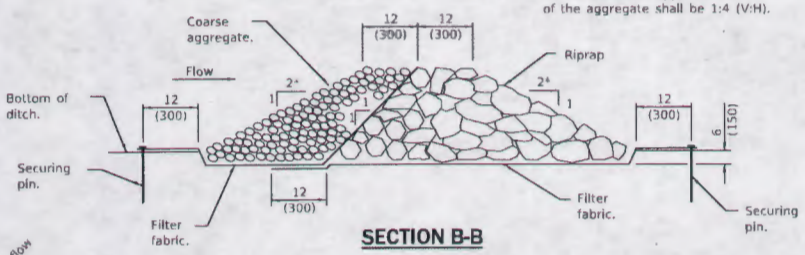


J-HOOK



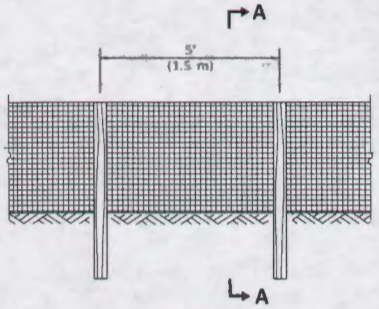
ELEVATION

* When the ditch check is within the clear zone and the road is open to traffic, the traffic approach slope of the aggregate shall be 1:4 (V:H).



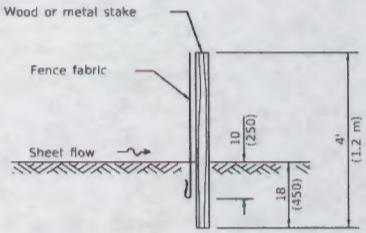
SECTION B-B

AGGREGATE DITCH CHECK

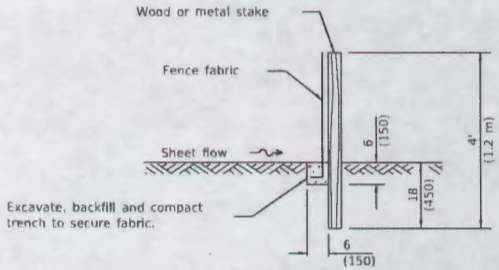


ELEVATION

SILT FILTER FENCE AS A PERIMETER EROSION BARRIER



SLICE METHOD



TRENCH METHOD

SECTION A-A

GENERAL NOTES

The installation details and dimensions shown for perimeter erosion barriers shall also apply for inlet and pipe protection.

All dimensions are in inches (millimeters) unless otherwise shown.

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ENGINEER OF POLICY AND PROCEDURES
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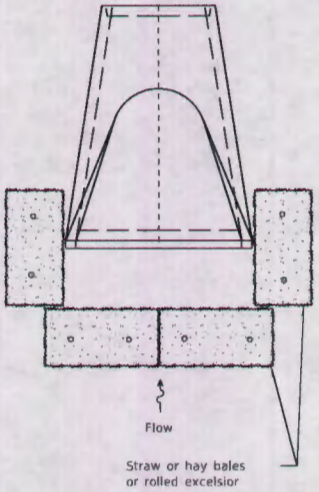
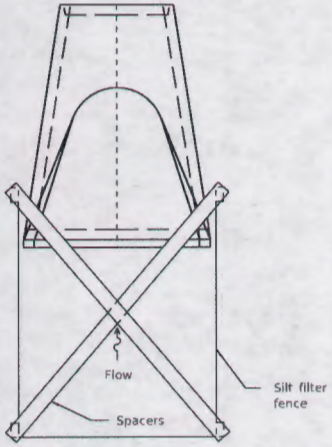
DATE	REVISIONS
1-1-13	Corrected notation for
	flowline (℄) on SEDIMENT
	BASIN ELEVATION.
1-1-12	Omitted hay/straw perimeter
	barrier. Added SLICE METHOD
	to SECTION A-A.

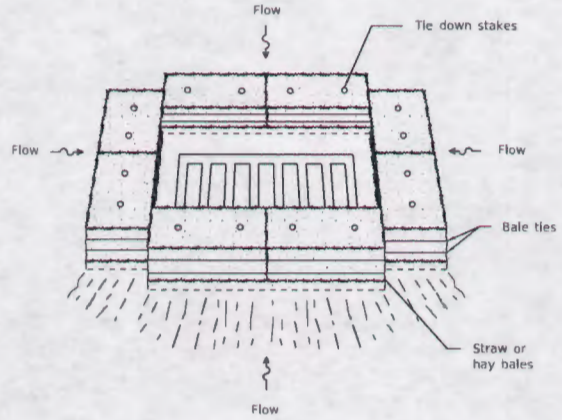
TEMPORARY EROSION CONTROL SYSTEMS

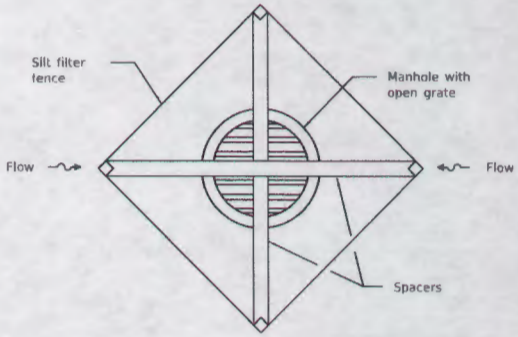
(Sheet 1 of 2)

STANDARD 280001-07

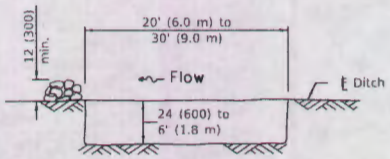






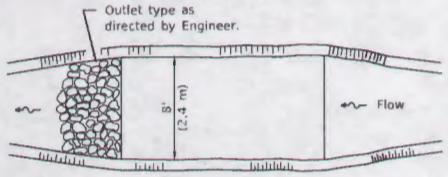


INLET AND PIPE PROTECTION



The performance of the basin will improve if put into a series.

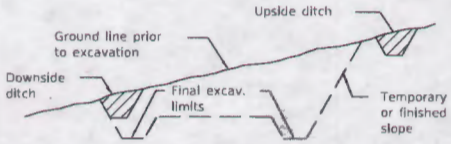
ELEVATION



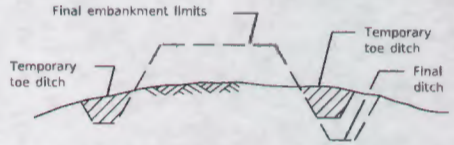
The long dimension should be parallel with the direction of the flow. Accumulated silt shall be removed anytime the basins become 75% filled.

PLAN

SEDIMENT BASIN



TYPICAL CUT CROSS-SECTION



TYPICAL FILL CROSS-SECTION

TEMPORARY DITCHES FOR CUT & FILL SECTIONS

Illinois Department of Transportation

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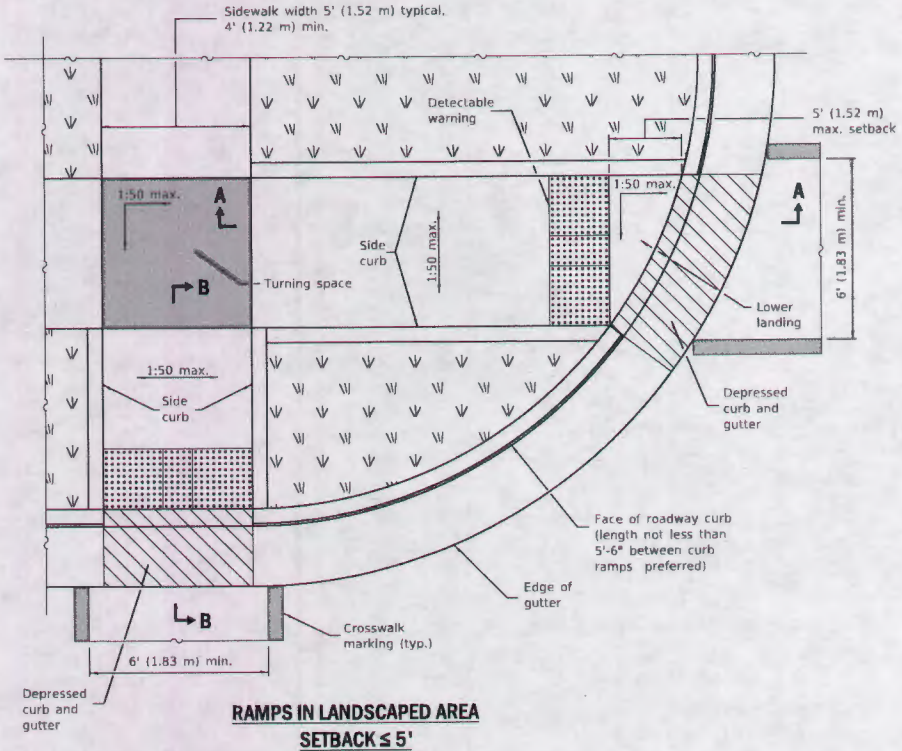
ISSUED 1-1-13

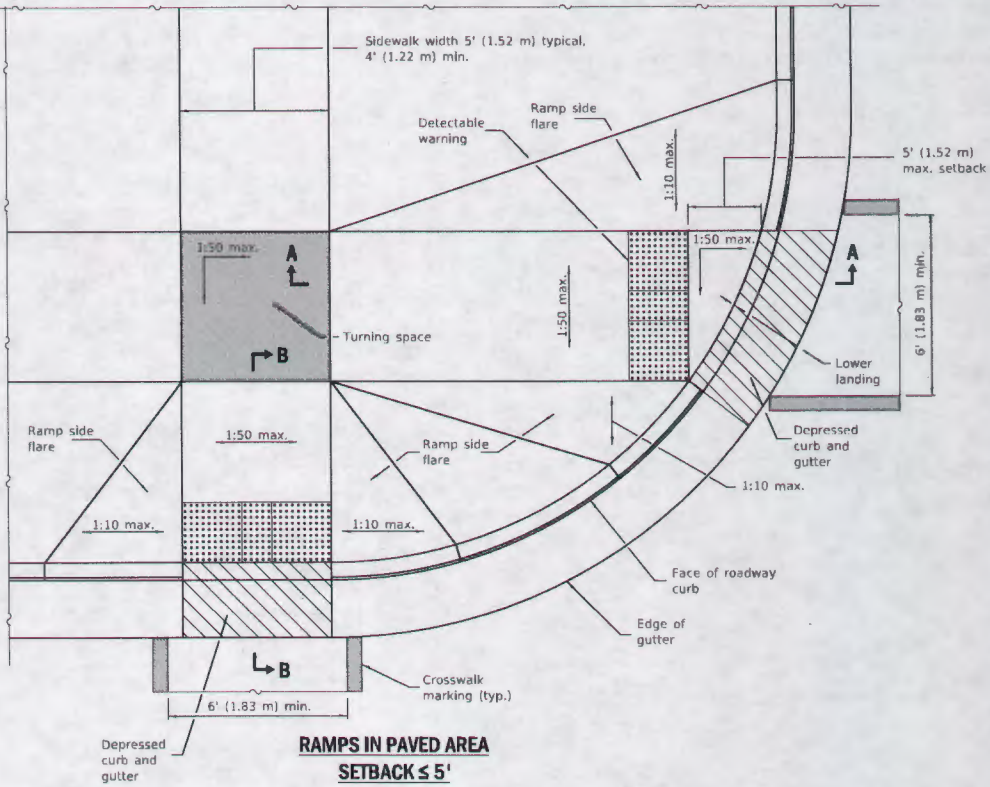
TEMPORARY EROSION CONTROL SYSTEMS

(Sheet 2 of 2)

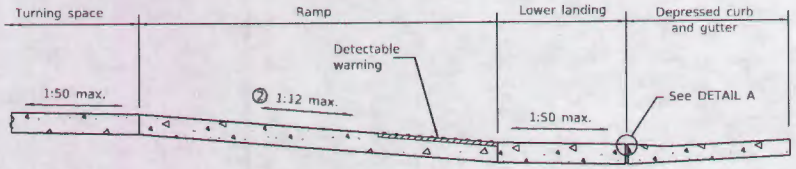
STANDARD 280001-07



RAMPS IN LANDSCAPED AREA
SETBACK ≤ 5'

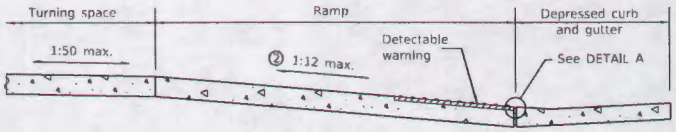


RAMPS IN PAVED AREA
SETBACK ≤ 5'



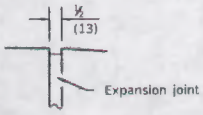
SECTION A-A

② The running slope of the curb ramp shall not require the ramp length to exceed 15' (4.5 m).

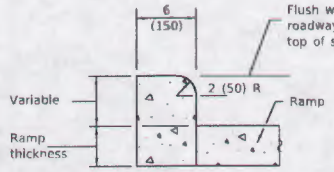


SECTION B-B

② The running slope of the curb ramp shall not require the ramp length to exceed 15' (4.5 m).



DETAIL A



SIDE CURB DETAIL

See Sheet 2 for GENERAL NOTES.

DATE	REVISIONS
1-1-18	Omitted diagonal slope at
	turning spaces and lower
	landings.
1-1-17	Added 2' dimension to det.
	warnings for setbacks
	greater than 5'.

PERPENDICULAR CURB RAMPS FOR SIDEWALKS

(Sheet 1 of 2)

STANDARD 424001-10

Illinois Department of Transportation

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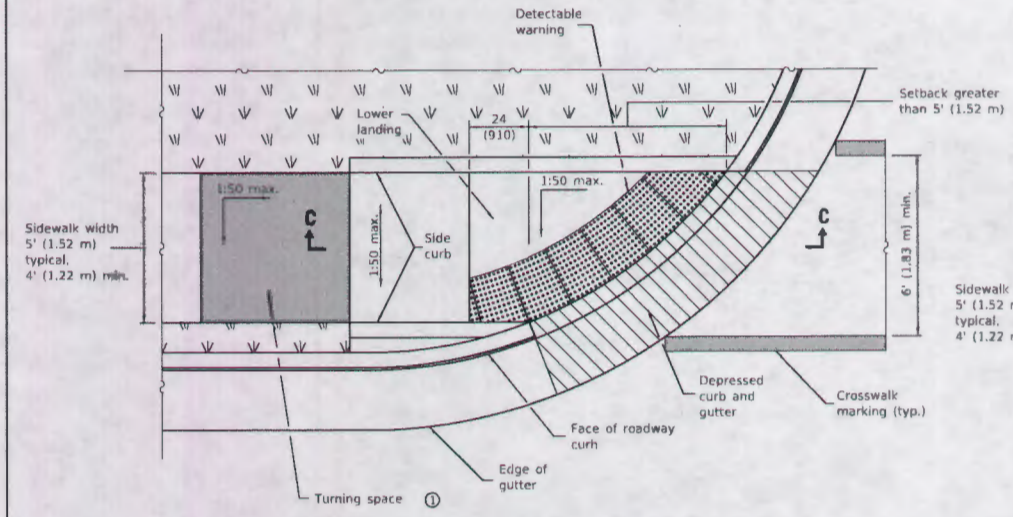
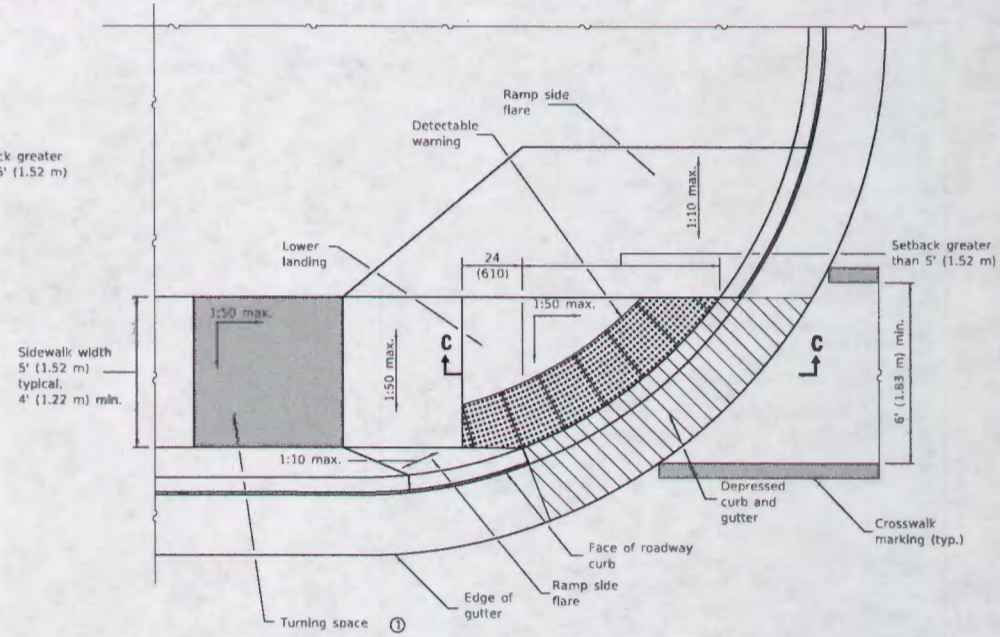
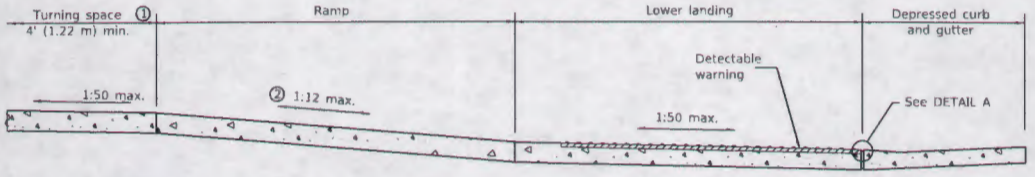


RAMP IN LANDSCAPED AREA
SETBACK > 5'



RAMP IN PAVED AREA
SETBACK > 5'



SECTION C-C

① Turning space not required for ramp slopes flatter than 1:20.

② The running slope of the curb ramp shall not require the ramp length to exceed 15' (4.5 m).

GENERAL NOTES

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

Where the turning space is constrained on a side opposite a ramp, the minimum length of the turning space in the direction of the ramp-run shall be 5' (1.52 m).

Where 1:50 maximum slope is shown, 1:64 is preferred.

See Standard 606001 for details of depressed curb adjacent to curb ramp.

All dimensions are in inches (millimeters) unless otherwise shown.

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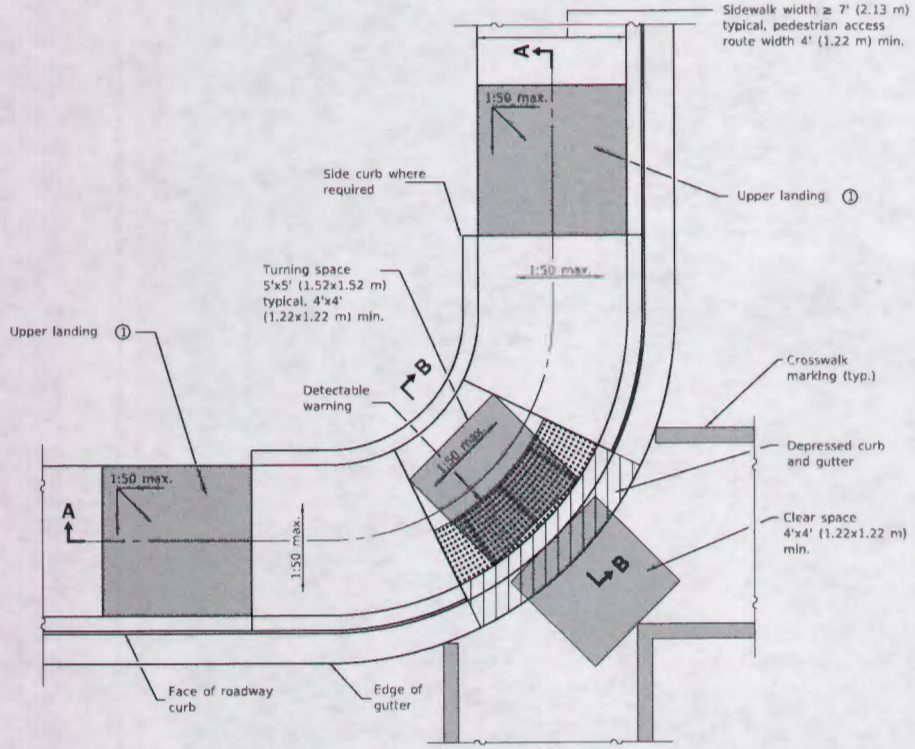
ISSUED 1-1-17

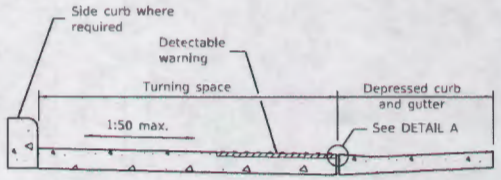
PERPENDICULAR CURB RAMPS FOR SIDEWALKS

(Sheet 2 of 2)

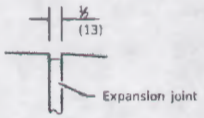
STANDARD 424001-10



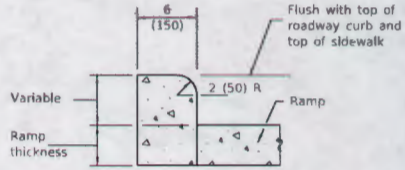
CORNER PARALLEL CURB RAMP



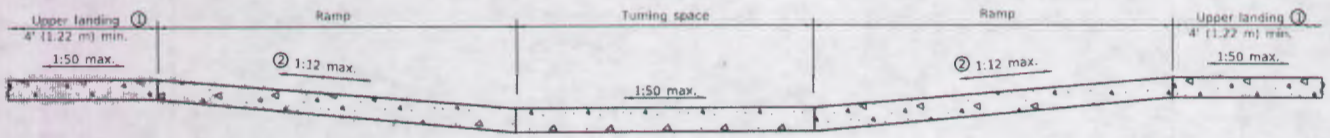
SECTION B-B



DETAIL A



SIDE CURB DETAIL



SECTION A-A

① Upper landing(s) not required for ramp slopes flatter than 1:20.

② The running slope of the curb ramp shall not require the ramp length to exceed 15' (4.5 m).

GENERAL NOTES

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

Where the turning space is constrained on a side opposite a ramp, the minimum length of the turning space in the direction of the ramp-run shall be 5' (1.52 m).

Where 1:50 maximum slope is shown, 1:64 is preferred.

See Standard 606001 for details of depressed curb adjacent to curb ramp.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

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Michael Brand
ENGINEER OF POLICY AND PROCEDURES

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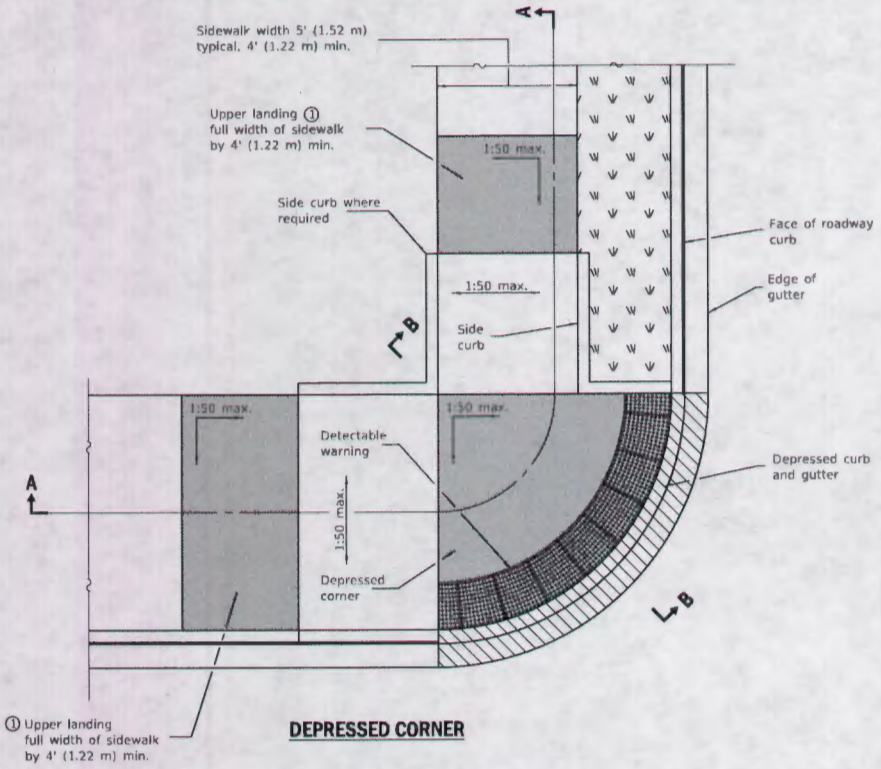
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-12

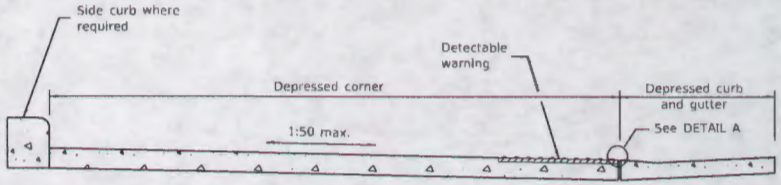
DATE	REVISIONS
1-1-17	Revised sidewalk width to
	include 24 (610) buffer
	behind curb.
1-1-15	Changed 'Lower landing' to
	'Turning space'. Added x-walk
	markings. Added note ②.

CORNER PARALLEL CURB RAMPS FOR SIDEWALKS

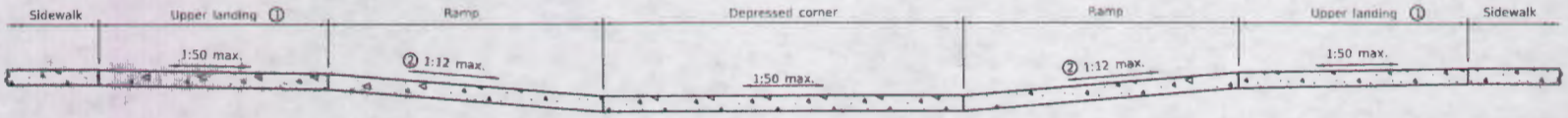
STANDARD 424011-03



DEPRESSED CORNER



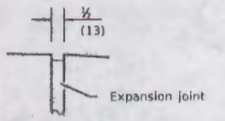
SECTION B-B



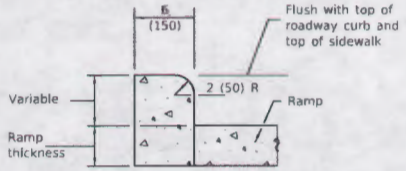
SECTION A-A

① Upper landing(s) not required for ramp slopes flatter than 1:20.

② The running slope of the curb ramp shall not require the ramp length to exceed 15' (4.5 m).



DETAIL A



SIDE CURB DETAIL

GENERAL NOTES

This standard shall only be used for curb radii of 6 ft. (1.83 m) or greater.

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

Where 1:50 maximum slope is shown, 1:64 is preferred.

See Standard 606001 for details of depressed curb adjacent to curb ramp.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2018
ENGINEER OF POLICY AND PROCEDURES

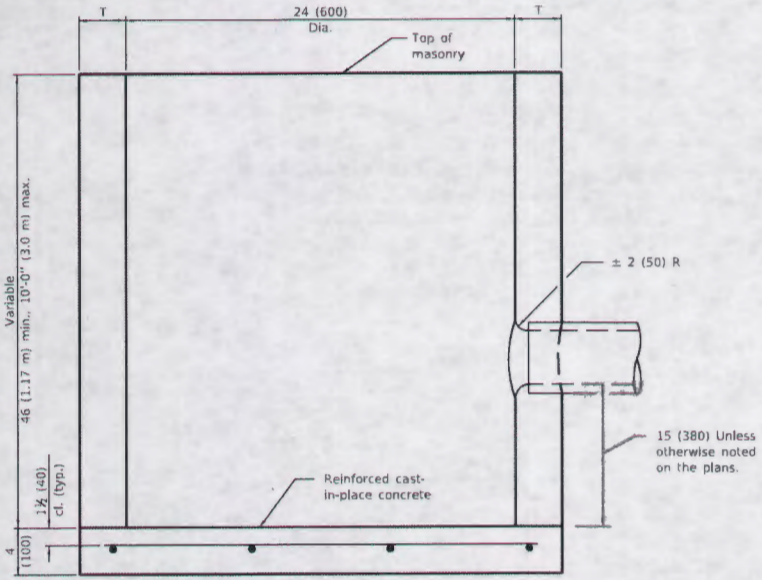
APPROVED January 1, 2018
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-12

DATE	REVISIONS
1-1-18	Omitted diagonal slope at
	turning spaces and upper
	landings.
1-1-15	Added note ②.

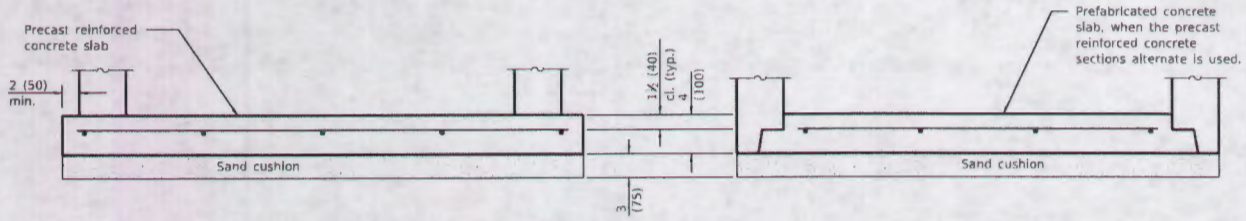
DEPRESSED CORNER FOR SIDEWALKS

STANDARD 424021-04



ELEVATION

ALTERNATE MATERIALS FOR WALLS	T (min)
Precast Reinforced Concrete Section	3 (75)
Concrete Masonry Unit	5 (125)
Cast-in-Place Concrete	6 (150)
Brick Masonry	8 (200)



ALTERNATE BOTTOM SLAB

GENERAL NOTES

Bottom slabs shall be reinforced with a minimum of 0.27 sq. in./ft. (570 sq. mm/m) in both directions with a maximum spacing of 9 (230).

Bottom slabs may be connected to the riser as determined by the fabricator; however, only a single row of reinforcement around the perimeter may be utilized.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2011
ENGINEER OF POLICY AND PROCEDURES

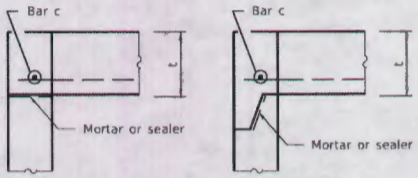
APPROVED January 1, 2011
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

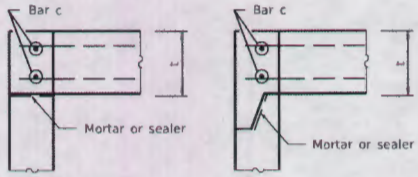
DATE	REVISIONS
1-1-11	Detailed rein. in slabs.
	Added max. limit to height.
	Added general notes.
1-1-09	Switched units to
	English (metric).

CATCH BASIN TYPE C

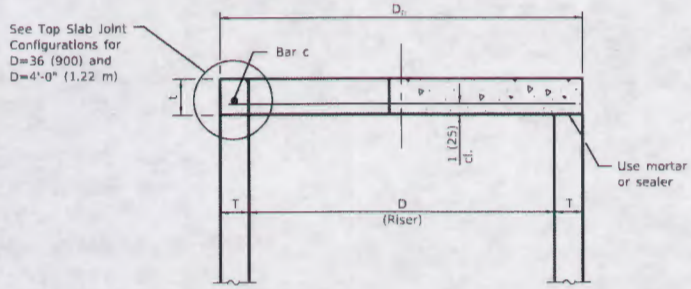
STANDARD 602011-02



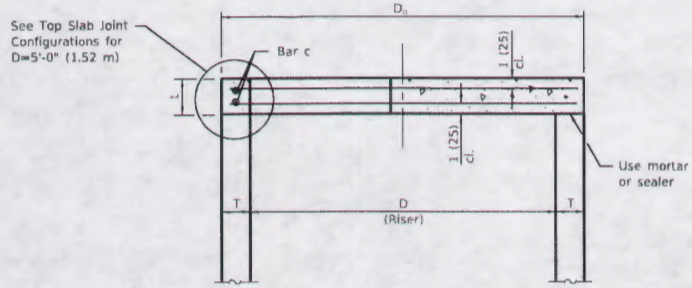
TOP SLAB JOINT CONFIGURATIONS
FOR D = 36 (900) AND D = 4'-0" (1.22 m)
(Shown at access hole)



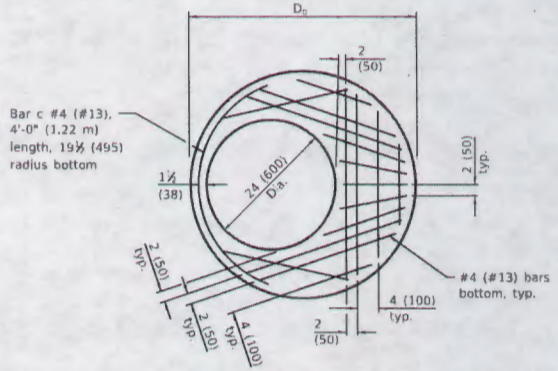
TOP SLAB JOINT CONFIGURATIONS
D = 5'-0" (1.52 m)
(Shown at access hole)



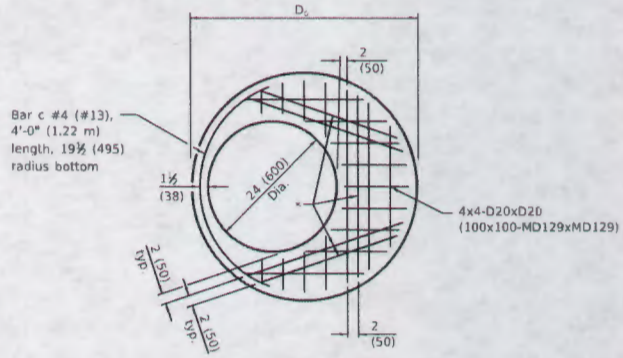
TOP SECTION THRU INLET OR CATCH BASIN
FOR D = 36 (900) AND D = 4'-0" (1.22 m)



TOP SECTION THRU CATCH BASIN
FOR D = 5'-0" (1.52 m)



PLAN FOR D = 36 (900)
(Showing Layout of Reinforcement Bars)



PLAN FOR D = 36 (900)
(Showing Layout of Welded Wire Reinforcement)

* #4 (#13) bars bottom. Bundle first bar with WWR bar closest to the opening.

TABLE

D	T	D_o (min.)	t
36 (900)	See applicable Standards	D + 2T	6 (150)
4'-0" (1.2 m)			6 (150)
5'-0" (1.5 m)			8 (200)

GENERAL NOTES

The flat slab top may be used in lieu of the tapered tops shown on Standards 602001, 602016, or 602306 at the option of the Contractor or when field conditions prohibit the use of tapered tops.

Lifting holes shall be located in the sections as per the manufacturer's recommendations and grouted prior to backfilling.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2018
Michael Brand
ENGINEER OF POLICY AND PROCEDURES

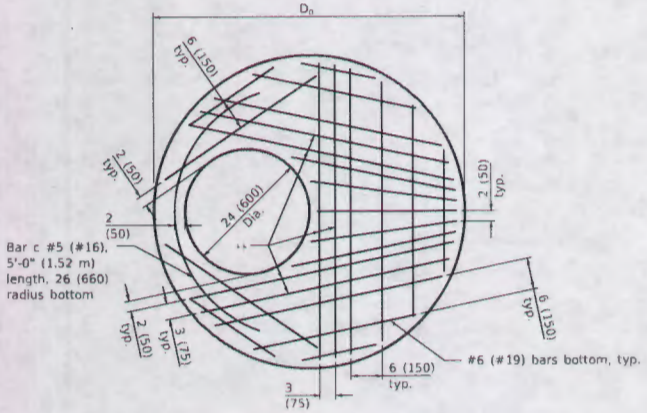
APPROVED January 1, 2018
Maureen M. Addis
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

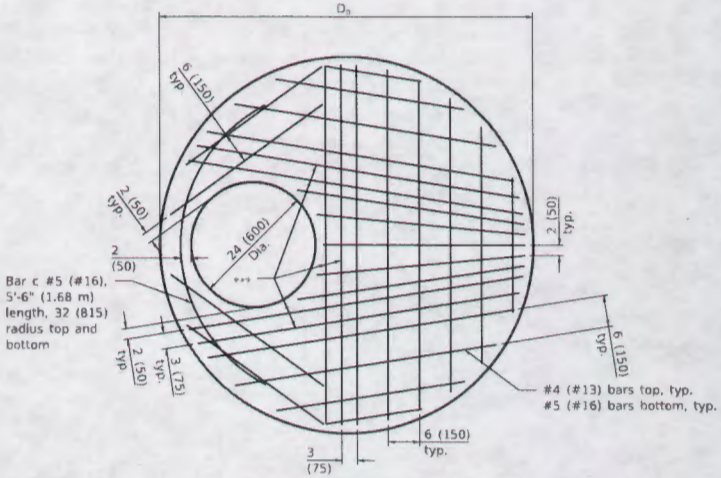
DATE	REVISIONS
1-1-18	Revised for compliance with
	LRFD.
4-1-16	Changed terminology to
	'welded wire reinforcement'.

PRECAST REINFORCED CONCRETE FLAT SLAB TOP

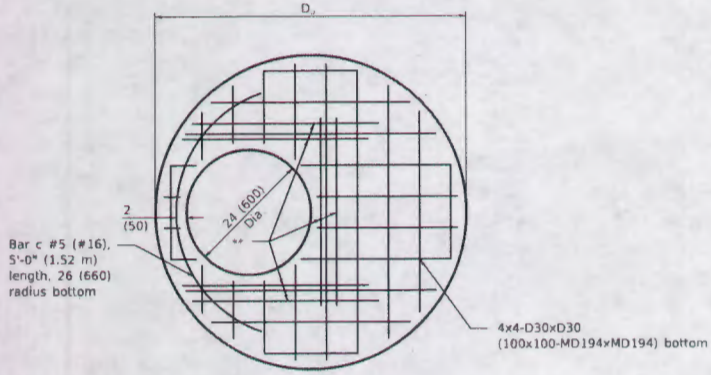
STANDARD 602601-05



PLAN FOR D = 4'-0" (1.22 m)
(Showing Layout of Reinforcement Bars)

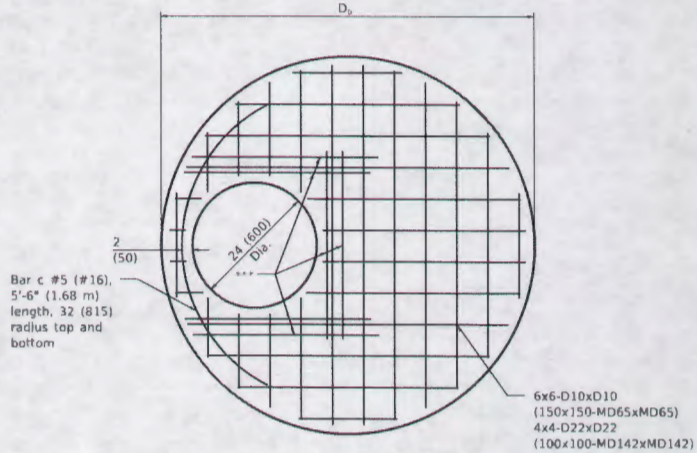


PLAN FOR D = 5'-0" (1.52 m)
(Showing Layout of Reinforcement Bars)



PLAN FOR D = 4'-0" (1.22 m)
(Showing Layout of Welded Wire Reinforcement)

** #5 (#16) bars bottom. For WWR, bundlefirst bar with WWR bar closest to the opening.



PLAN FOR D = 5'-0" (1.52 m)
(Showing Layout of Welded Wire Reinforcement)

*** #5 (#16) bars top and bottom. For WWR, bundle first bar with WWR bar closest to the opening.

Illinois Department of Transportation

PASSED January 1, 2018
ENGINEER OF POLICY AND PROCEDURES

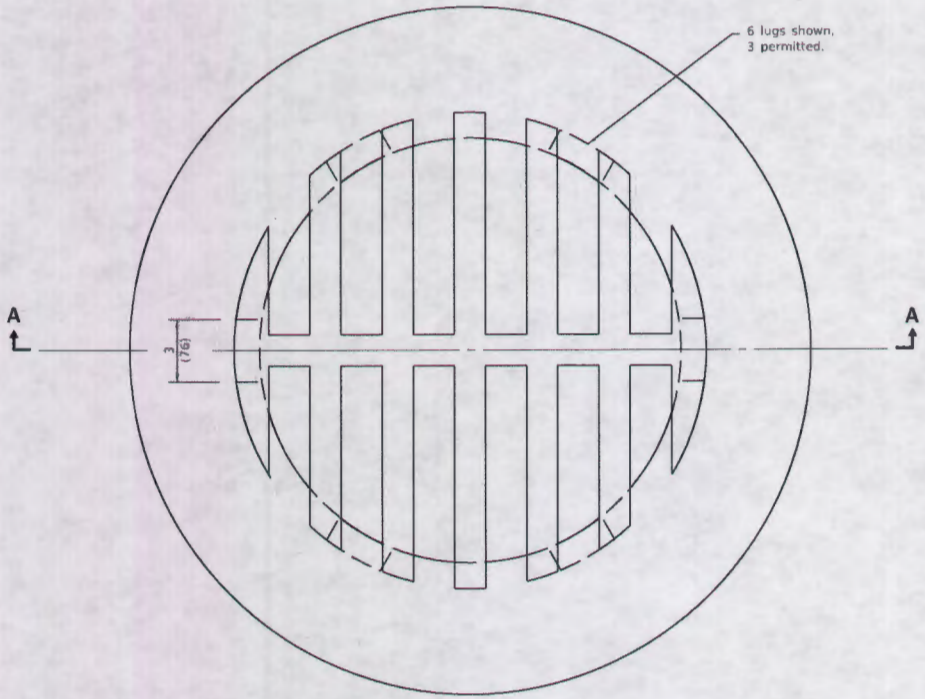
APPROVED January 1, 2018
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-07

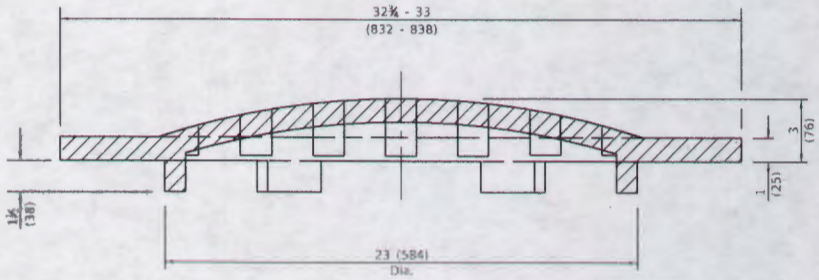
PRECAST REINFORCED CONCRETE FLAT SLAB TOP

(Sheet 2 of 2)

STANDARD 602601-05



CAST GRATE



SECTION A-A

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2015
ENGINEER OF POLICY AND PROCEDURES

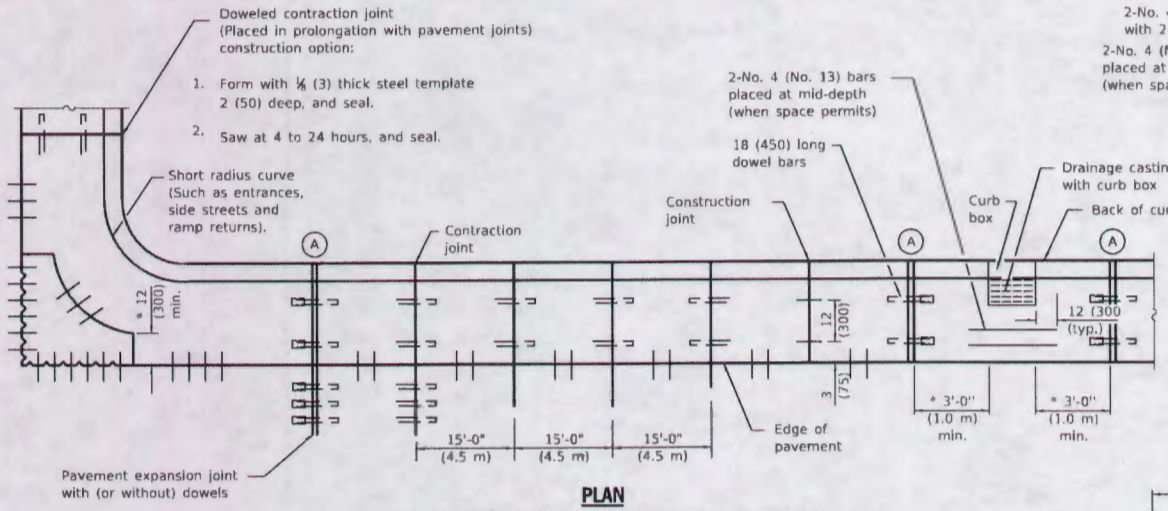
APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-15

DATE	REVISIONS
1-1-15	Revised dimensions.
1-1-09	Switched units to
	English (metric).

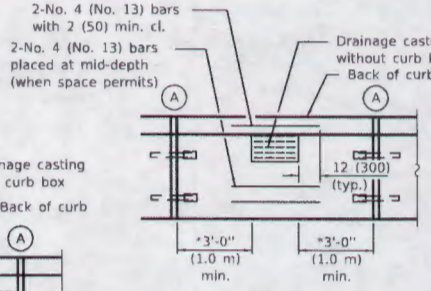
GRATE TYPE 8

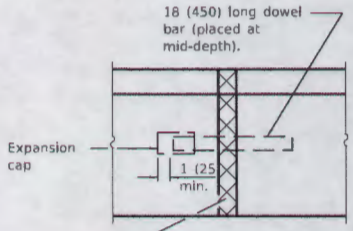
STANDARD 604036-03



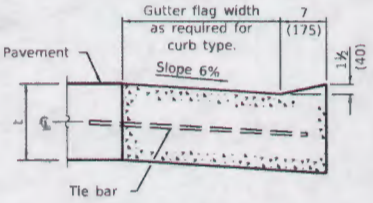
PLAN
ADJACENT TO PCC PAVEMENT OR PCC BASE COURSE

* This dimension shall be adjusted to align with joint on the adjacent pavement

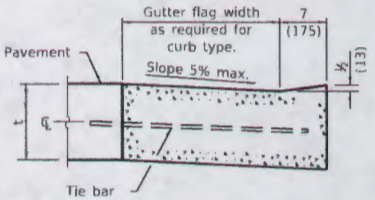




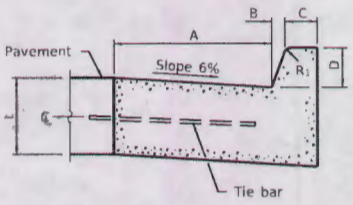
DETAIL (A)
EXPANSION JOINT



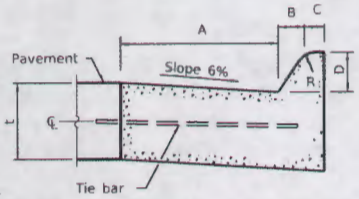
DEPRESSED CURB (TYPICAL)



DEPRESSED CURB ADJACENT TO CURB RAMP ACCESSIBLE TO THE DISABLED



BARRIER CURB

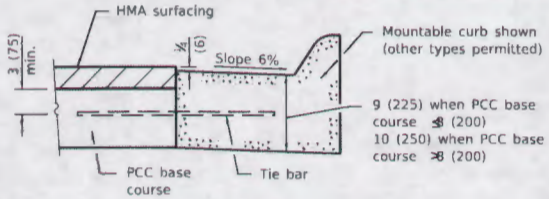


MOUNTABLE CURB

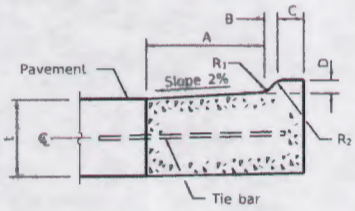
TABLE OF DIMENSIONS BARRIER CURB					
TYPE	A	B	C	D	R_1
B-6.06 * (B-15.15)	6 (150)	1 (25)	6 (150)	6 (150)	1 (25)
B-6.12 (B-15.3)	12 (300)	1 (25)	6 (150)	6 (150)	1 (25)
B-6.18 (B-15.45)	18 (450)	1 (25)	6 (150)	6 (150)	1 (25)
B-6.24 (B-15.60)	24 (600)	1 (25)	6 (150)	6 (150)	1 (25)
B-9.12 (B-22.30)	12 (300)	2 (50)	5 (125)	9 (225)	1 (25)
B-9.18 (B-22.45)	18 (450)	2 (50)	5 (125)	9 (225)	1 (25)
B-9.24 (B-22.60)	24 (600)	2 (50)	5 (125)	9 (225)	1 (25)

* For corner islands only.

TABLE OF DIMENSIONS MOUNTABLE CURB						
TYPE	A	B	C	D	R_1	R_2
M-2.06 (M-5.15)	6 (150)	2 (50)	4 (100)	2 (50)	3 (75)	2 (50)
M-2.12 (M-5.30)	12 (300)	2 (50)	4 (100)	2 (50)	3 (75)	2 (50)
M-4.06 (M-10.15)	6 (150)	4 (100)	3 (75)	4 (100)	3 (75)	NA
M-4.12 (M-10.30)	12 (300)	4 (100)	3 (75)	4 (100)	3 (75)	NA
M-4.18 (M-10.45)	18 (450)	4 (100)	3 (75)	4 (100)	3 (75)	NA
M-4.24 (M-10.60)	24 (600)	4 (100)	3 (75)	4 (100)	3 (75)	NA
M-6.06 (M-15.15)	6 (150)	6 (150)	2 (50)	6 (150)	2 (50)	NA
M-6.12 (M-15.30)	12 (300)	6 (150)	2 (50)	6 (150)	2 (50)	NA
M-6.18 (M-15.45)	18 (450)	6 (150)	2 (50)	6 (150)	2 (50)	NA
M-6.24 (M-15.60)	24 (600)	6 (150)	2 (50)	6 (150)	2 (50)	NA



ADJACENT TO PCC BASE COURSE WITH HMA SURFACING



M-2.06 (M-5.15) and M-2.12 (M-5.30)

GENERAL NOTES

The bottom slope of combination curb and gutter constructed adjacent to pcc pavement shall be the same slope as the subbase or 6% when subbase is omitted.

t = Thickness of pavement.

Longitudinal joint tie bars shall be No. 6 (No. 19) at 36 (900) centers in accordance with details for longitudinal construction joint shown on Standard 420001.

A minimum clearance of 2 (50) between the end of the tie bar and the back of the curb shall be maintained.

The dowel bars shown in contraction joints will only be required for monolithic construction.

See Standard 606301 for details of corner islands.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2018
Michael Brand
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2018
Maureen M. Addis
ENGINEER OF DESIGN AND ENVIRONMENT

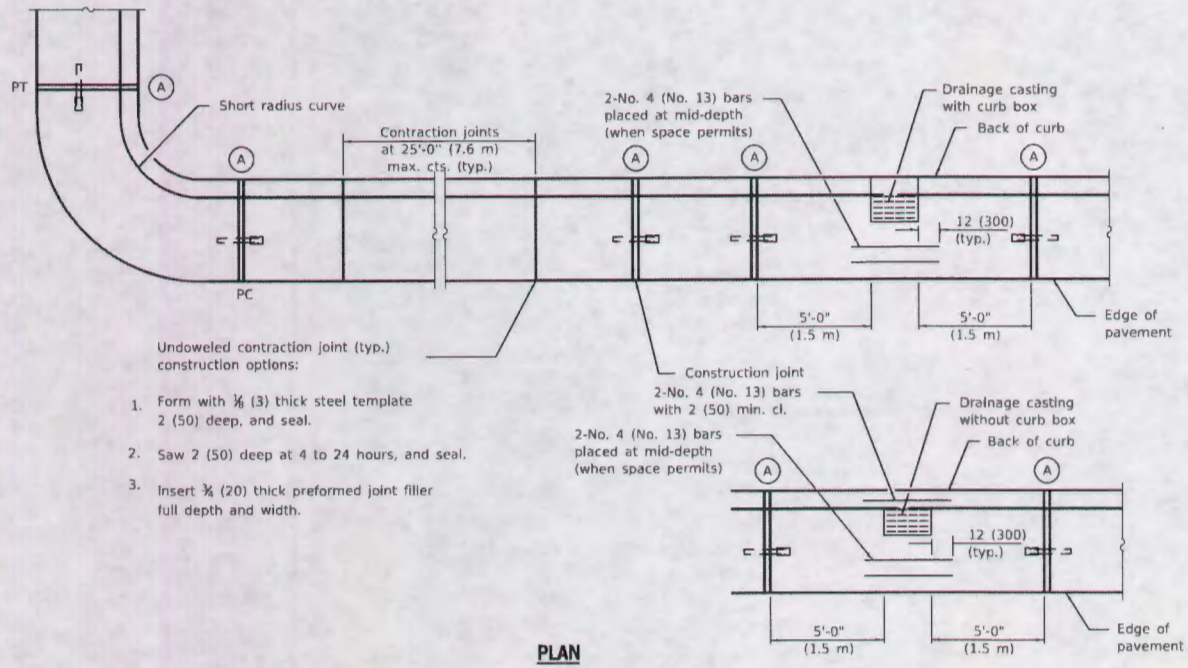
ISSUED 1-1-18

DATE	REVISIONS
1-1-18	Revised General Note for tie
	bar spacing to 36 (900) cts.
1-1-15	Added B-6.06 (B-15.15) barrier
	curb and gutter to table
	(corner islands only).

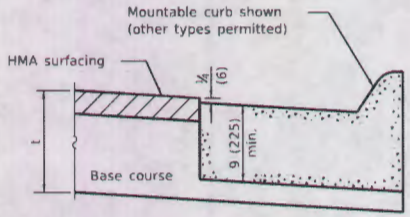
CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER

(Sheet 1 of 2)

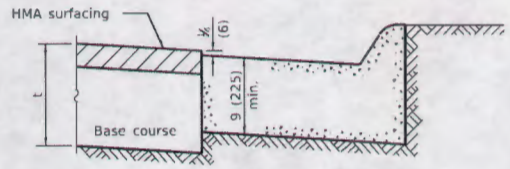
STANDARD 606001-07



PLAN

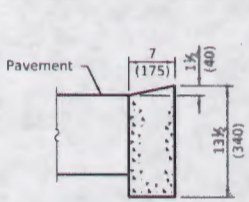


ON DISTURBED SUBGRADE

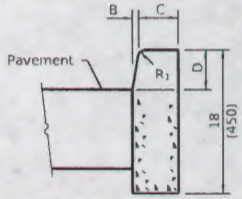


ON UNDISTURBED SUBGRADE

ADJACENT TO FLEXIBLE PAVEMENT

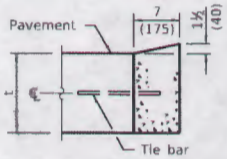


DEPRESSED CURB

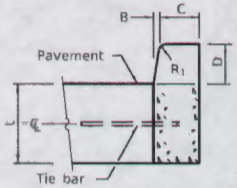


BARRIER CURB

ADJACENT TO FLEXIBLE PAVEMENT



DEPRESSED CURB



BARRIER CURB

ADJACENT TO PCC PAVEMENT OR PCC BASE COURSE

CONCRETE CURB TYPE B

Illinois Department of Transportation

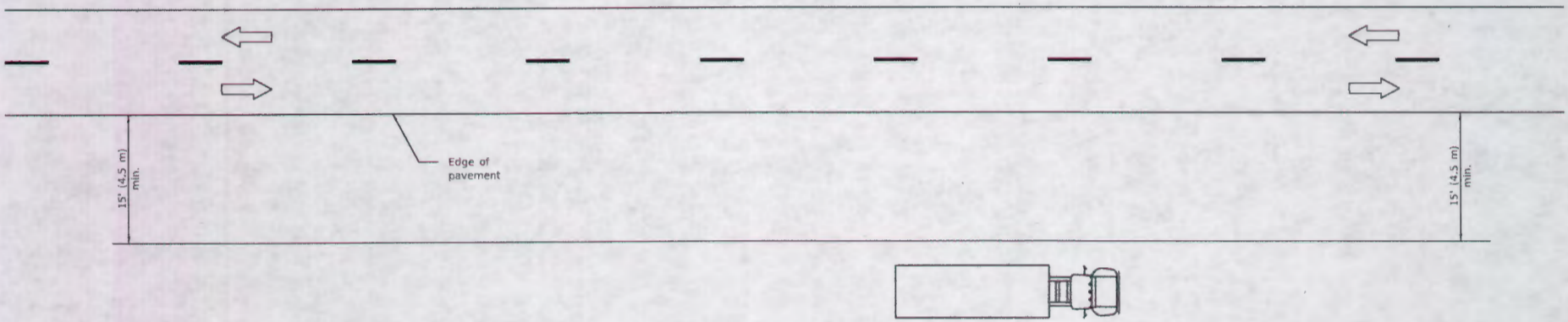
PASSED January 1, 2018
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2018
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER

(Sheet 2 of 2)

STANDARD 606001-07



TYPICAL APPLICATIONS

Landscaping work

Utility work

Fencing contracts and maintenance

Cleaning culverts

GENERAL NOTES

This Standard is used where at all times all vehicles, equipment, workers or their activities are more than 15' (4.5 m) from the edge of pavement.

When the work operation requires that two or more work vehicles cross the 15' (4.5 m) clear zone in any one hour, traffic control shall be according to Standard 701006.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2009
ENGINEER OF OPERATIONS

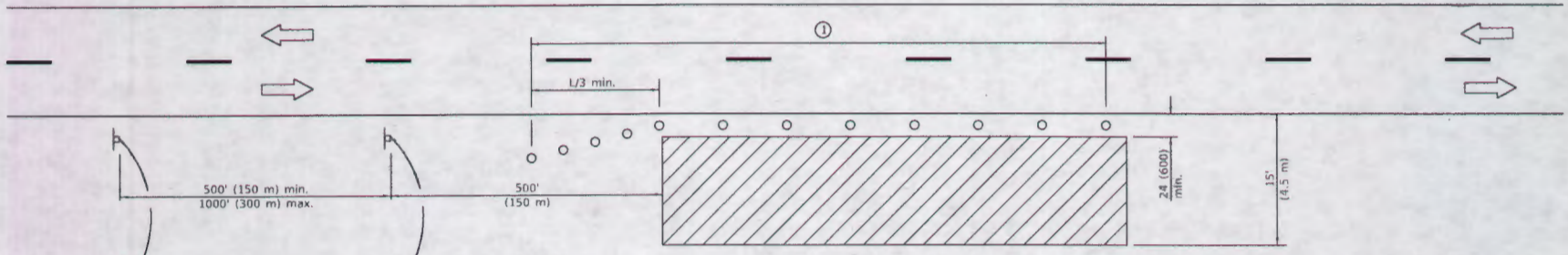
APPROVED January 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-05	Revised title and notes.

OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5 m) AWAY

STANDARD 701001-02



For contract construction projects

W20-1103(0)-48

W21-1(0)-48

For maintenance and utility projects

W20-1(0)-48

TYPICAL APPLICATIONS

Utility operations
Culvert extensions
Side slope changes
Guardrail installation and maintenance
Delineator installation
Landscaping operations
Shoulder repair
Sign installation and maintenance

SYMBOLS

Work area

Sign

Cone, drum or barricade

① When the work operation exceeds one hour, cones, drums or barricades shall be placed at 25' (8 m) centers for L/3 distance, and at 50' (15 m) centers through the remainder of the work area.

GENERAL NOTES

This Standard is used where any vehicles, equipment, workers or their activities will encroach in the area 15' (4.5 m) to 24 (600) from the edge of pavement.

Calculate L as follows:

SPEED LIMIT	FORMULAS	
	English	(Metric)
40 mph (70 km/h) or less:	$L=\frac{WS^2}{60}$	$L=\frac{WS^2}{150}$
45 mph (80 km/h) or greater:	$L=(W)(S)$	$L=0.65(W)(S)$

W = Width of offset in feet (meters).

S = Normal posted speed mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1 2014
ENGINEER OF SAFETY ENGINEERING

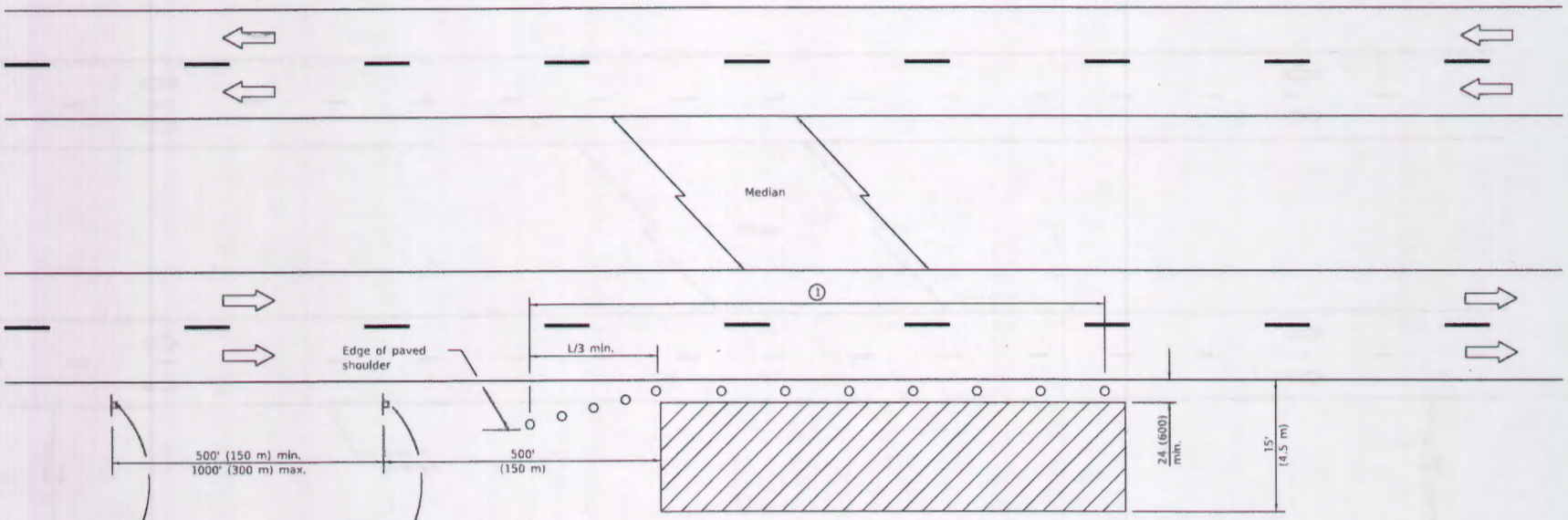
APPROVED January 1, 2014
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-14	Revised workers sign
	number to agree with
	current MUTCD.
1-1-13	Omitted text 'WORKERS'
	sign.

OFF-RD OPERATIONS, 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE

STANDARD 701006-05



For contract construction projects

W20-I103(0)-48

W21-1(0)-48

For maintenance and utility projects

W20-1(0)-48

TYPICAL APPLICATIONS

Utility operations
Culvert extensions
Side slope changes
Guardrail installation and maintenance
Delineator installation
Landscaping operations
Shoulder repair
Sign installation and maintenance

① When the work operation exceeds one hour, cones, drums or barricades shall be placed at 25' (8 m) centers for L/3 distance, and at 50' (15 m) centers through the remainder of the work area.

SYMBOLS

Work area

Sign

Cone, drum or barricade

GENERAL NOTES

This Standard is used where any vehicles, equipment, workers or their activities will encroach in the area 15' (4.5 m) to 24 (600) from the edge of pavement.

Calculate L as follows:

SPEED LIMIT	FORMULAS	
	English	(Metric)
40 mph (70 km/h) or less:	$L=\frac{WS^2}{60}$	$L=\frac{WS^2}{150}$
45 mph (80 km/h) or greater:	L=(W)(S)	L=0.65(W)(S)

W = Width of offset in feet (meters).

S = Normal posted speed mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED April 1, 2016
ENGINEER OF SAFETY ENGINEERING

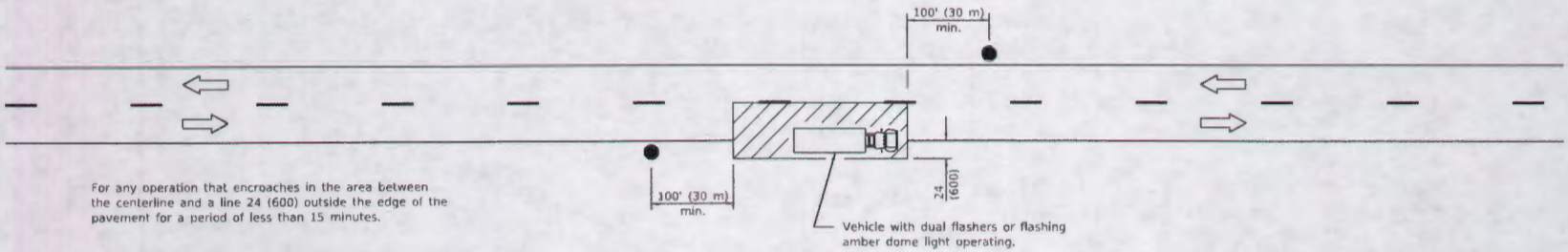
APPROVED April 1, 2016
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

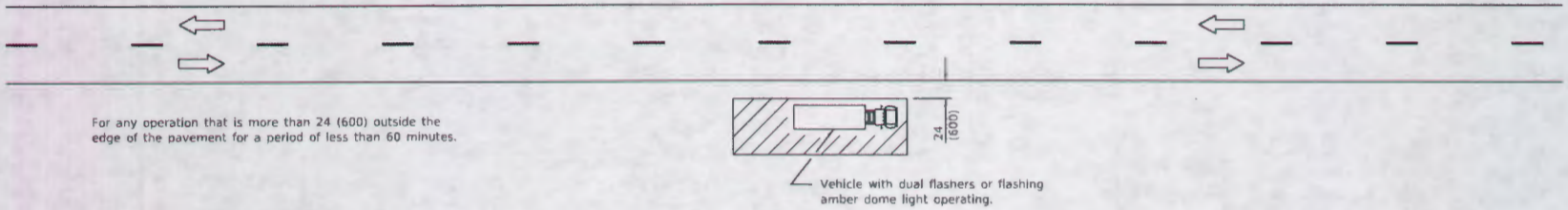
DATE	REVISIONS
4-1-16	Corrected typo in title.
1-1-14	Revised workers sign
	number to agree with
	current MUTCD.

OFF-RD OPERATIONS, MULTILANE, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE

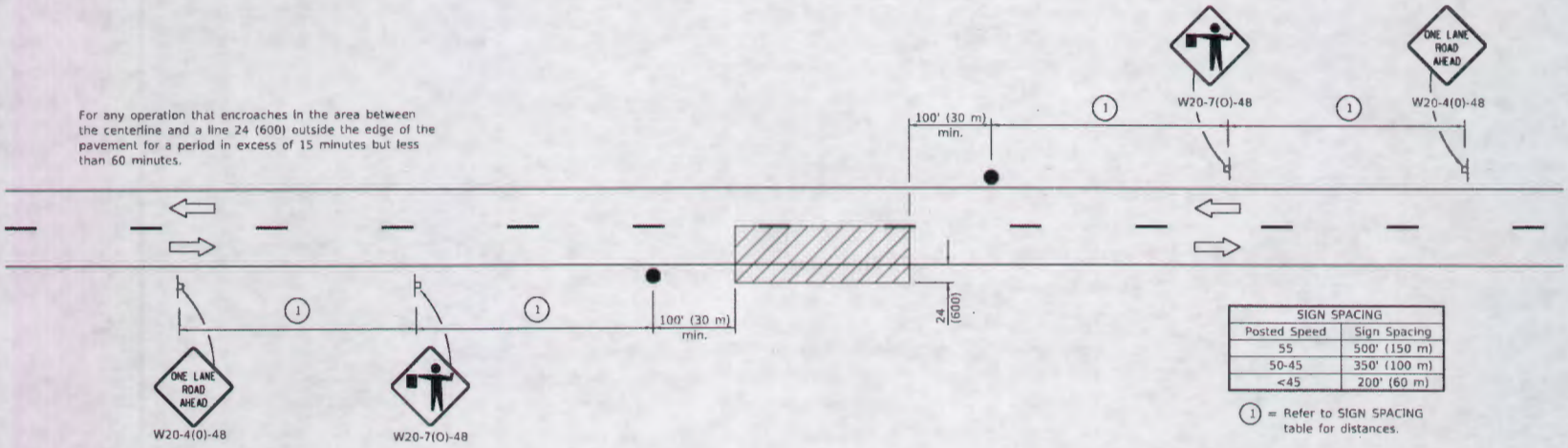
STANDARD 701101-05



For any operation that encroaches in the area between the centerline and a line 24 (600) outside the edge of the pavement for a period of less than 15 minutes.



For any operation that is more than 24 (600) outside the edge of the pavement for a period of less than 60 minutes.



For any operation that encroaches in the area between the centerline and a line 24 (600) outside the edge of the pavement for a period in excess of 15 minutes but less than 60 minutes.

SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

(1) = Refer to SIGN SPACING table for distances.

TYPICAL APPLICATIONS

Marking patches
Field survey
String line
Utility operations
Cleaning up debris on pavement

SYMBOLS

Work area

Sign on portable or permanent support

Flagger with traffic control sign

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2011
ENGINEER OF SAFETY ENGINEERING

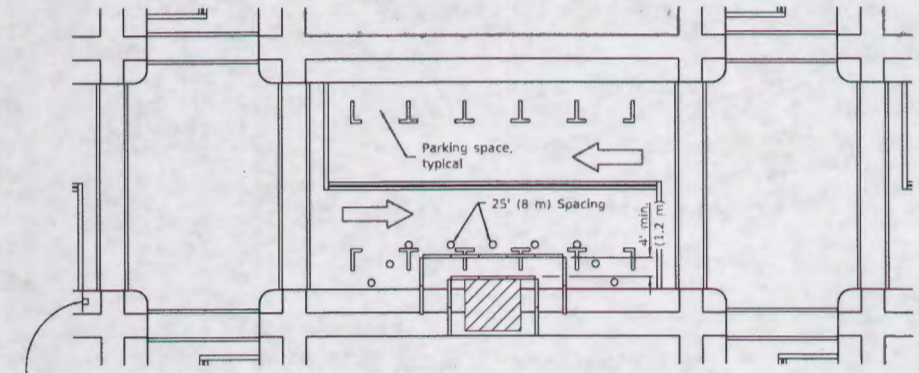
APPROVED January 1, 2011
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-11	Revised flagger sign.
1-1-09	Switched units to
	English (metric).

LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS

STANDARD 701301-04



① Omit whenever duplicated by road work traffic control.

① ROAD CONSTRUCTION AHEAD — W20-I103(0)-48 for contract construction projects

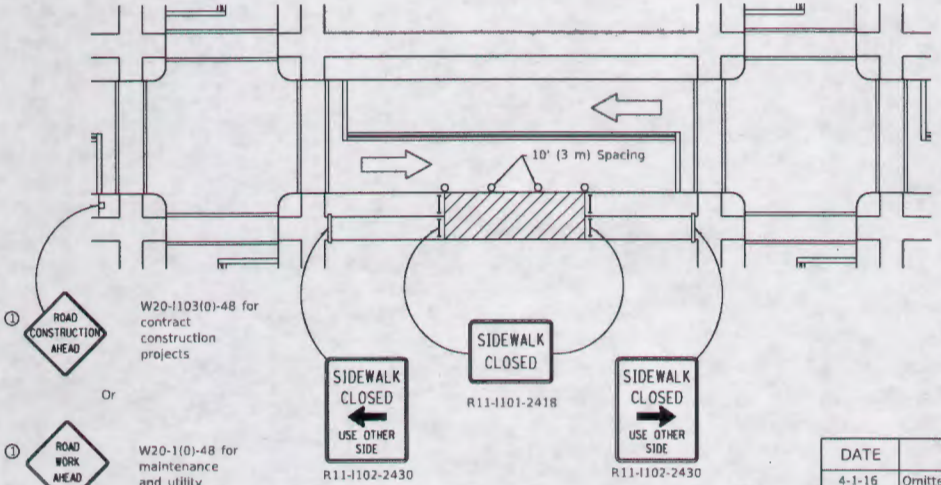
Or

① ROAD WORK AHEAD — W20-1(0)-48 for maintenance and utility projects

SIDEWALK DIVERSION

SYMBOLS

- Work area
- Sign on portable or permanent support
- Barricade or drum
- Cone, drum or barricade
- Type III barricade
- Detectable pedestrian channelizing barricade



R11-I101-2418

R11-I102-2430

R11-I102-2430

① ROAD CONSTRUCTION AHEAD — W20-I103(0)-48 for contract construction projects

Or

① ROAD WORK AHEAD — W20-1(0)-48 for maintenance and utility projects

SIDEWALK CLOSURE

GENERAL NOTES

This Standard is used where, at any time, pedestrian traffic must be rerouted due to work being performed.

This Standard must be used in conjunction with other Traffic Control & Protection Standards when roadway traffic is affected.

Temporary facilities shall be detectable and accessible.

The temporary pedestrian facilities shall be provided on the same side of the closed facilities whenever possible.

The SIDEWALK CLOSED / USE OTHER SIDE sign shall be placed at the nearest crosswalk or intersection to each end of the closure. Where the closure occurs at a corner, the signs shall be erected on the corners across the street from the closure. The SIDEWALK CLOSED signs shall be used at the ends of the actual closures.

Type III barricades and R11-2-4830 signs shall be positioned as shown in "ROAD CLOSED TO ALL TRAFFIC" detail on Standard 701901.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED April 1, 2016
ENGINEER OF SAFETY ENGINEERING

APPROVED April 1, 2016
ENGINEER OF DESIGN AND ENVIRONMENT

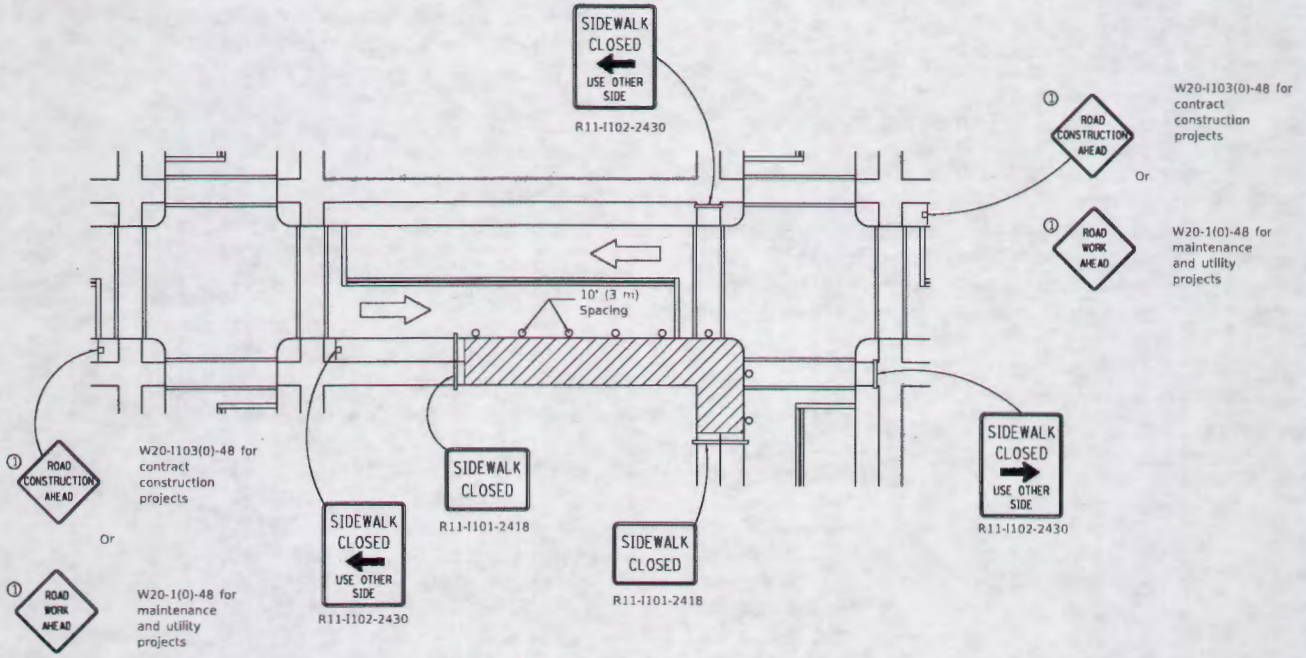
BDE 1-1-97

DATE	REVISIONS
4-1-16	Omitted orange safety fence
	from standard as this is
	covered in the std. spec.
1-1-12	Added SIDEWALK DIVERSION.
	Modified appearance of
	plan views. Renamed Std.

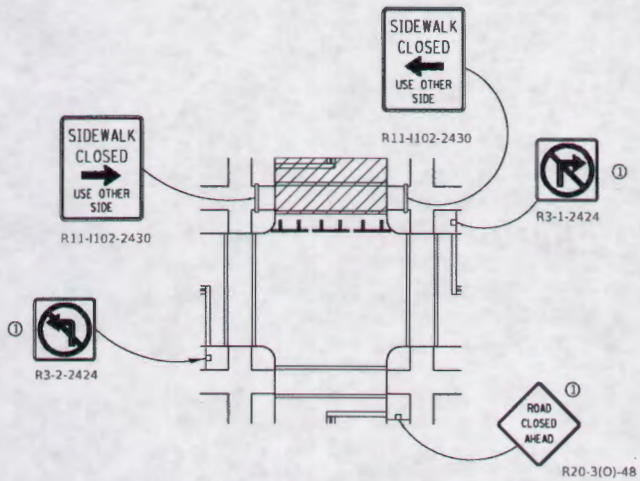
SIDEWALK, CORNER OR CROSSWALK CLOSURE

(Sheet 1 of 2)

STANDARD 701801-06



CORNER CLOSURE



CROSSWALK CLOSURE

Illinois Department of Transportation

PASSED April 1, 2016
ENGINEER OF SAFETY ENGINEERING

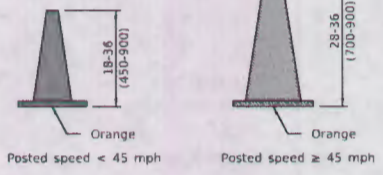
APPROVED April 1, 2016
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-19-7

SIDEWALK, CORNER OR CROSSWALK CLOSURE

(Sheet 2 of 2)

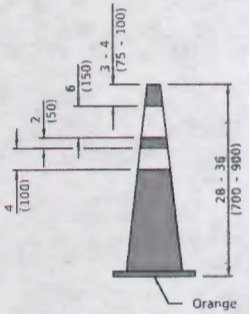
STANDARD 701801-06



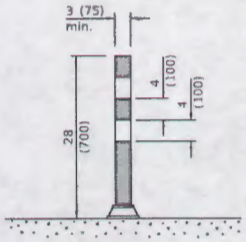
Posted speed < 45 mph

Posted speed ≥ 45 mph

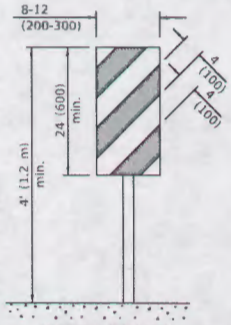
CONE FOR DAYTIME



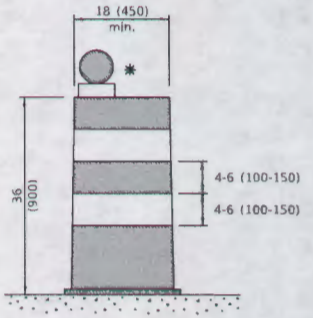
REFLECTORIZED CONE FOR NIGHTTIME



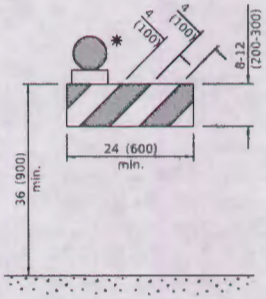
TUBULAR MARKER



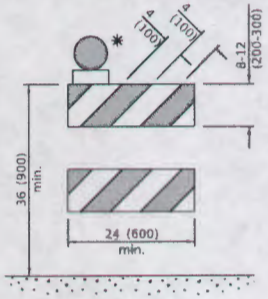
VERTICAL PANEL
POST MOUNTED



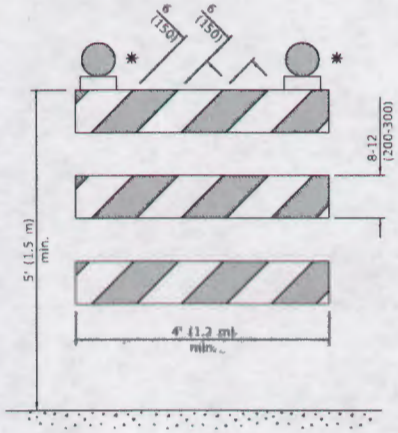
DRUM



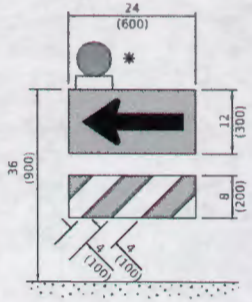
TYPE I BARRICADE



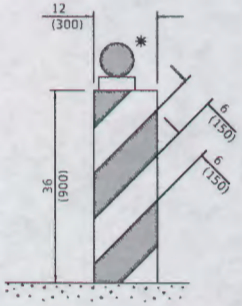
TYPE II BARRICADE



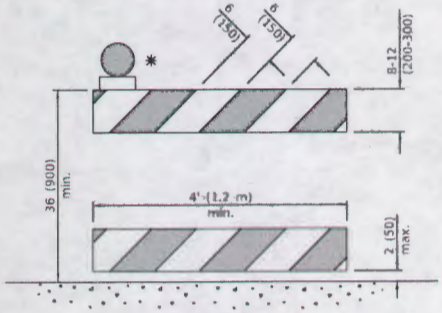
TYPE III BARRICADE



DIRECTION INDICATOR BARRICADE



VERTICAL BARRICADE



DETECTABLE PEDESTRIAN CHANNELIZING BARRICADE

* Warning lights (if required)

GENERAL NOTES

All heights shown shall be measured above the pavement surface.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2018
ENGINEER OF OPERATIONS

APPROVED January 1, 2018
ENGINEER OF DESIGN AND ENVIRONMENT

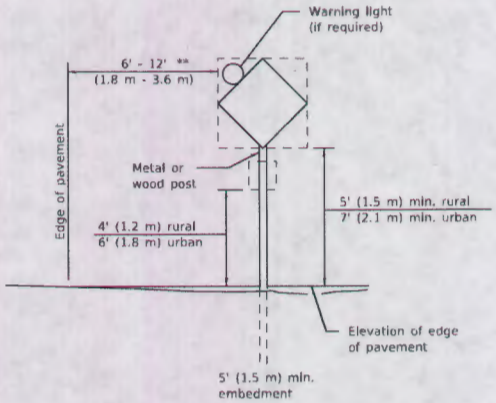
ISSUED 1-1-97

DATE	REVISIONS
1-1-18	Revised END WORK ZONE
	SPEED LIMIT sign from
	orange to white background.
1-1-17	Changed FLEXIBLE DELINEATOR
	to TUBULAR MARKER.

TRAFFIC CONTROL DEVICES

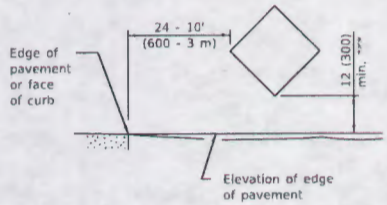
(Sheet 1 of 3)

STANDARD 701901-07



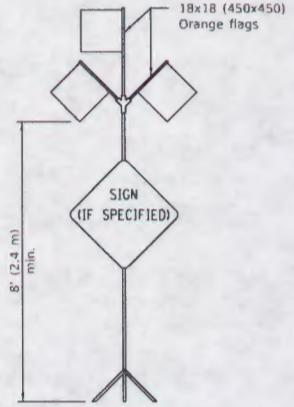
POST MOUNTED SIGNS

** When curb or paved shoulder are present this dimension shall be 24 (600) to the face of curb or 6' (1.8 m) to the outside edge of the paved shoulder.

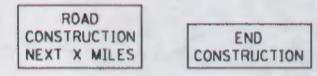


SIGNS ON TEMPORARY SUPPORTS

*** When work operations exceed four days, this dimension shall be 5' (1.5 m) min. If located behind other devices, the height shall be sufficient to be seen completely above the devices.



HIGH LEVEL WARNING DEVICE



G20-I104(0)-6036 G20-I105(0)-6024

This signing is required for all projects 2 miles (3200 m) or more in length.

ROAD CONSTRUCTION NEXT X MILES sign shall be placed 500' (150 m) in advance of project limits.

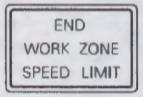
END CONSTRUCTION sign shall be erected at the end of the job unless another job is within 2 miles (3200 m).

Dual sign displays shall be utilized on multi-lane highways.

WORK LIMIT SIGNING

W21-III5(0)-3618
R2-1-3648
R10-1108p-3618 ****
R2-1106p-3618

Sign assembly as shown on Standards or as allowed by District Operations.

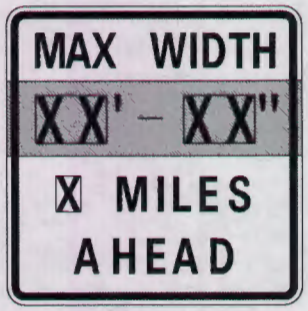


G20-1103-6036

This sign shall be used when the above sign assembly is used.

HIGHWAY CONSTRUCTION SPEED ZONE SIGNS

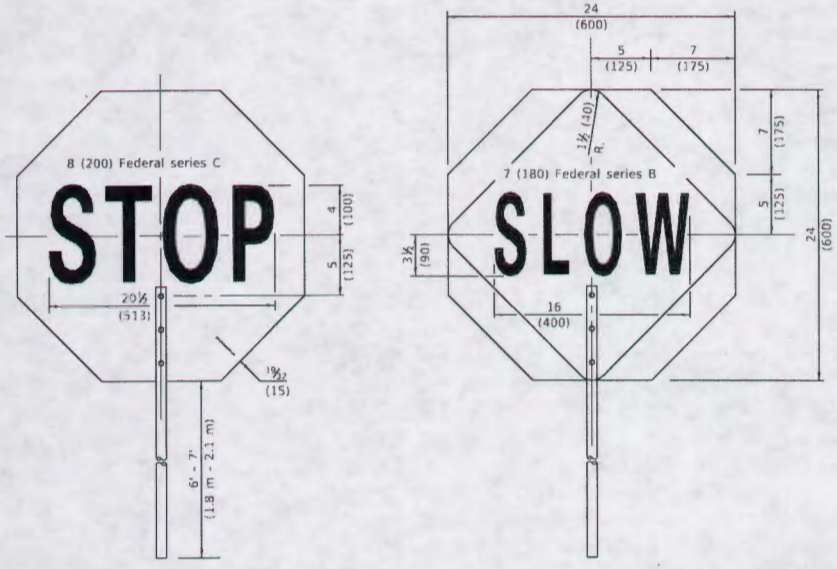
**** R10-1108p shall only be used along roadways under the juristiction of the State.



W12-1103-4848

WIDTH RESTRICTION SIGN

XX'-XX" width and X miles are variable.



FLAGGER TRAFFIC CONTROL SIGN

Illinois Department of Transportation

PASSED January 1, 2018
ENGINEER OF OPERATIONS

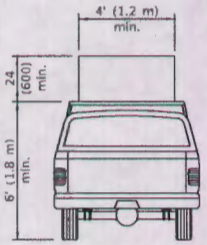
APPROVED January 1, 2018
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

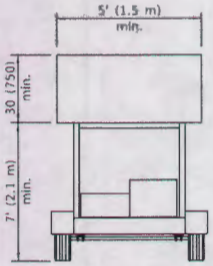
TRAFFIC CONTROL DEVICES

(Sheet 2 of 3)

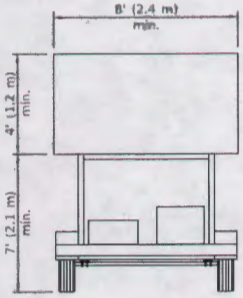
STANDARD 701901-07



TYPE A
ROOF
MOUNTED

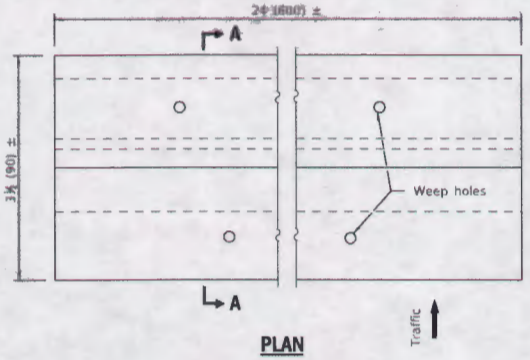


TYPE B
ROOF OR TRAILER
MOUNTED

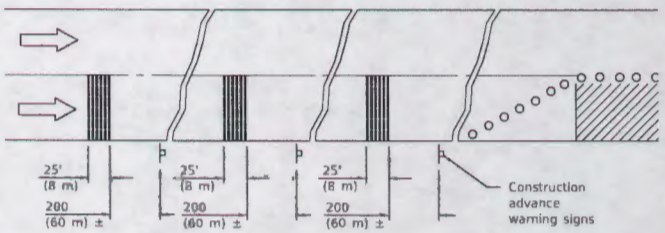


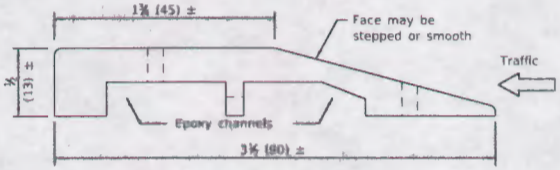
TYPE C
TRAILER
MOUNTED

ARROW BOARDS

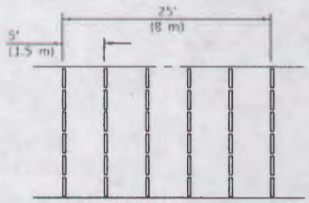


PLAN



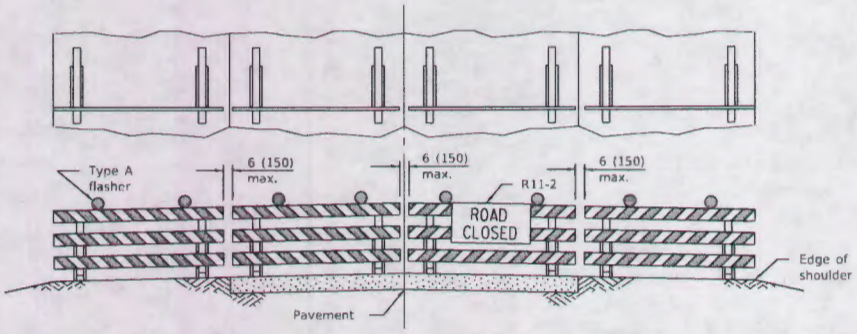


SECTION A-A



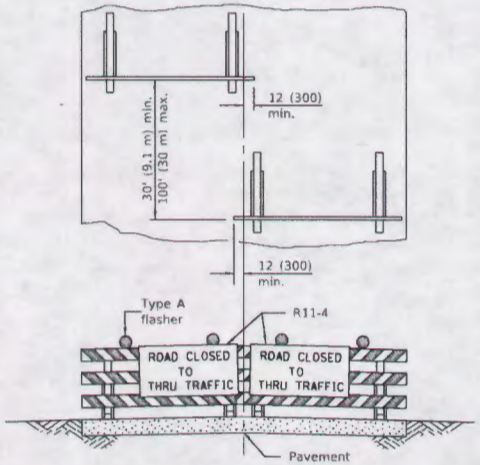
TYPICAL INSTALLATION

TEMPORARY RUMBLE STRIPS



ROAD CLOSED TO ALL TRAFFIC

Reflectorized striping may be omitted on the back side of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the sign may be mounted on an NCHRP 350 temporary sign support directly in front of the barricade.



ROAD CLOSED TO THRU TRAFFIC

Reflectorized striping shall appear on both sides of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the signs may be mounted on NCHRP 350 temporary sign supports directly in front of the barricade.

TYPICAL APPLICATIONS OF
TYPE III BARRICADES CLOSING A ROAD

Illinois Department of Transportation

PASSED January 1, 2018
ENGINEER OF OPERATIONS

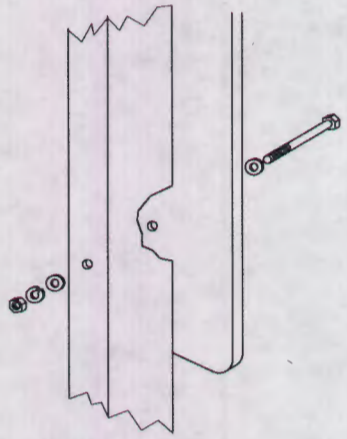
APPROVED January 1, 2018
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

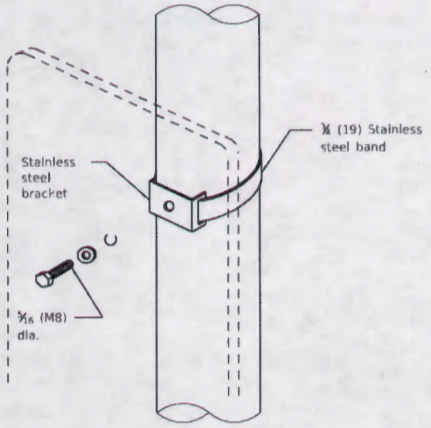
TRAFFIC CONTROL DEVICES

(Sheet 3 of 3)

STANDARD 701901-07

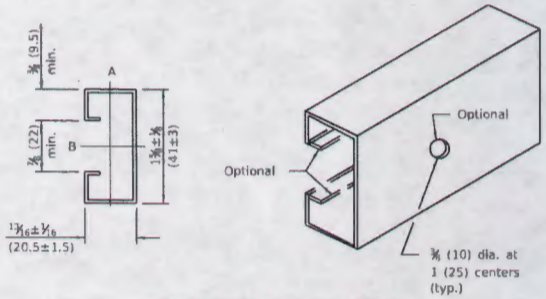


Sign panel 36 (900) wide or less

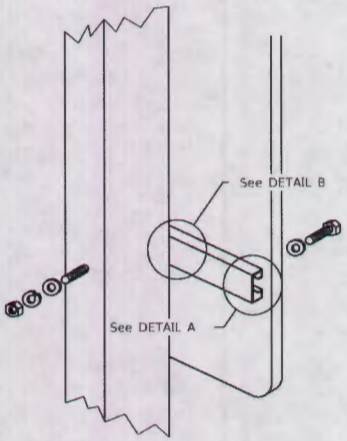


Sign panel 36 (900) wide or less

Section modulus (minimum)	Axis A	Axis B
Steel	0.050 in.³ (819 mm³)	0.105 in.³ (1720 mm³)
Aluminum	0.150 in.³ (2458 mm³)	0.315 in.³ (5162 mm³)

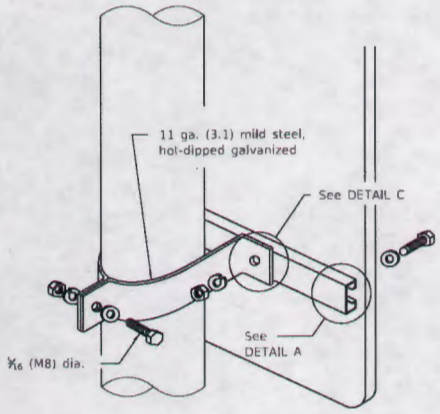


SUPPORTING CHANNEL DETAILS



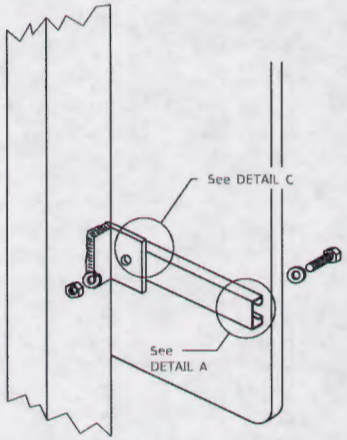
Sign panel over 36 (900) wide

WOOD OR TELESCOPING STEEL POSTS

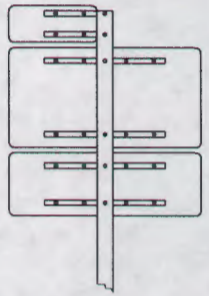


Sign panel over 36 (900) wide

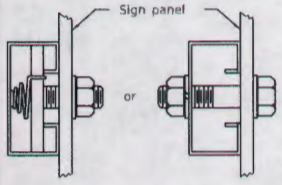
LIGHT OR SIGNAL STANDARDS



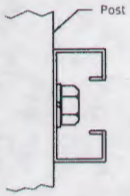
BREAKAWAY STEEL TUBING POSTS
(All sign panel sizes)



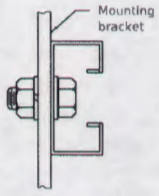
ROUTE MARKER ASSEMBLY



DETAIL A



DETAIL B



DETAIL C

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-97	Renum. Standard 2319-6.

Illinois Department of Transportation

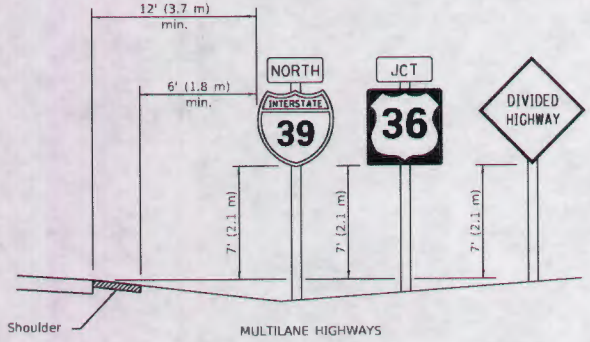
PASSED January 1, 2009
ENGINEER OF OPERATIONS

APPROVED January 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT

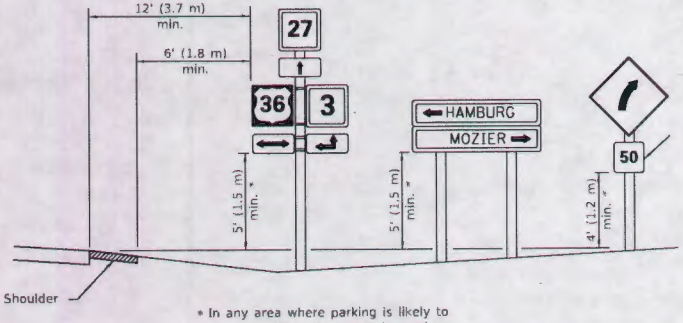
ISSUED 1-1-97

SIGN PANEL MOUNTING DETAILS

STANDARD 720001-01

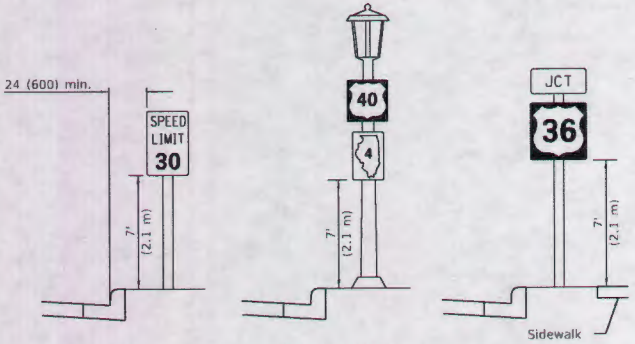


MULTILANE HIGHWAYS



* In any area where parking is likely to occur or where there are obstructions to view or where signs are located over sidewalks, the height shall be at least 7' (2.1 m).

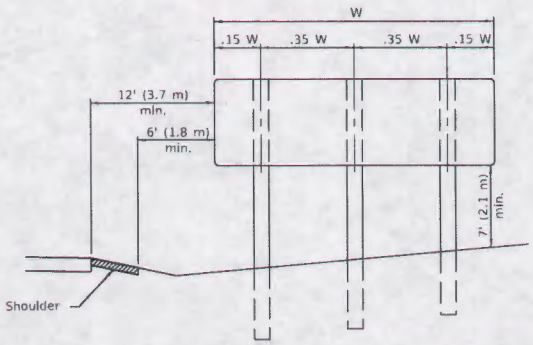
TWO LANE RURAL HIGHWAYS

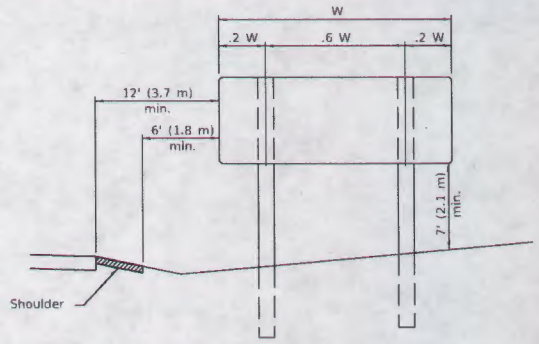


URBAN LOCATIONS

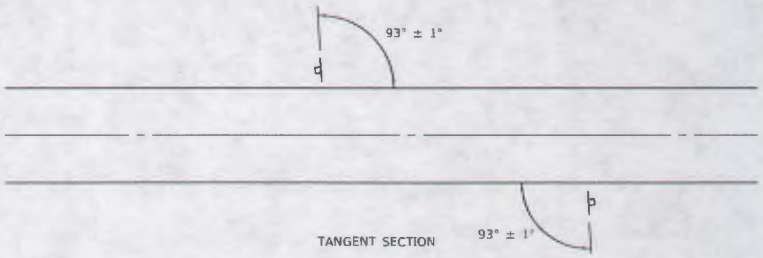
TYPICAL INSTALLATIONS

Signs in any area shall be erected to a uniform height above the edge of the pavement.

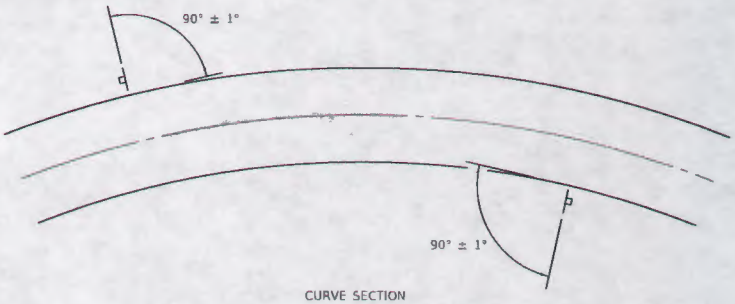




POST SPACING FOR NON-FREEWAY SIGN PANELS



TANGENT SECTION



CURVE SECTION

GROUND MOUNT SIGN POSITIONING

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-14	Added shoulders and slopes.
	Changed sign distances
	from roadway and shoulder.
1-1-12	Rev. sign elev. for multilane
	hwy's. Revised sign elev. and
	dist. to curb for rural loc.

SIGN PANEL ERECTION DETAILS

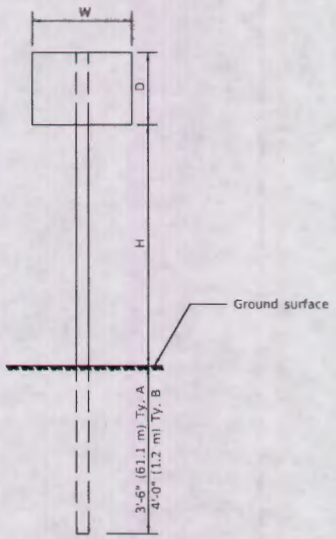
STANDARD 720006-04

Illinois Department of Transportation

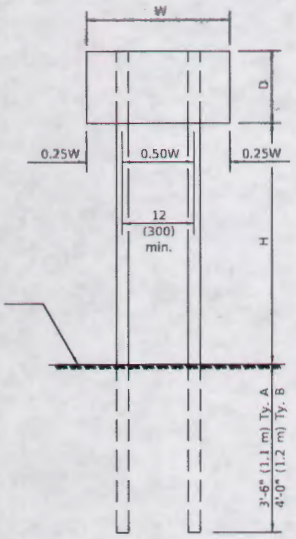
PASSED January 1, 2014
ENGINEER OF OPERATIONS

APPROVED January 1, 2014
ENGINEER OF DESIGN AND ENVIRONMENT

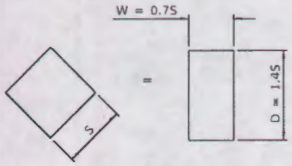
ISSUED 1-1-97



ONE POST INSTALLATION

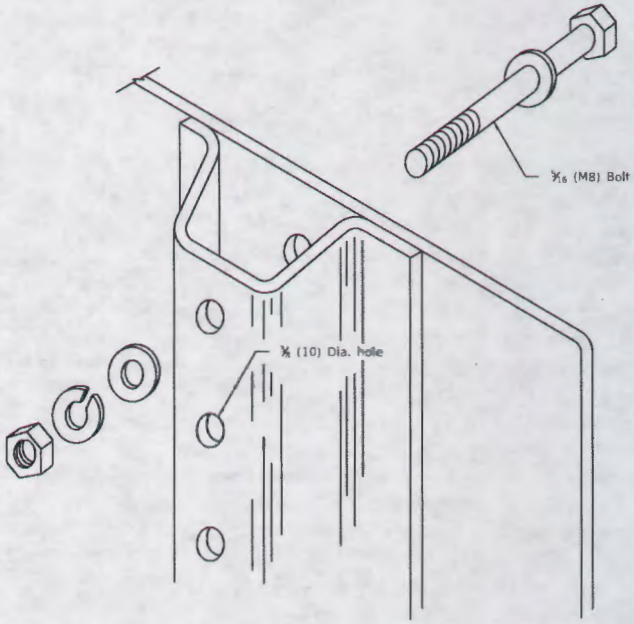


TWO POST INSTALLATION



For diamond shaped sign with side S as shown, use required post size for a sign with W = 0.7S and D = 1.4S.

SIGN DEPTH (D)	H	NO. AND TYPE OF POST FOR SIGN WIDTH (W)				
		12 (300)	18 (450)	24 (600)	30 (750)	36 (900)
18 (450)	5'-0" (1.5 m)	A	A	A	A	A
	5'-6" (1.7 m)	A	A	A	A	A
	6'-0" (1.8 m)	A	A	A	A	B
	6'-6" (2.0 m)	A	A	A	A	B
	7'-0" (2.1 m)	A	A	A	A	B
	7'-6" (2.3 m)	A	A	A	A	B
	8'-0" (2.4 m)	A	A	A	A	B
	8'-6" (2.6 m)	A	A	A	B	B
	9'-0" (2.7 m)	A	A	A	B	B
24 (600)	5'-0" (1.5 m)	A	A	A	A	B
	5'-6" (1.7 m)	A	A	A	A	B
	6'-0" (1.8 m)	A	A	A	B	B
	6'-6" (2.0 m)	A	A	A	B	B
	7'-0" (2.1 m)	A	A	A	B	B
	7'-6" (2.3 m)	A	A	A	B	B
	8'-0" (2.4 m)	A	A	A	B	2A
	8'-6" (2.6 m)	A	A	B	B	2A
	9'-0" (2.7 m)	A	A	B	B	2A
30 (750)	5'-0" (1.5 m)	A	A	A	B	B
	5'-6" (1.7 m)	A	A	A	B	2A
	6'-0" (1.8 m)	A	A	A	B	2A
	6'-6" (2.0 m)	A	A	A	B	2A
	7'-0" (2.1 m)	A	A	B	B	2A
	7'-6" (2.3 m)	A	A	B	B	2A
	8'-0" (2.4 m)	A	A	B	B	2A
	8'-6" (2.6 m)	A	A	B	2A	2A
	9'-0" (2.7 m)	A	A	B	2A	2A
36 (900)	5'-0" (1.5 m)	A	A	B	B	2A
	5'-6" (1.7 m)	A	A	B	B	2A
	6'-0" (1.8 m)	A	A	B	B	2A
	6'-6" (2.0 m)	A	A	B	2A	2A
	7'-0" (2.1 m)	A	A	B	2A	2A
	7'-6" (2.3 m)	A	A	B	2A	2A
	8'-0" (2.4 m)	A	B	B	2A	2A
	8'-6" (2.6 m)	A	B	B	2A	2B
	9'-0" (2.7 m)	A	B	2A	2A	2B
4'-0" (1.2 m)	5'-0" (1.5 m)	A	A	B	2A	2A
	5'-6" (1.7 m)	A	B	B	2A	2A
	6'-0" (1.8 m)	A	B	B	2A	2A
	6'-6" (2.0 m)	A	B	2A	2A	2B
	7'-0" (2.1 m)	A	B	2A	2A	2B
	7'-6" (2.3 m)	A	B	2A	2B	2B
	8'-0" (2.4 m)	A	B	2A	2B	2B
	8'-6" (2.6 m)	B	B	2B	2B	2B
	9'-0" (2.7 m)	B	2A	2B	2B	2B



DETAIL OF MOUNTING SIGN TO POST

NOTE: Minimum of 2 bolts per post required.

GENERAL NOTES

DESIGN: Current AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.

LOADING: for 60 mph (95 km/h) wind velocity with 30% gust factor, normal to sign.

SOIL PRESSURE: Minimum allowable soil pressure 1.25 tsf (120 kPa).

See Standard 720011 for details of Types A and B posts.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2009
ENGINEER OF POLICY AND PROCEDURES

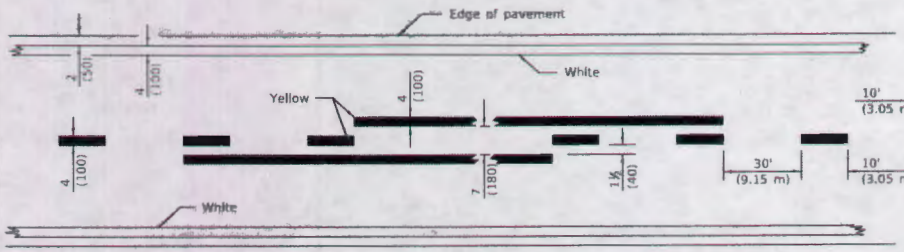
APPROVED January 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

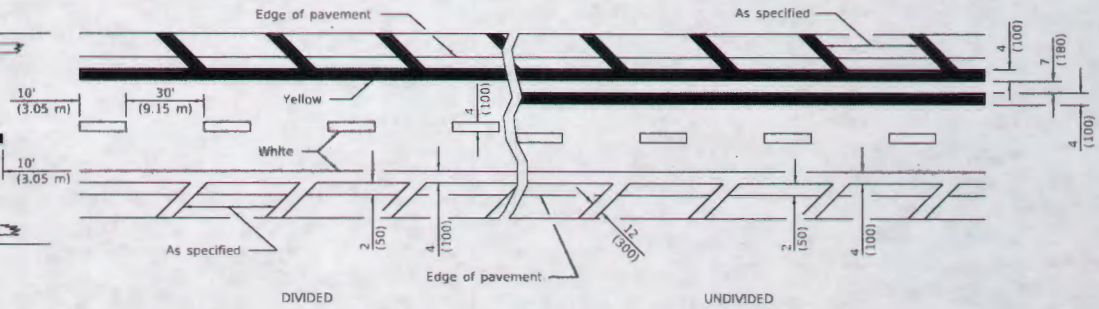
DATE	REVISIONS
1-1-09	Switched units to
	English (metric).
1-1-97	Renum. Standard 2363-2.

APPLICATIONS OF TYPES A & B METAL POSTS (FOR SIGNS & MARKERS)

STANDARD 729001-01

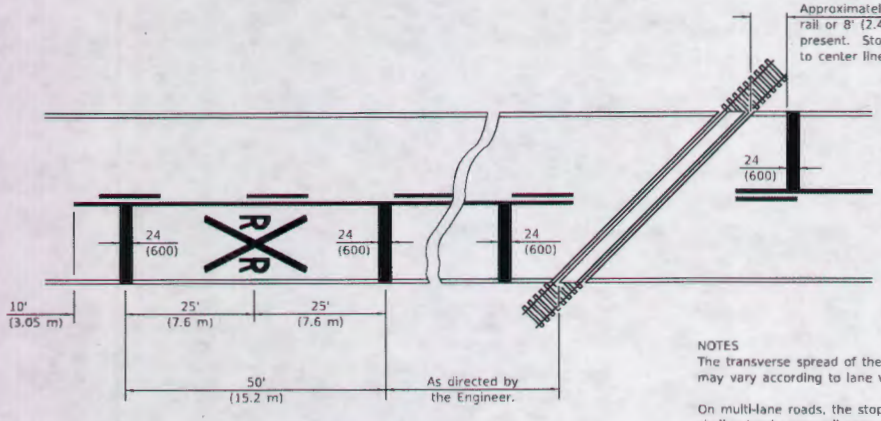


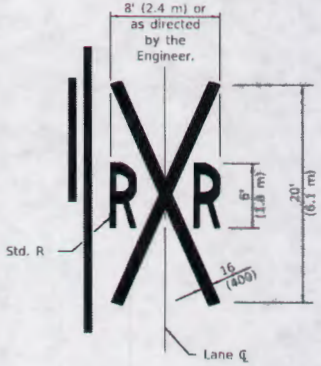
2 LANE



MULTI LANE

LANE AND EDGE LINES





NOTES
The transverse spread of the "X" may vary according to lane width.

On multi-lane roads, the stop lines shall extend across all approach lanes and separate RXR symbols shall be placed adjacent to each other in each lane.

When the pavement marking symbol is used, a portion of the symbol should be located directly adjacent to the Advance Warning Sign (W10-1) as placed by Table 2C-4, Condition B of the MUTCD.

PAVEMENT MARKINGS AT RAILROAD-HIGHWAY GRADE CROSSING

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-15	Added symbols. Revised
	bike symbol. Revised note
	for stop line at RR crossing.
1-1-14	Added bike symbol. Renamed
	'LANE DROP ARROW' detail to
	'LANE-REDUCTION ARROW'.

TYPICAL PAVEMENT MARKINGS

(Sheet 1 of 3)

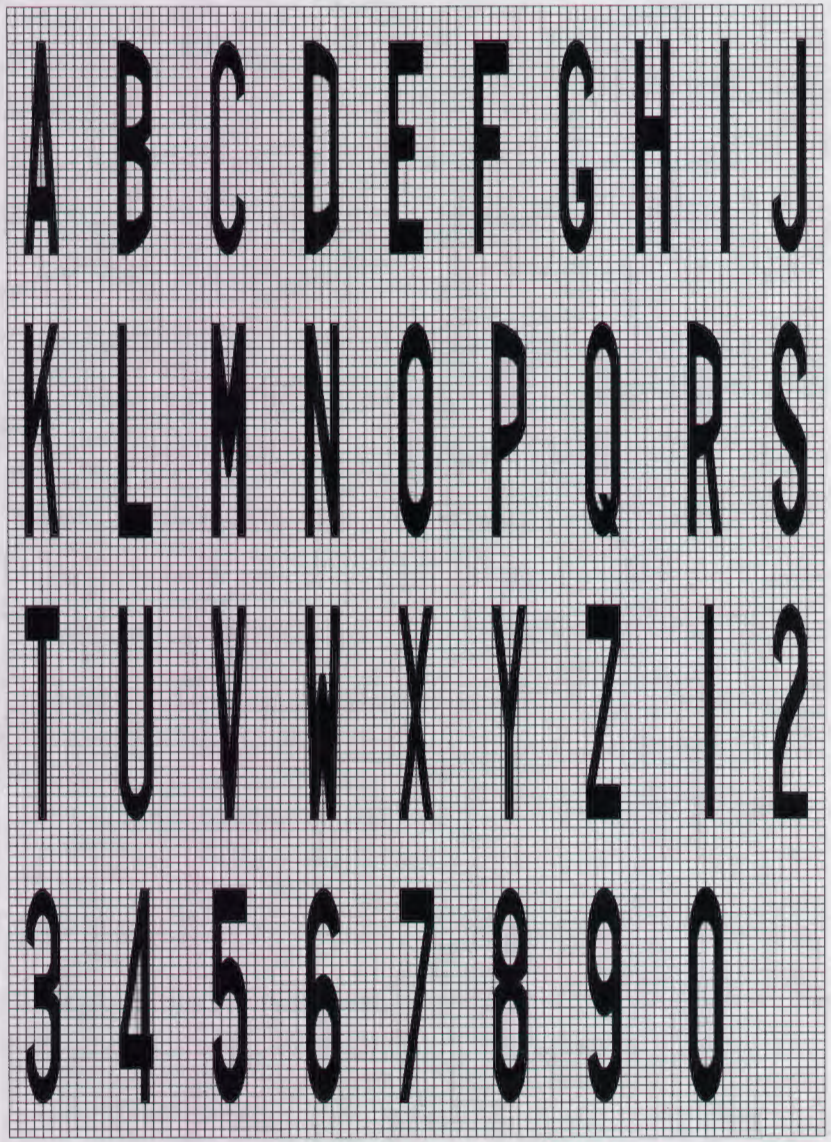
STANDARD 780001-05

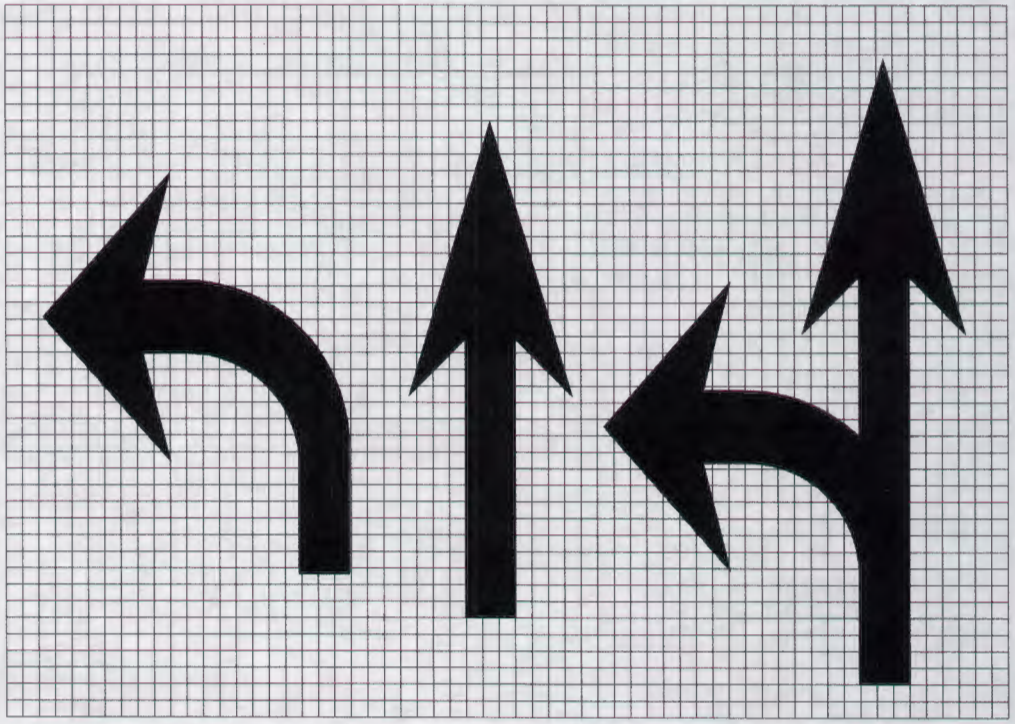
Illinois Department of Transportation

PASSED January 1, 2015
ENGINEER OF OPERATIONS

APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97





Legend Height	Arrow Size	a
6' (1.8 m)	Small	2.9 (74)
8' (2.4 m)	Large	3.8 (96)

The space between adjacent letters or numerals should be approximately 3 (75) for 6' (1.8 m) legend and 4 (100) for 8' (2.4 m) legend.

LETTER AND ARROW GRID SCALE

Illinois Department of Transportation

PASSED January 1, 2015
ENGINEER OF OPERATIONS

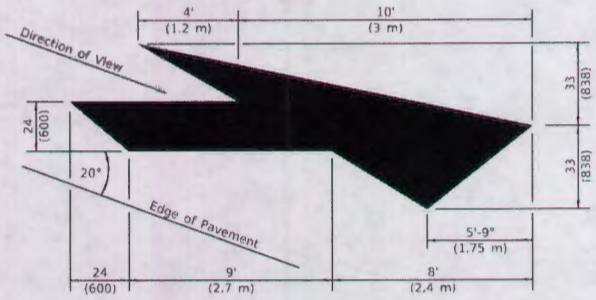
APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

TYPICAL PAVEMENT MARKINGS

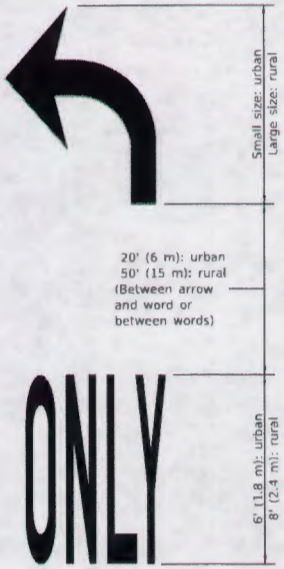
(Sheet 2 of 3)

STANDARD 780001-05



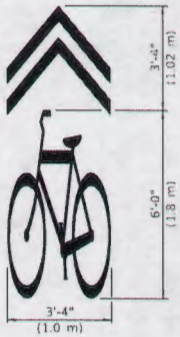
LANE-REDUCTION ARROW

Right lane-reduction arrow shown.
Use mirror image for left lane.

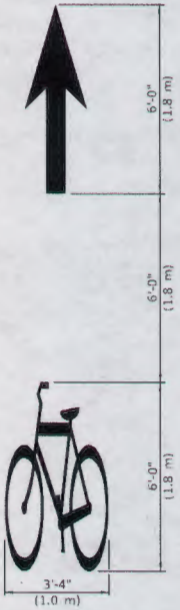


WORD AND ARROW LAYOUT

INTERNATIONAL SYMBOL OF ACCESSILITY

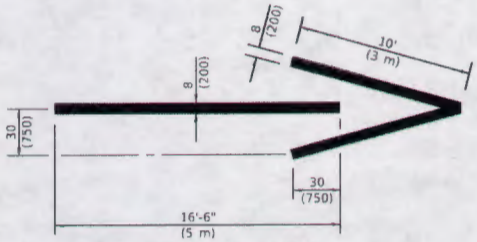


SHARED LANE SYMBOL



BIKE SYMBOL

(Arrow is optional.)



WRONG WAY ARROW

Illinois Department of Transportation

PASSED January 1, 2015
ENGINEER OF OPERATIONS

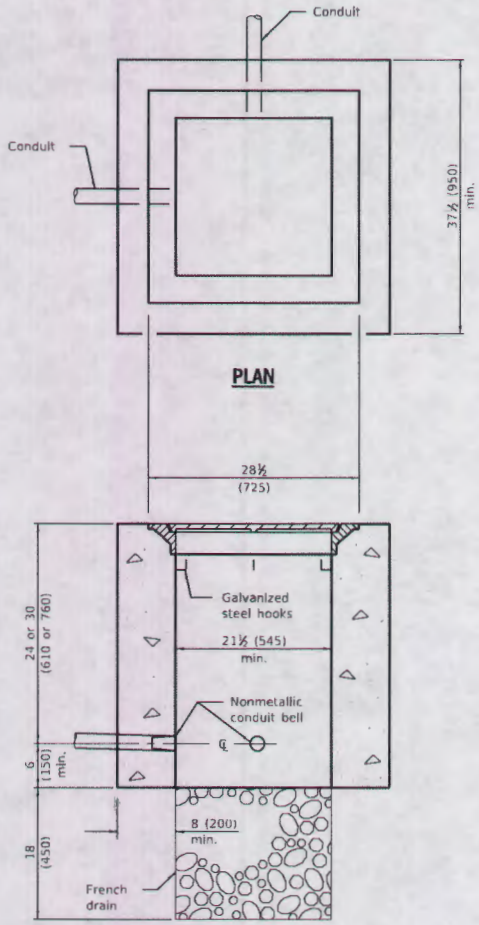
APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

TYPICAL PAVEMENT MARKINGS

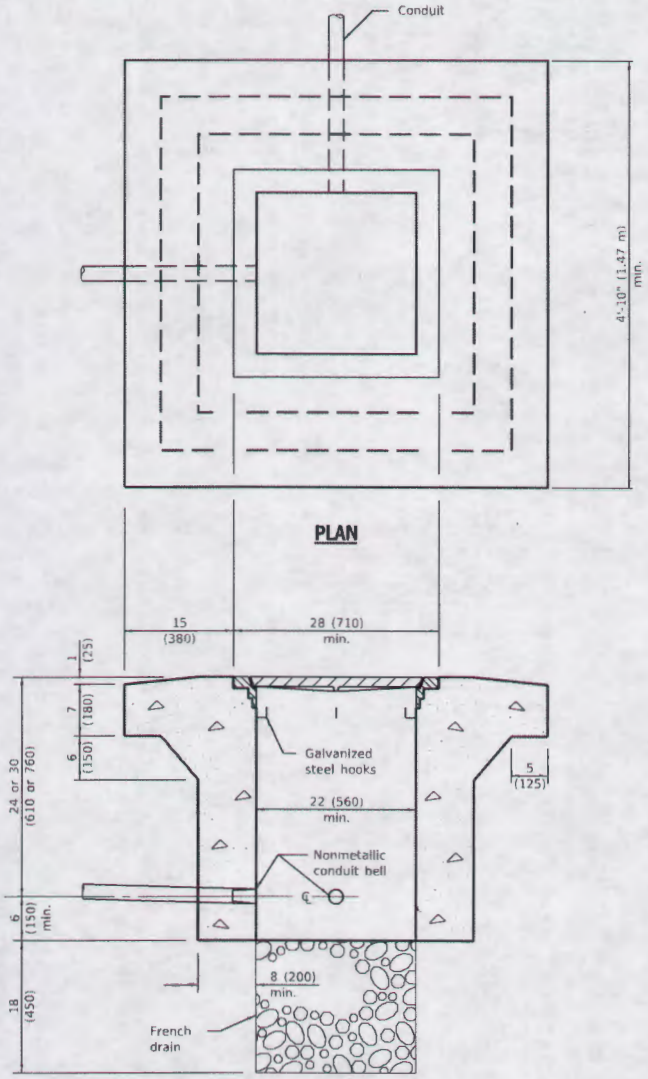
(Sheet 3 of 3)

STANDARD 780001-05



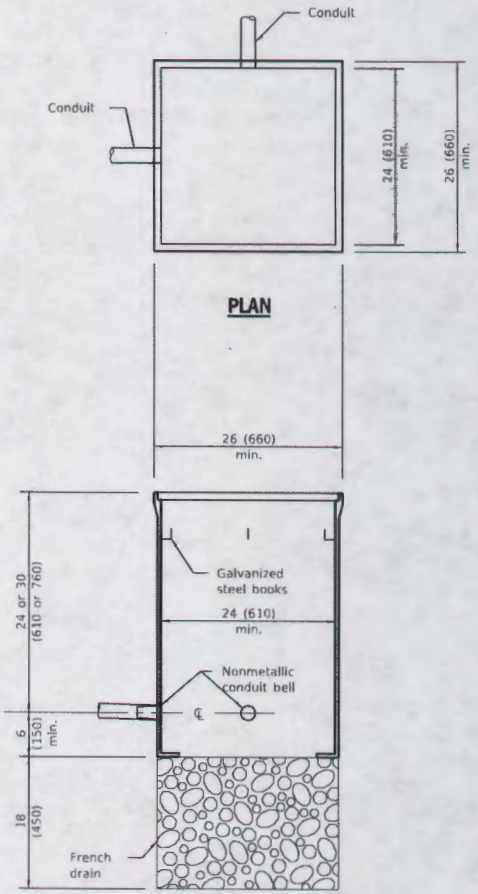
ELEVATION

PORTLAND CEMENT CONCRETE



ELEVATION

PORTLAND CEMENT CONCRETE
HEAVY DUTY



ELEVATION

COMPOSITE CONCRETE

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2015
ENGINEER OF OPERATIONS

APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

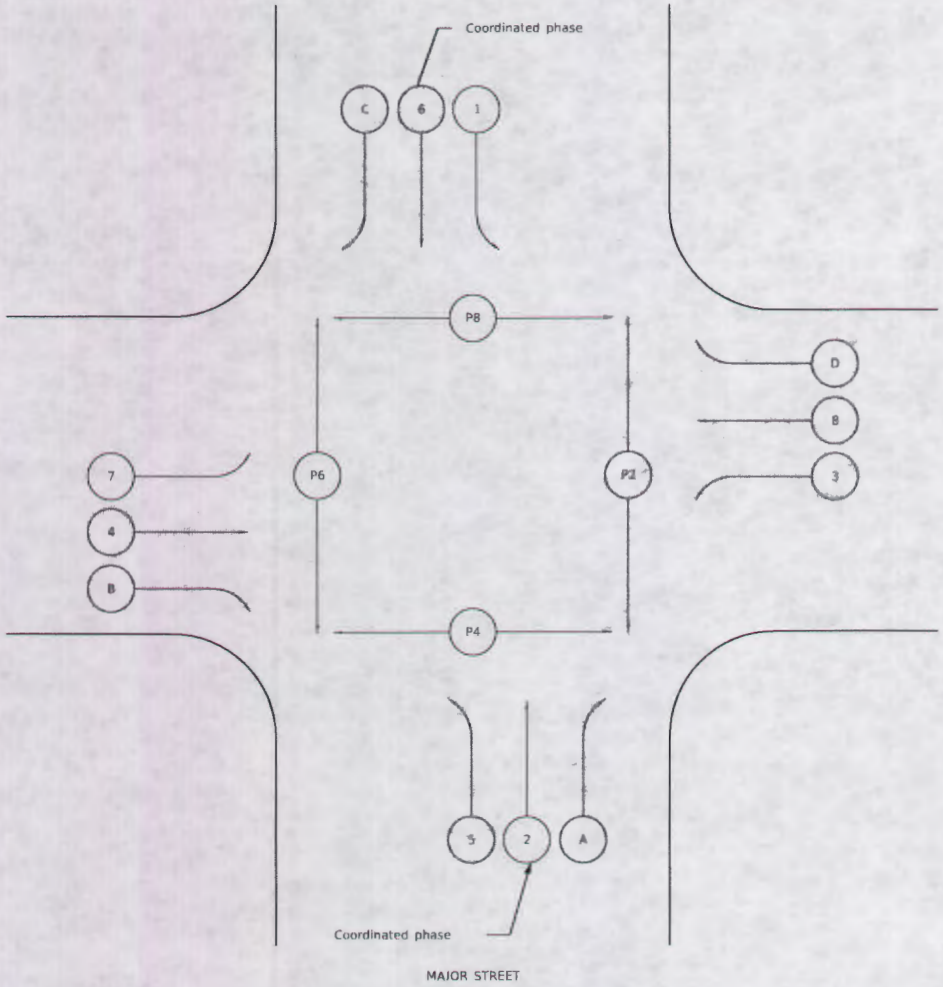
QUANTITIES

Depth	Concrete yd³ (m³)	
	Handhole	Heavy Duty Handhole
30 (762)	0.61 (0.47)	0.98 (0.75)
36 (914)	0.73 (0.56)	1.10 (0.84)

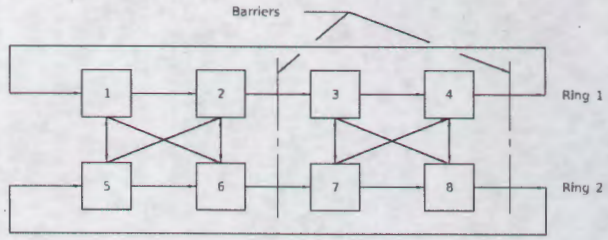
DATE	REVISIONS
1-1-15	Corrected dimension on
	heavy duty handhole. Added
	concrete quantities table.
1-1-09	Switched units to
	English (metric).

HANDHOLES

STANDARD 814001-03



STANDARD PHASE DESIGNATION DIAGRAM (NEMA)



NEMA EIGHT PHASE DUAL RING ACTUATED CONFIGURATION

LEGEND

(X), [X]	Vehicular phase no. x
(PX)	Pedestrian phase no. x
(A), (B), (C), (D)	Right turn overlaps where:
(A) = (2) + (3)	
(B) = (4) + (5)	
(C) = (6) + (7)	
(D) = (8) + (1)	
NEMA	National Electrical Manufacturers Association

Illinois Department of Transportation

PASSED January 1, 2009
ENGINEER OF OPERATIONS

APPROVED January 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT

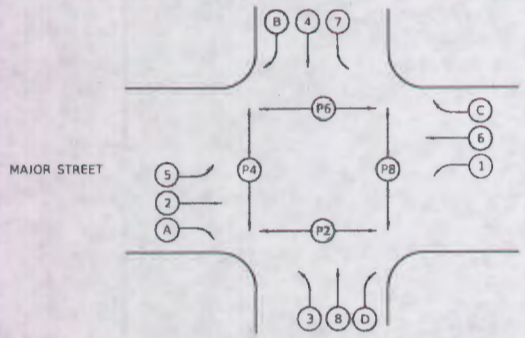
ISSUED 1-1-97

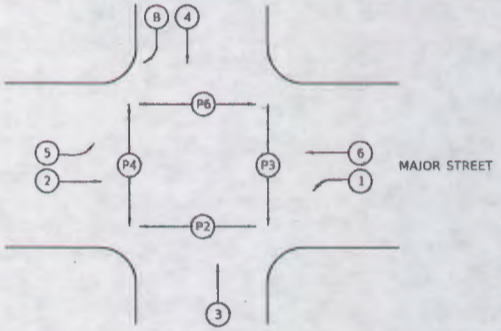
DATE	REVISIONS
1-1-09	Omitted note regarding
	units of length.
1-1-97	Renum. Standard 2393-2.

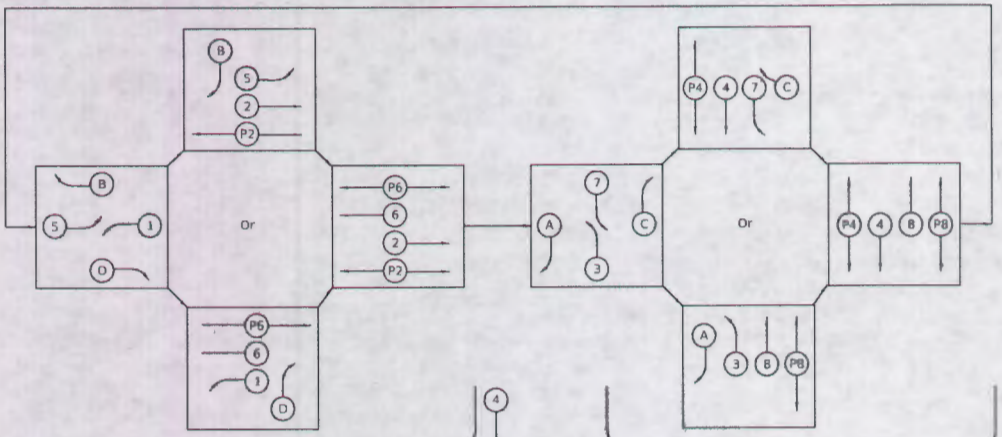
STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES

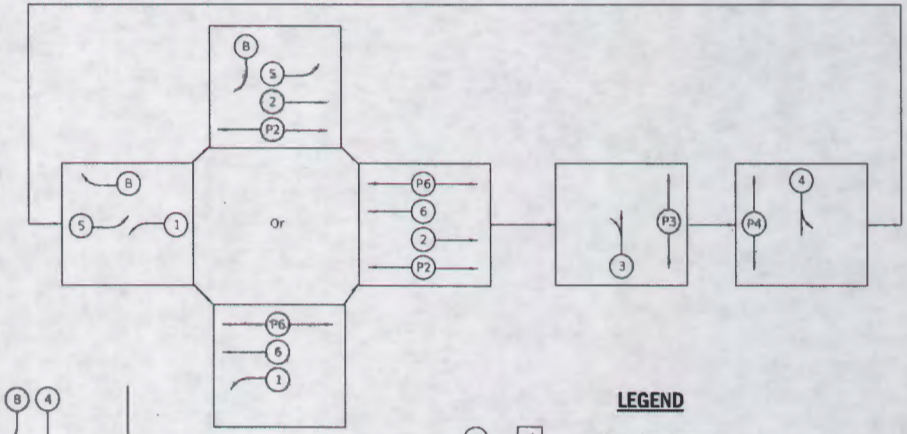
(Sheet 1 of 2)

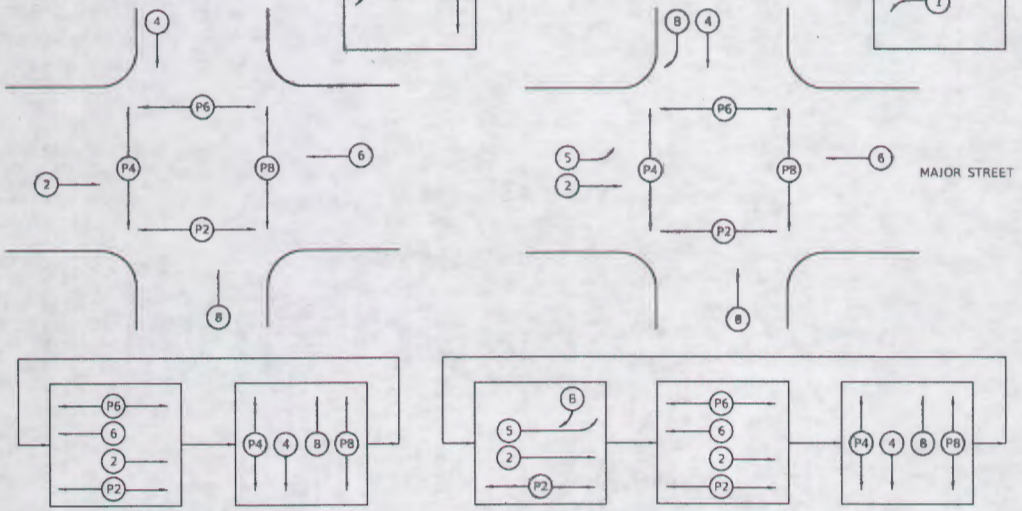
STANDARD 857001-01











LEGEND

(X) , [X]	Vehicular phase no. x
(PX)	Pedestrian phase no. x
(A) , (B) , (C) , (D)	Right turn overlaps where:
(A) = (2) + (3)	
(B) = (4) + (5)	
(C) = (6) + (7)	
(D) = (8) + (1)	
NEMA	National Electrical Manufacturers Association

PHASE DESIGNATION DIAGRAMS AND CORRESPONDING PHASE SEQUENCES

Illinois Department of Transportation

PASSED January 1, 2009
ENGINEER OF OPERATIONS

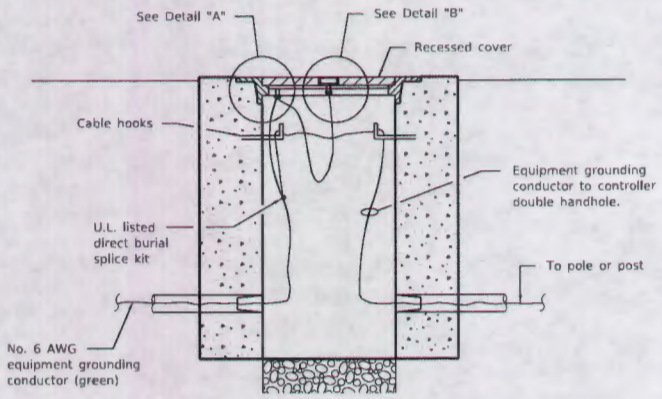
APPROVED January 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

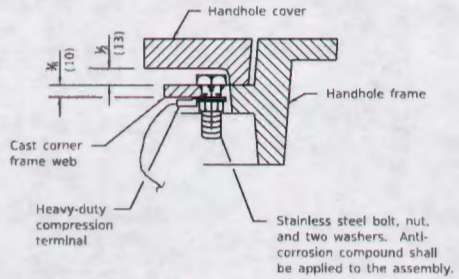
STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES

(Sheet 2 of 2)

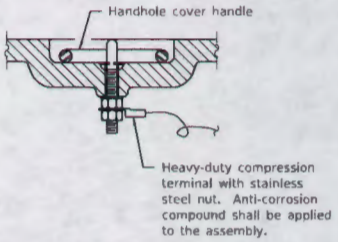
STANDARD 857001-01



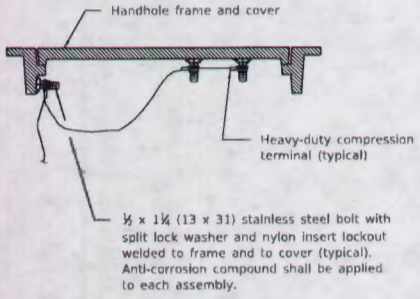
BONDING A HANDHOLE COVER & FRAME



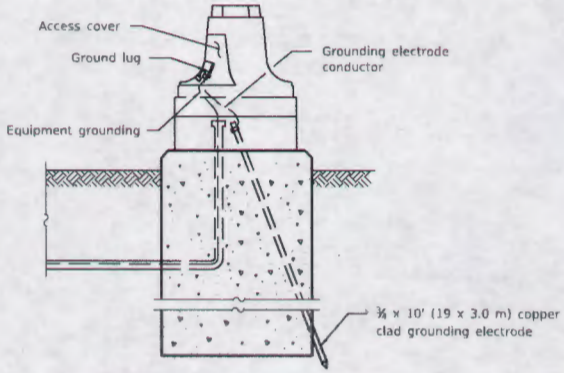
DETAIL "A"



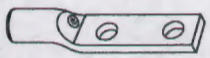
DETAIL "B"



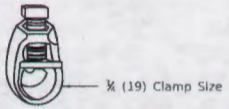
BONDING AN EXISTING HANDHOLE COVER & FRAME



GROUNDING A MAST ARM POLE/POST



HEAVY-DUTY COMPRESSION TERMINAL



HEAVY-DUTY GROUND ROD CLAMP

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2009
ENGINEER OF OPERATIONS

APPROVED January 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 4-1-06

DATE	REVISIONS
1-1-09	Switched units to
	English (metric).
1-1-07	Revised terminology.

TRAFFIC SIGNAL GROUNDING & BONDING

STANDARD 873001-02

PLAN SHEETS