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

RESOLUTION
NO. 2019-R-010

A RESOLUTION AUTHORIZING A CONTRACT WITH AUSTIN TYLER CONSTRUSION, INC. FOR THE NORTH STREET IMPROVEMENT PROJECT

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

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

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

RESOLUTION NO.

A RESOLUTION AUTHORIZING

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 a Contract with the Austin Tyler Construction, Inc., a true and correct copy of such Contract 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 Contract 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 "Contract" be entered into and executed by said Village of Tinley Park, with said Contract 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 Contract.

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

ADOPTED this 5th day of March, 2019, 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 5th day of March, 2019, by the President of the Village of Tinley Park.

Village President

ATTEST:

Deputy 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. 2019-R-010, "**A RESOLUTION AUTHORIZING A CONTRACT WITH AUSTIN TYLER CONSTURCTION, INC. FOR THE NORTH STREET IMPROVEMENT PROJECT**," which was adopted by the President and Board of Trustees of the Village of Tinley Park on March 5, 2019.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal of the Village of Tinley Park this 5th day of March, 2019.

_____
VILLAGE CLERK

EXHIBIT 1

VILLAGE OF TINLEY PARK
NORTH STREET IMPROVEMENT
OAK PARK AVE TO 173RD STREET
18-R0617

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 1:45 PM on Thursday February 21, 2019.

NORTH STREET IMPROVEMENT
OAK PARK AVENUE TO 173RD PLACE

Proposals will be publicly read aloud on Thursday February 21, 2019 after 2:00 PM. 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 forty-five 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 One Hundred Dollars ($100.00) for each paper copy and/or Ten Dollars ($10.00) per CD format. The bid documents will be issued until 4:30 PM on Monday February 18, 2019. 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

PROPOSAL

TO THE OWNER, Village of Tinley Park

1. Proposal of Austin Tyler Construction, Inc
(name and address of bidder)

23343 S Ridge Road
Elwood, IL 60421

GSCHUMAN @ AUSTIN-TYLER.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 _____ calendar days after the date of the execution of the contract by both parties, or by 10/15/19 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 BID BOND = 10%

_____($_____).

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.

BID BOND

Hudson Insurance Company
100 William Street, New York, NY 10038

CONTRACTOR:
(Name, legal status and address)
Austin Tyler Construction Inc
23343 S . Ridge Road
Elwood, IL 60421

SURETY:
(Name, legal status and principal place of business)
Hudson Insurance Company
100 William Street
New York, NY 10038

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

BOND AMOUNT: 10% of Bid Amount

PROJECT:
(Name, location or address, and Project number, if any)
North Street Improvement

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 18th **day of** February, 2019.

Austin Tyler Construction Inc.
(Principal) *(Seal)*

(Witness)

(Title)
Gary S Schumal, President

AUSTIN TYLER CONSTRUCTION, INC. SEAL ELWOOD, IL

Hudson Insurance Company
(Surety) *(Seal)*

(Witness)

(Title) Attorney-in-Fact
Lynn M Blaylock

The Company executing this bond vouches that this document conforms to American Institute of Architects Document A310, 2010 edition

HUDSON
INSURANCE GROUP

BID BOND POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That HUDSON INSURANCE COMPANY, a corporation of the State of Delaware, with offices at 100 William Street, New York, New York, 10038, has made, constituted and appointed, and by these presents, does make, constitute and appoint

Lewis Mark Spangler, Lynn M. Blaylock,
Dawn-Denise Szpisjak and Maureen Rott

its true and lawful Attorney(s)-in-Fact, at New York City in the State of New York, each of them alone to have full power to act without the other or others, to make, execute and deliver on its behalf, as Surety, bid bonds for any and all purposes.

Such bid bonds, when duly executed by said Attorney(s)-in-Fact, shall be binding upon said Company as fully and to the same extent as if signed by the President of said Company under its corporate seal attested by its Secretary.

In Witness Whereof, HUDSON INSURANCE COMPANY has caused these presents to be of its Senior Vice President thereunto duly authorized, on this 7th day of November, 20 17 at New York, New York.

(Corporate seal)

HUDSON INSURANCE COMPANY

Attest.....
Dina Daskalakis, Corporate Secretary

By.....
Michael P. Cifone, Senior Vice President

STATE OF NEW YORK
COUNTY OF NEW YORK SS.

On the 7th day of November, 20 17 before me personally came Michael P. Cifone to me known, who being by me duly sworn did depose and say that he is a Senior Vice President of **HUDSON INSURANCE COMPANY**, the Company described herein and which executed the above instrument, that he knows the seal of said Company, that the seal affixed to said instrument is the corporate seal of said Company, that it was so affixed by order of the Board of Directors of said Company, and that he signed his name thereto by like order.

(Notarial Seal)

ANN M. MURPHY
NOTARY PUBLIC
STATE OF NEW YORK

.....
ANN M. MURPHY
Notary Public, State of New York
No. 01MU6067553
Qualified in Nassau County
Commission Expires December 10, 2021

CERTIFICATION

STATE OF NEW YORK
COUNTY OF NEW YORK

The undersigned **Dina Daskalakis** hereby certifies:

THAT the original resolution, of which the following is a true and correct copy, was duly adopted by unanimous written consent of the Board of Directors of Hudson Insurance Company dated July 27th, 2007, and has not since been revoked, amended or modified:

"RESOLVED, that the President, the Executive Vice Presidents, the Senior Vice Presidents and the Vice Presidents shall have the authority and discretion, to appoint such agent or agents, or attorney or attorneys-in-fact, for the purpose of carrying on this Company's surety business, and to empower such agent or agents, or attorney or attorneys-in-fact, to execute and deliver, under this Company's seal or otherwise, bonds obligations, and recognizances, whether made by this Company as surety thereon or otherwise, indemnity contracts, contracts and certificates, and any and all other contracts and undertaking made in the course of this Company's surety business, and renewals, extensions, agreements, waivers, consents or stipulations regarding undertakings so made; and

FURTHER RESOVLED, that the signature of any such Officer of the Company and the Company's seal may be affixed by facsimile to any power of attorney or certification given for the execution of any bond, undertaking, recognizance, contract of indemnity or other written obligation in the nature thereof or related thereto, such signature and seal when so used whether heretofore or hereafter, being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed."

THAT the above and foregoing is a full, true and correct copy of Power of Attorney issued by said Company, and of the whole of the original and that the said Power of Attorney is still in full force and effect and has not been revoked, and furthermore that the Resolution of the Board of Directors, set forth in the said Power of Attorney is now in force.

Witness the hand of the undersigned and the seal of said Company this 18th day of February, 20 19.

(Corporate seal)

By.....
Dina Daskalakis, Corporate Secretary

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) MILLIONS

   (c)For whom? IDOT, TINLEY PARK, JOLIET, LOCKPORT NEW LENOX, FRANKFORT, MOKENA, ORLAND PARK

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

   If so, list major items: CAT EXCAVATORS, CAT LOADERS, PAVERS ROLLER, SEMI TRUCKS, SKIDSTEER, ROAD WIDENER

4. Give Bank reference: FIRST BANK & TRUST

   Address: 820 CHURCH ST. EVANSTON, IL 60201

5. List names and addresses of major suppliers:

   WELSCH READY MIX - 806 GARDNER ST. JOLIET, IL 60433

   M.O AMERICAN WATER - 1500 E. MOUNTAIN AURORA, IL 60505

   VULCAN MATERIALS - P.O. BOX 75219 CHARLOTTE, NC 28275

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? N/A

   (b) For what reason? N/A

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 30 calendar days.

CERTIFICATE OF ELIGIBILITY TO BID

I, Austin Tyler Construction, Inc (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: February 21, 2019 By: _____
(Name of Contractor)

President
(Title)

Robinson ENGINEERING

Municipal Expertise. Community Commitment.

REL # 18-R0617

SCHEDULE OF PRICES

Local Agency Village of Tinley Park

Location

Description Oak Park Avenue to 173rd Place

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 $ 1,182,687.00

Item No.	Items	Unit	Quantity	Unit Price	Total
1	CONCRETE RIBBON CURB, SPECIAL	FOOT	230	34.00	7,820.00
2	BRICK PIANO CROSSWALKS ON RIGID BASE	SQ FT	720	41.00	29,520.00
3	REMOVABLE STAINLESS STEEL ROADWAY BOLLARDS, 4-INCH, WITH EMBEDMENT SLEEVE	EACH	14	1,750.00	24,500.00
4	CAST IN PLACE CONCRETE BOLLARD FOUNDATION	EACH	14	675.00	9,450.00
5	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	130	25.00	3,250.00
6	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	65	40.00	2,600.00
7	UNDERGROUND CONDUIT, COILABLE NONMETALLIC CONDUIT, 3" DIA.	FOOT	260	18.00	4,680.00
8	UNDERGROUND CONDUIT, COILABLE NONMETALLIC CONDUIT, 4" DIA.	FOOT	195	26.00	5,070.00
9	UNDERGROUND CONDUIT, COILABLE NONMETALLIC CONDUIT, 5" DIA.	FOOT	260	40.00	10,400.00
10	TRENCH BACKFILL, SPECIAL	CU YD	1,881	51.00	95,931.00
11	MANHOLES, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, OPEN LID	EACH	1	1,500.00	1,500.00
12	MANHOLES, TYPE A, 5'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1	1,700.00	1,700.00
13	MANHOLES, TYPE A, 6'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	3	5,350.00	16,050.00
14	MANHOLES, TYPE A, 7'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1	7,650.00	7,650.00
15	STORM SEWERS, CLASS A, TYPE 1 12"	FOOT	50	35.00	1,750.00
16	STORM SEWER 12" (SPECIAL)	FOOT	30	50.00	1,500.00
17	STORM SEWERS, CLASS A, TYPE 2 24"	FOOT	35	66.00	2,310.00
18	STORM SEWERS, CLASS A, TYPE 2 30"	FOOT	226	97.00	21,922.00
19	STORM SEWERS, CLASS A, TYPE 2 36"	FOOT	190	117.00	22,230.00
20	STORM SEWERS, CLASS A, TYPE 2 42"	FOOT	260	137.00	35,620.00
21	STORM SEWERS, CLASS A, TYPE 2 48"	FOOT	355	149.00	52,895.00
22	EXPLORATION TRENCH 48" DEPTH	FOOT	50	70.00	3,500.00
23	FIRE HYDRANTS TO BE REMOVED	EACH	2	600.00	1,200.00

Item No.	Items	Unit	Quantity	Unit Price	Total
24	12" VALVE AND VALVE VAULT, TYPE A, 5' DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	3	4,425.00	13,275.00
25	8" X 8" TAPPING SLEEVE AND VALVE IN VALVE VAULT, TYPE A, 5' DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1	5,000.00	5,000.00
26	10" X 10" TAPPING SLEEVE AND VALVE IN VALVE VAULT, TYPE A, 5' DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1	6,000.00	6,000.00
27	24" X 12" TAPPING SLEEVE AND VALVE IN VALVE VAULT, TYPE A, 6' DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1	20,000.00	20,000.00
28	VALVE VAULTS TO BE ABANDONED	EACH	2	400.00	800.00
29	VALVE MAINTENANCE	EACH	3	3,000.00	9,000.00
30	DUCTILE IRON FITTINGS	POUND	500	6.00	3,000.00
35	6" CUT AND CAP	EACH	1	2,000.00	2,000.00
36	10" CUT AND CAP	EACH	1	2,200.00	2,200.00
37	12" CUT AND CAP	EACH	1	2,600.00	2,600.00
38	FIRE HYDRANT WITH AUXILIARY VALVE, VALVE BOX AND TEE	EACH	5	4,000.00	20,000.00
39	DUCTILE IRON WATER MAIN, CLASS 52 WITH POLYETHYLENE ENCASEMENT, 12"	FOOT	790	85.00	67,150.00
40	TRENCH BACKFILL, WATERMAIN, SPECIAL	FOOT	790	48.00	37,920.00
41	PVC SANITARY SEWER, 10" SPECIAL	FOOT	420	71.00	29,820.00
42	CONNECTION TO EXISTING SANITARY SEWER MANHOLE	EACH	1	2,000.00	2,000.00
43	SANITARY MANHOLE, 48" DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	3	3,600.00	10,800.00
44	SEWER FLOW CONTROL AND BYPASS PUMPING	L SUM	1	8,000.00	8,000.00
44	SERVICE LINE ABANDONMENT	EACH	3	2,500.00	7,500.00
45	SANITARY MANHOLES TO BE ADJUSTED	EACH	2	800.00	1,600.00
47	REMOVE SANITARY MANHOLE, 48"	EACH	1	800.00	800.00
48	SANITARY SEWER PLUG, 8 INCH	EACH	1	225.00	225.00
49	TRENCH BACKFILL, SANITARY SEWER	FOOT	420	58.00	24,360.00
50	EARTH EXCAVATION (SPECIAL)	CU YD	1,950	30.00	58,500.00
51	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	300	24.00	7,200.00
52	TOPSOIL FURNISH AND PLACE, 6"	SQ YD	1,080	5.00	5,400.00
53	SODDING, SPECIAL	SQ YD	1,080	8.00	8,640.00
54	SUPPLEMENTAL WATERING	UNIT	4	1.00	4.00
55	PERIMETER EROSION BARRIER	FOOT	1,500	3.00	4,500.00
56	AGGREGATE SUBGRADE IMPROVEMENT 6"	SQ YD	1,400	10.00	14,000.00
57	HOT-MIX ASPHALT BASE COURSE, 8"	SQ YD	1,100	32.00	35,200.00
58	BITUMINOUS MATERIALS (TACK COAT)	POUND	500	.01	5.00
59	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	80	25.00	2,000.00
60	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	165	70.00	11,550.00

Item No.	Items	Unit	Quantity	Unit Price	Total
62	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70	TON	250	90.00	22,500.00
63	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SQ FT	2,750	9.00	24,7500.00
64	DETECTABLE WARNINGS	SQ FT	80	25.00	2,000.00
66	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 6 INCH	SQ YD	100	75.00	7,500.00
67	HOT-MIX ASPHALT SURFACE REMOVAL, 2"	SQ YD	520	12.00	6,240.00
68	DRIVEWAY PAVEMENT REMOVAL	SQ YD	250	11.00	2,750.00
69	COMBINATION CURB AND GUTTER REMOVAL	FOOT	1,200	7.00	8,400.00
70	SIDEWALK REMOVAL	SQ FT	1,600	3.00	4,800.00
71	CLASS D PATCHES, TYPE III, 8 INCH	SQ YD	220	60.00	13,200.00
72	INLET AND PIPE PROTECTION	EACH	3	200.00	600.00
73	INLET FILTERS	EACH	6	100.00	600.00
74	STORM SEWER REMOVAL 10"	FOOT	50	25.00	1,250.00
75	STORM SEWER REMOVAL 12"	FOOT	50	25.00	1,250.00
76	STORM SEWER REMOVAL 18"	FOOT	50	25.00	1,250.00
77	CATCH BASINS, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, OPEN LID	EACH	1	2,500.00	2,500.00
78	INLETS, TYPE A, TYPE 1 FRAME, OPEN LID	EACH	3	1,100.00	3,300.00
80	REMOVING CATCH BASINS	EACH	2	500.00	1,000.00
81	REMOVING INLETS	EACH	2	500.00	1,000.00
82	PIPE UNDERDRAINS, TYPE 2, 6"	FOOT	285	28.00	7,980.00
83	PIPE UNDERDRAINS, TYPE 2, 8"	FOOT	135	30.00	4,050.00
84	CONCRETE CURB, TYPE B	FOOT	170	31.00	5,270.00
85	CONCRETE EDGE CURB 18"	FOOT	490	25.00	12,250.00
86	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	FOOT	780	22.00	17,160.00
87	MODIFIED URETHANE PAVEMENT MARKING - LETTERS AND SYMBOLS	SQ FT	24	15.00	360.00
88	MODIFIED URETHANE PAVEMENT MARKING - LINE 4"	FOOT	1,120	1.25	1,400.00
89	MODIFIED URETHANE PAVEMENT MARKING - LINE 8"	FOOT	360	3.00	1,080.00
90	MODIFIED URETHANE PAVEMENT MARKING - LINE 24"	FOOT	90	15.00	1,350.00
91	STORM SEWER (WATER MAIN REQUIREMENTS) 12 INCH	FOOT	50	50.00	2,500.00
92	STORM SEWER (WATER MAIN REQUIREMENTS) 15 INCH	FOOT	50	65.00	3,250.00
96	TREE PROTECTION	EACH	10	200.00	2,000.00
97	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	150	35.00	5,250.00
99	PERMEABLE PAVERS 3 1/8" AND AGGREGATE BASES	SQ FT	13,050	11.50	150,075.00
99	GEOTECHNICAL FABRIC, SPECIAL	SQ YD	2,050	2.00	4,100.00

Item No.	Items	Unit	Quantity	Unit Price	Total
100	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	LSUM	1	20,000.00	20,000.00
101	STRUCTURES TO BE ADJUSTED	EACH	10	725.00	7,250.00
102	HOT-MIX ASPHALT DRIVEWAY REMOVAL AND REPLACEMENT	SQ YD	25	68.00	1,700.00
103	DRAINAGE & UTILITY STRUCTURES TO BE ADJUSTED	EACH	6	500.00	3,000.00
104	TEMPORARY INFORMATIONAL SIGNS	EACH	1	1,000.00	1,000.00
105	DETECTOR LOOP REPLACEMENT	FOOT	50	40.00	2,000.00
106	PROJECT SIGN	EACH	1	700.00	700.00
107	CONTINGENCY	L SUM	30,000	1.00	30,000.00
110	24" DIAMETER STEEL SLEEVE, 0.375" WALL THICKNESS, OPEN CUT INSTALLATION	FOOT	60	80.00	4,800.00
120	INLETS, TYPE A, TYPE 1 FRAME AND OPEN LID, SPECIAL	EA	3	1,725.00	5,175.00

TOTAL $ 1,182,687.00

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 ..... Austin Tyler Construction, Inc

Signed By ..... President

Business Address ..... 23343 S Ridge Road Elwood, IL 60421

AUSTIN TYLER CONSTRUCTION, INC. SEAL ELWOOD, IL.

(Corporate Seal)

Insert Names of Officers

President ..... Gary S. Schumal

Secretary ..... Ronald A. Plunk

Treasurer .....

Attest: .....

Attestor's Title: Secretary

Phone Number (815) 726-1090

BIDDER'S CERTIFICATE

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

NORTH ST. IMPROVEMENT - OAK PARK to 173RD PL.

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: [signature]
Company Name

Date: FEBRUARY 21, 2019

EQUAL EMPLOYMENT OPPORTUNITY COMPLIANCE CERTIFICATE

As used in this certificate the term "subcontract" includes the term "purchase order" and all other agreements effectuating purchase of supplies or services. If this certificate is submitted as part of a bid proposal of the term "Seller" shall be deemed to refer to the Bidder of Offerer, or Subcontractor or Supplier. This certificate shall be renewed annually. Notwithstanding the foregoing, the certifications made herein shall remain applicable until completion of all nonexempt contracts/subcontracts awarded while this certificate is in effect. The undersigned Seller certifies that following to the Village of Tinley Park hereinafter referred to as Buyer:

A. REPORTS: Within thirty (30) days after Buyer's awarded to Seller of any contract/subcontract and prior to each March 31 thereafter during the performance of work under said subcontract, the Seller shall file Standard Form 100, entitled "Equal Employment Opportunity Employer Information Report EEO-I" in accordance with instruction contained therein unless Seller has wither filed such report within 12 months preceding the date of the award or is not otherwise required by law or regulation to file such a report.

B. PRIOR REPORTS: Seller, if it has participated in previous contract or subcontract subject to the Equal Opportunity Clause (41 C.F.R. Sec 60-1.4(a) (1) through (7), or the clause originally contained in Section 301 if Executive Order No. 10925, or the clause contained in Section 201 of the Executive Order No. 11114. Has filed all required compliance reports. Seller shall obtain similar representations indicating submission, of all required compliance reports, signed by proposed subcontractors, prior to awarding subcontractors not exempt from the Equal Opportunity Clause.

C. CERTIFICATION OF NON-SEGREGATED FACILITIES: Seller certifies that is does not maintain or provide for its employees and segregated facilities at any of its establishments, and that it does not permit its employees to perform their services at any location under its control, where segregated facilities are maintained. Contractor certifies further that it will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it will not permit its employees to perform their services at any location under its control, where segregated facilities are maintained. Seller agrees that a breach of this certification is a violation of the Equal Opportunity Clause in the Specifications for or Request for Proposal. As used in this certification, the term "segregated facilities" means waiting room, work area, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin because of habit, local custom or otherwise. Contractor further agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) it will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause, that it will retain such certifications in its files, and that it will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods):

NOTICE TO PROSPECTIVE SUBCONTRACTORS OR REQUIREMENT FOR CERTIFICATIONS OF NON-SEGREGATED FACILITIES. A certification of Non-segregated Facilities, as required by Section 60-1.8 of Title 41 of the Code of Federal Regulations, must be submitted prior to the award of a subcontract exceeding $10,000 which is not exempt from the provisions of the Equal Opportunity Clause (Note: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001).

D. **AFFIRMATIVE ACTION COMPLIANCE PROGRAM: Prior to 120 days after receipt of any subcontract in the amount of $50,000 or more from Buyer, if it has 50 or more employees and is not otherwise exempt under 41 C.F.R. Part 60-1, shall have developed for each of his establishments a written affirmative action compliance programs as called for in 41 C.F.R. Sec. 60-1.40. Seller will also require its lower-tier subcontractors who have 50 or more employees and receive a subcontract of $50,000 or more and who are not otherwise exempt under 41 C.F.R. Part 60-1 to establish written affirmative action compliance programs in accordance with 41 C.F.R. Sec. 60-1.40.**

E. **Seller certifies that it is not currently in receipt of any outstanding letter of deficiencies, show probable cause, or other such notification of non-compliance with EEO regulations.**

Executed this 21st **day of** February **20** 19 **by:**

Firm Name Austin Tyler Construction, Inc

Address 23343 S Ridge Road
Elwood, IL 60421

By _____
(Signature)

Title President
(Principal)

CONTRACT

1. THIS AGREEMENT, made and concluded this 5th day of March, 2019, 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 Austin Tyler Construction Inc. (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
(Party of the First Part)

By: _____

Title: Jacob C. Vandenberg, Mayor

Attest: _____

Title: Kristin A. Thirion, Clerk

MUNICIPAL SEAL

Executed by Municipality

FOR THE CONTRACTOR
(Party of the Second Part)

Austin Tyler Construction, Inc

By: _____

Title: President

Attest: _____

Attester's Title: Secretary

CORPORATE SEAL

Executed by Contractor

CONTRACT BOND

KNOWN ALL MEN BY THESE PRESENTS, that we, Austin Tyler Construction, Inc 23343 S Ridge Rd Elwood IL 60421, a corporation organized under the laws of the State of Illinois, and licensed to do business in the State of Illinois, as principal, and Hudson Insurance Company 100 William New York NY, a corporation organized and existing under the laws of the State of New York, 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 One Million, one hundred eighty two thousand, six hundred eighty seven and no /100 ~~~~~~~~~~~~Dollars ($ 1,182,687.00~~~~~~~~~~~~~~~~~~), 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 for the construction of the work designated 18-R0617 North Street Improvement Oak Park Ave to 173rd Street, 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 26th day of February A.D. 20 19

Contractor's corporate name: Austin Tyler Construction Inc

By: [signature]
President

Attest: [signature]

Attester's Title: Secretary

CORPORATE SEAL

AUSTIN TYLER CONSTRUCTION, INC. SEAL ELWOOD, IL

Executed by Contractor

Surety's corporate name: Hudson Insurance Company

By: [signature]
Attorney-in-fact

By: _____
Attorney-in-fact

CORPORATE SEAL

Executed by Surety for Contractor

APPROVED THIS 5th DAY OF March A.D. 20 19

VILLAGE OF TINLEY PARK, IL

By: [signature]

Title: Jacob C. Vandenberg, Mayor

ATTEST FOR VILLAGE OF TINLEY PARK , IL

By: [signature]

Title: Kristin A. Thirion , Clerk

MUNICIPAL SEAL

Executed by Municipality

STATE OF ILLINOIS)
) SS
COUNTY OF Will)

I, TINA M. WILDRICK (Notary), a Notary Public in and for said County in the State aforesaid, do hereby certify that GARY S. SCHUMAN (President) and RONALD A. PLUNK (Attester), to me personally known to be president and SECRETARY (Attesters Title), respectively, of AUSTIN TYLER CONSTRUCTION (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 (Attesters Title) 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 26TH DAY OF FEBRUARY A.D. 20 19

SEAL

OFFICIAL SEAL
TINA M WILDRICK
Notary Public - State of Illinois
My Commission Expires May 26, 2019

Tina M. Wildrick
Notary Public

STATE OF Illinois)
) SS
COUNTY OF Cook)

I, Dawn Denise Szpisjak (Notary), a Notary Public in and for said County in the State aforesaid, do hereby certify that Lynn M Blaylock (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 Hudson Insurance Company (Surety) appeared before me this day in person and acknowledged that he signed the name of Lynn M Blaylock (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 26th DAY OF February A.D. 20 19

SEAL

Dawn Denise Szpisjak
Notary Public

OFFICIAL SEAL
DAWN DENISE SZPISJAK
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES MAR 10, 2022

22230

HUDSON
INSURANCE GROUP®

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That HUDSON INSURANCE COMPANY, a corporation of the State of Delaware, with offices at 100 William Street, New York, New York, 10038, has made, constituted and appointed, and by these presents, does make, constitute and appoint

Lewis Mark Spangler, Lynn M. Blaylock,
Dawn-Denise Szpisjak and Maureen Rott
of the State of Illinois

its true and lawful Attorney(s)-in-Fact, at New York, New York, each of them alone to have full power to act without the other or others, to make, execute and deliver on its behalf, as Surety, bonds and undertakings given for any and all purposes, also to execute and deliver on its behalf as aforesaid renewals, extensions, agreements, waivers, consents or stipulations relating to such bonds or undertakings provided, however, that no single bond or undertaking shall obligate said Company for any portion of the penal sum thereof in excess of the sum of **Ten Million Dollars ($10,000,000.00).**

Such bonds and undertakings when duly executed by said Attorney(s)-in-Fact, shall be binding upon said Company as fully and to the same extent as if signed by the President of said Company under its corporate seal attested by its Secretary.

In Witness Whereof, HUDSON INSURANCE COMPANY has caused these presents to be of its Senior Vice President thereunto duly authorized, on this 7th day of November, 20 17 at New York, New York.

(Corporate Seal)

HUDSON INSURANCE COMPANY

Attest.....
Dina Daskalakis
Corporate Secretary

By.....
Michael P. Cifone
Senior Vice President

STATE OF NEW YORK
COUNTY OF NEW YORK. SS.

On the 7th day of November, 20 17 before me personally came Michael P. Cifone to me known, who being by me duly sworn did depose and say that he is a Senior Vice President of **HUDSON INSURANCE COMPANY**, the corporation described herein and which executed the above instrument, that he knows the seal of said Corporation, that the seal affixed to said instrument is such corporate seal, that it was so affixed by order of the Board of Directors of said Corporation, and that he signed his name thereto by like order.

(Notarial Seal)

.....
ANN M. MURPHY
Notary Public, State of New York
No. 01MU6067553
Qualified in Nassau County
Commission Expires December 10, 2021

CERTIFICATION

STATE OF NEW YORK
COUNTY OF NEW YORK SS.

The undersigned **Dina Daskalakis** hereby certifies:

That the original resolution, of which the following is a true and correct copy, was duly adopted by unanimous written consent of the Board of Directors of Hudson Insurance Company dated July 27th, 2007, and has not since been revoked, amended or modified:

"RESOLVED, that the President, the Executive Vice Presidents, the Senior Vice Presidents and the Vice Presidents shall have the authority and discretion, to appoint such agent or agents, or attorney or attorneys-in-fact, for the purpose of carrying on this Company's surety business, and to empower such agent or agents, or attorney or attorneys-in-fact, to execute and deliver, under this Company's seal or otherwise, bonds obligations, and recognizances, whether made by this Company as surety thereon or otherwise, indemnity contracts, contracts and certificates, and any and all other contracts and undertakings made in the course of this Company's surety business, and renewals, extensions, agreements, waivers, consents or stipulations regarding undertakings so made; and

FURTHER RESOVLED, that the signature of any such Officer of the Company and the Company's seal may be affixed by facsimile to any power of attorney or certification given for the execution of any bond, undertaking, recognizance, contract of indemnity or other written obligation in the nature thereof or related thereto, such signature and seal when so used whether heretofore or hereafter, being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed."

THAT the above and foregoing is a full, true and correct copy of Power of Attorney issued by said Company, and of the whole of the original and that the said Power of Attorney is still in full force and effect and has not been revoked, and furthermore that the Resolution of the Board of Directors, set forth in the said Power of Attorney is now in force.

In Witness the hand of the undersigned and the seal of said Corporation this 26th day of February, 20 19.

(Corporate Seal)

By.....
Dina Daskalakis, Corporate Secretary

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 7-2.020 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						EACH OCCURRENCE	$ 1,000,000
	X COMMERCIAL GENERAL LIABILITY	Y	Y				DAMAGE TO RENTED PREMISES (Ea occurrence)	$ ANY LIMIT
	CLAIMS-MADE X OCCUR			POLICY NUMBER	EFF DATE	EXP DATE	MED EXP (Any one person)	$ ANY LIMIT
							PERSONAL & ADV INJURY	$ 1,000,000
							GENERAL AGGREGATE	$ 2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$ 2,000,000
								$
	AUTOMOBILE LIABILITY	Y	Y				COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	ALL OWNED AUTOS / SCHEDULED AUTOS			POLICY NUMBER	EFF DATE	EXP DATE	BODILY INJURY (Per accident)	$
	X HIRED AUTOS / X NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
	X UMBRELLA LIAB X OCCUR	Y	Y				EACH OCCURRENCE	$ 5,000,000
	EXCESS LIAB CLAIMS-MADE			POLICY NUMBER	EFF DATE	EFF DATE	AGGREGATE	$ 5,000,000
	DED RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						X WC STATU-TORY LIMITS / OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICE/MEMBER EXCLUDED? Y/N 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 CG2010 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.

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.

DIVISION II

Technical Specifications

SANITARY SEWER AND FORCE MAIN

SECTION 1. PIPE MATERIAL FOR SEWERS

1-1 DESCRIPTION

Pipe used in sanitary sewer construction, unless otherwise specified, shall be Polyvinyl Chloride Pipe (PVC) or Ductile Iron Pipe (DIP). All sanitary sewer pipe shall have flexible gasketed joints unless otherwise specified.

The Contractor shall only use the sewer pipe material specified on the Plans unless he receives written permission from the Engineer to substitute one of the other materials mentioned herein. No verbal approval, regardless of the source, will be recognized for changing the pipe material, class or type of joint.

1-2 GENERAL

Where reference is made to an ASTM or ANSI designation, it shall be the latest revision at the time of call for Bids, except as noted on the Plans or in the Special Provisions.

CERTIFICATION shall be the responsibility of the pipe manufacturer to certify that pipe and joint material furnished is capable of withstanding the infiltration or exfiltration basis as specified or required, if properly installed.

1-3 MATERIALS

1-3.01 PIPE MATERIALS

The type, class and strength of pipe to be used shall be as shown on the Plans or described in the Special Provisions.

A. DUCTILE IRON PIPE AND FITTINGS

Ductile Iron Pipe shall conform to ANSI A 21.51 (AWWA C-151), Class 52 designed per ANSI A 21.50 (AWWA C-150), tar (seal) coated and/or cement lined per ANSI A 21.4 (AWWA C-104), with mechanical or rubber ring (slip seal or push on) joints. Ductile Iron fittings shall conform to ANSI/AWWA C110 for mechanical, push-on or flanged joints. Cement-mortar and/or tar (seal) coat per ANSI A 21.4 (AWWA 104) and as specified.

B. POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS

Polyvinyl Chloride pipe (PVC) and fittings shall conform to ASTM F 679 or ASTM D 3034, except that it shall be made of PVC plastic having a minimum cell classification of 12454B.

1-3.02 JOINT MATERIALS

The type of joint materials to be used shall be as shown on the Plans or described in the Special Provisions.

JOINTS FOR SANITARY SEWERS

A. Polyvinyl Chloride (PVC) pipe joints shall conform to ASTM D 2855 for solvent joints or ASTM D 3212 for gasket joints.

B. Ductile iron pipe (DIP) joints shall conform to American National Standard C111/A21.50-90 for Rubber Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.

1-3.03 FITTINGS

Unless otherwise specified, tee fittings shall be provided in the sanitary sewer main for service sewer connections; a log of all tee fitting locations shall be kept by the Contractor during installation and one legible copy of each such log shall be turned over to the Owner prior to completion. Tees shall be six inches (6") inside diameter, unless otherwise specified or noted. All fittings shall be of the same material as the pipe. Material joining the fitting to the pipe shall be free from cracks and shall adhere tightly to each joining surface.

1-3.04 CAP FOR FITTINGS

All fittings shall be capped with a plug of the same material as the pipe, and gasketed with the same gasket material as the pipe joint, or be of material approved by the Engineer. The plug shall be secured to withstand test pressures specified herein.

SECTION 2. PIPE LAYING, JOINTING AND TESTING OF SEWERS

2-1 CONSTRUCTION DETAILS

2-1.01 SEWER PIPE LAYING

Laying of sewer pipe shall be accomplished to line and grade in the trench only after it has been dewatered and the foundation and/or bedding has been prepared in accordance with Division II, Excavation and Cleanup. Mud, silt, gravel and other foreign material shall be kept out of the pipe and off the jointing surfaces.

Variance from established line and grade shall not be greater than one thirty- second of an inch (1/32") per inch of pipe diameter and not to exceed one-half inch (1/2"), provided that any such variation does not result in a level or reverse sloping invert; provided also that variation in the invert elevation between adjoining ends of pipe, due to non-concentricity of joining surface and pipe interior surfaces, does not exceed one sixty-fourth of an inch (1/64") per inch of pipe diameter, or one-half inch (1/2") maximum.

The sewer pipe, unless otherwise approved by the Engineer, shall be laid upgrade from point of connection on the existing sewer or from a designated starting point. The sewer pipe shall be installed with the bell end forward or upgrade, unless approved otherwise. When pipe laying is not in progress, the forward end of the pipe shall be kept tightly closed with an approved temporary plug.

A. SEWER PIPE AND WATER MAIN SEPARATION

Sanitary sewers, house sewers or storm drains that are laid in the vicinity of pipe lines designated to carry potable water shall meet the following conditions as set forth in Division II, Water Distribution, Section 2-2.01.

B. SEWER MANHOLES

Sewer manholes shall be constructed so that no water pipe is in contact with or enclosed by any part of a sewer or sewer manhole. See also Division II, Water Distribution, Section 2-2.01.

2-1.02 DEWATERING

Dewatering sufficient to maintain the water level twelve inches (12") below the surface of the trench bottom or base of the bedding course, shall be accomplished prior to pipe laying and jointing, if not prior to excavation and placing of the bedding as called for in other sections of the Specifications or Special Provisions. The dewatering operation, however accomplished, shall be carried out so that it does not destroy or weaken the strength of the soil under or alongside the trench. The normal water table shall be restored to its natural level in such a manner as to not disturb the pipe and its foundation

2-1.03 BEDDING

The pipe bedding shall be placed so that the entire length of the pipe will have full bearing. No blocking of any kind shall be used to adjust the pipe to grade except when used with concrete encasement.

2-1.04 PLUGS AND CONNECTIONS

Plugs for pipe branches, stubs or other open ends which are not to be immediately connected shall be made of an approved material and shall be secured in place with a joint comparable to the main line joint. Stoppers may be of an integrally cast breakout design.

2-1.05 PIPE MARKINGS

All pipe shall have a homing mark on the spigot provided by the manufacturer.

2-1.06 PIPE JOINTING

Type of joint to be used will conform to the requirements of Section 1-3.02.

All pipe and jointing for sanitary sewers shall be subject to the tests specified in Section 2-1.09.

A. GASKET TYPE JOINTS

All extensions, additions and revisions of a sanitary sewer system, unless otherwise indicated in the Special Provisions, shall be made with sewer pipe jointed by means of a flexible gasket which shall be fabricated and installed in accordance with the specifications that follow. When gaskets are placed on the pipe in the field, the surfaces on which the gasket seats must be thoroughly cleaned. The gasket, lubricated according to the manufacturer's instructions, is placed on the pipe.

Pipe handling after the gasket has been affixed shall be carefully controlled to avoid disturbing the gasket and knocking it out of position or loading it with dirt or other foreign material. Any gaskets so disturbed shall be removed and replaced, cleaned and relubricated if required, before the jointing is attempted.

Care shall be taken to properly align the pipe before joints are entirely forced home. During insertion of the tongue or spigot, the pipe shall be partially supported by hand, sling or crane to minimize unequal lateral pressure on the gasket and to maintain concentricity until the gasket is properly positioned.

Sufficient pressure shall be applied in making the joint to assure that it is home, as described in the installation instructions provided by the pipe manufacturer. Sufficient restraint as specified in Section 2-1.02 shall be applied to the line to assure that joints once home are held so, until fill material under and alongside the pipe has been sufficiently compacted. At the end of the work day, the last pipe laid shall be blocked in an effective way to prevent creep. The pipe shall be closed with a suitable "night cap".

Pipe required to be laid on curved alignment shall be joined in straight alignment and then be deflected, joint by joint. Special care shall be taken in blocking the pipe just previously laid, by tamped fill or otherwise to resist the misaligning forces generated during compression of the joints being made.

B. JOINTING OF DISSIMILAR PIPES

Suitable adaption couplings shall be specified in the Special Provisions for the jointing of dissimilar pipes. Where suitable adaptor couplings are not available for dissimilar pipes the jointing shall be accomplished with a special fabricated coupling to concrete encasement as specified, or as submitted by the Contractor and approved by the Engineer.

2-1.07 SEWER LINE CONNECTIONS

Sewer line connections to trunks, mains, laterals, or side sewers shall be left uncovered until after an acceptance observation has been made. After approval of the connection, the trench shall be backfilled as specified in Division II, Excavation and Cleanup, Section 1-2.20 after first covering the bare pipe with select material compacted to a depth of six inches (6") above the crown of the pipe.

No existing sewer shall be connected to a sanitary sewer unless specifically authorized in each instance by the Engineer. Storm drains and drain tiles shall not be connected to a sanitary sewer.

2-1.08 SERVICE RISERS

Where the depth of the sewer invert is greater than twelve feet (12') below the surface of the ground, a service riser shall be constructed to an elevation of ten feet (10') below the ground elevation or as directed by the Engineer.

The service riser shall be constructed with the six-inch (6") tee as shown on the Plans placed to receive the six-inch (6") riser pipe. The tee shall be bedded as shown on Plans.

The riser pipe shall extend to the proper elevations and shall terminate with a manufactured plug.

Extreme care shall be taken in backfilling around risers. Where the excavated material is not suitable for this purpose in the opinion of the Engineer, granular material shall be placed around the riser.

2-1.09 TESTING AND INSPECTION FOR ACCEPTANCE OF SANITARY SEWER

Testing and inspection of sanitary sewers for acceptability shall be conducted by:

A. Exfiltration of water
B. Infiltration of water
C. Exfiltration of air under pressure
D. Lamping
E. Televising (Optional procedure to supplement items A. through E.)

At a minimum, all sanitary sewers shall be tested for acceptability by either A., B., or C. above or a combination thereof. All lines shall be cleaned of debris and flushed clean as necessary. Debris shall not be flushed into sanitary sewer.

A. *SELECTION OF TEST SECTIONS*

Unless otherwise specified or directed by the Engineer, the first section of sanitary sewer constructed of approximately 1,200 feet in length or the entire length of sewer if it is less than 1,200 feet shall be tested by the exfiltration, infiltration, or air testing method before additional excavation is permitted.

The Contractor may at his option divide the first section of sewer into subsections of more convenient length for testing. If the section or subsection tested does not pass the tests, it shall be repaired and the test repeated until a satisfactory test is obtained. Excavation shall not proceed beyond the first 1,200 foot section until test results for the entire 1200 feet are satisfactory.

In the event the first 1,200 foot section of sewer or portion thereof did not pass the test on the first trial, the next section of sanitary sewer of approximately 1,200 feet in length shall also be tested, repaired if necessary, and retested until a satisfactory test is obtained before additional excavation is started.

When favorable test results are obtained on the first trail on a full 1,200 foot section of pipe, the Engineer may designate additional sections for testing as conditions in his opinion warrant. The Engineer reserves the right to select the location and lengths of additional test sections when construction operations or materials change or where construction difficulties indicate leakage or deflection may be present or in sections selected at random.

The Engineer shall notify the Contractor of the location where a test is to be required no later than 15 days after the sewer installation has been completed in the section to be tested. Unless otherwise authorized, the Contractor shall arrange to commence the test within 15 days after the sewer has been installed or 15 days after notification by the Engineer, whichever date is later.

B. *TESTING TECHNIQUE*

All Testing Methods: All wyes, tees and stubs shall be plugged with flexible jointed caps, or acceptable alternate, securely fastened to withstand the internal test pressure. Such plugs or caps shall be readily removable.

1. Exfiltration Method Procedures: The section of sewer to be tested shall be sealed by inserting inflatable rubber bags in the pipes or by other means approved by the Engineer, and then water shall be introduced into a manhole until the section is completely filled. The Contractor shall fill the pipe to the test level prior to the time of exfiltration testing to permit normal absorption into the pipe walls.

   Throughout the test period of at least one (1) hours, the water level in the upper manhole shall be maintained at least twenty-four inches (24") above the

crown of the upper end of the pipe or at least twenty-four inches (24") above the ground water table, whichever is higher. The length of pipe tested shall be limited so that the pressure on the center line of the lower end of the section tested shall not exceed six feet (6') of water column.

2. Infiltration Method Procedures: The section of sewer to be tested shall have been trench backfilled and the tests conducted by inducing infiltration conditions by jetting the sewer trench for a sufficient length of time to insure that the water level in the trench is a minimum of twenty-four inches (24") over the crown of the sewer pipe at the upper end of the pipe. The test must be performed before existing sewers are connected and before sewage flow is allowed in the sewers.

3. Air Testing Method Procedures: The section of sewer to be tested shall have been trench backfilled and cleared. Pneumatic plugs (having a sealing length equal to or greater than the diameter of the pipe to be tested) placed in both ends of the pipe to be tested shall be inflated to 25 psig. The sealed sewer pipe shall then be pressurized to 4 psig above the average back pressure of ground water over the sewer pipe and the air pressure allowed to stabilize for at least two minutes.

   After the stabilization period the line shall be pressurized to 3.5 psig and the time in minutes measured for pressure to drop to 2.5 psig. If groundwater is present, the air pressure within shall be increased to 3.5 psig above the level of the ground water and the drop of one pound of air pressure measured in minutes.

   Air testing techniques shall be in accordance with the latest ASTM standard practice for testing sewer lines by low-pressure air test method for the appropriate pipe material, except that the time shall not be less than that shown in the Air Test Table contained in Section 2-1.11C.

4. Testing Procedures for PVC pipe shall include the following;

   All sanitary sewers and manholes shall be tested by low pressure air testing and deflection testing. Deflection test shall not occur within less than thirty (30) days of completion of the section of sewer being tested including backfilling to finished grade.

   A five percent (5%) Mandrel Deflection Test shall be performed on all PVC gravity sanitary sewer pipe. These pipes shall be mandrelled with a rigid device sized to pass five percent (5%) or less deflection (or deformation) of the base inside diameter of the sewer pipe.

Laser Profiling of the installed pipe to measure pipe deflection is acceptable in lieu of mandrell testing. The laser profiler shall be a "Scanner 3-D" type, which permits the measuring of actual deformities with a precision of at least 0.25%. The measurement of the actual pipe deformity must be calculated with the actual interior diameter on all points of the pipe (not the nominal diameter). The laser profiler must be able to give a series of at least a 1000 diametrical measurements at any given measuring point in a pipe. The laser profiling and observation measuring equipment must be certified on an annual basis by a qualified and accredited third party laboratory.

After the placement base material or compacted soils, a video recording of the interior of the installed pipe will be properly documented utilizing equipment indicated in this specification. Provide a video and report.

The contractor will dewater, clean, and bypass (if necessary) the installed pipe and provide the Engineer with a video and report using low barrel distortion video equipment with laser profile technology, non-contact laser aim video micrometer, and associated software.

For video recorded, laser profiled pipe that indicates deflection that is in excess of that allowed in the specification, the engineer may require the removal, replacement, repair, and/ or retesting of the pipe that has failed to meet the specific deflection requirements for the type of pipe installed, at no cost to the Owner.

For video recorded, observation and/or defect measured pipe that indicates that it exceeds that allowed in the specification, the engineer may require the removal, replacement, repair, and/ or retesting of the pipe that has failed to meet the specific observation and/or defect specification for that type of pipe installed, at no cost to the Owner.

Provide high quality video recording of the CCTV inspection in a high definition format video with a standard resolution of 720x 480. Utilize a camera with lighting suitable to allow a clear picture of the entire periphery of the pipe. Center the camera in the pipe both vertically and horizontally and be able to pan and tilt to a 90 degree angle with the axis of the pipe and rotating 360 degrees. Use equipment suitable to be able to move the camera through the pipe that will not obstruct the camera's view or interfere with proper documentation of the pipe's condition.

The video image shall be clear, focused, and relatively free from roll, static, or other image distortion qualities that would prevent the reviewer from evaluating the condition of the pipe. The video will include identification, at a minimum, before each line section of pipe to be filmed, the project number, the

structure number corresponding to the structure number on the set of plans for the project, size of pipe, the date and time, and indicate which pipe is being filmed if multiple pipes are connected to the structure. Written or typed television inspection logs shall be taken during the video recording process. Provide the engineer with copies of these "logs" along with the video.

Move the camera and Laser profiler through the pipe at a speed no greater than 30 feet per minute. Mark the video with the distance down the pipe. The distance meter shall have an accuracy of one foot per hundred feet (300mm in 328 meters). Stop the camera and pan when necessary to properly document observations and defects. Film the entire circumference at each joint. The operator must measure each joint, defect and crack discovered during the videotaping process surpassing the permitted values of the present specification.

A report of field conditions utilizing the laser profiler must, at a minimum, contain the following:

a. graphic indicating the actual deformity registered in real-time for each section of the pipe (every 10mm);

b. The description and a picture of the pipe and of the laser ring for each deformity surpassing the permitted values by the present standard;

c. A copy of the calibration certificate from an accredited third party laboratory specifying the technology used, the device used and the certificate's validity date for this device;

d. A recorded (video and written) measurement of crack lengths and width surpassing the permitted values of the present specification;

e. A recorded (video and written) measurement of all pipe joints surpassing the permitted values of the present specification;

f. Documentation of all pipe deformities, actual pipe measurements, leaks, debris and any other damage or defects;

g. Deviation in pipe line and grade, joint gaps, and joint misalignment;

h. Indexed and interactive display software for graphics (profile and isometric views), as well as two separate windows showing the video inspection and the laser profiler video inspection simultaneously.

5. Lamping shall be performed on all sewer pipeline by the Engineer.

C. ALLOWABLE TESTING LIMITS FOR SANITARY SEWERS

1. Exfiltration leakage shall not exceed 200 gallons per inch of pipe diameter per mile per day of sewer pipe, including manholes in the test section.
2. Infiltration flow shall be measured by a 90-degree V-notch weir with free fall discharge or other means acceptable to the Engineer. Infiltration leakage shall not exceed 200 gallons per inch of pipe diameter per mile per day of sewer pipe, including manholes in the test section.
3. Air leakage test results shall not be less than the time per inch of pipe diameter per length of sewer pipe as specified in the table entitled "Air Test Table".
4. Three-fourths (3/4) of the pipe circle shall be observed both vertically and horizontally for lamping.

AIR TEST TABLE

SPECIFICATION TIME (min:sec) REQUIRED FOR PRESSURE DROP FROM 3-1/2 TO 2-1/2 PSIG WHEN TESTING ONE PIPE DIAMETER ONLY

PIPE DIAMETER, INCHES

Length of Sewer Pipe In Feet	4	6	8	10	12	15	18	21	24
25	0:04	0:10	0:18	0:28	0:40	1:02	1:29	2:01	2:38
50	0:09	0:20	0:35	0:55	1:19	2:04	2:58	4:03	5:17
75	0:13	0:30	0:53	1:23	1:59	3:06	4:27	6:04	7:55
100	0:18	0:40	1:10	1:50	2:38	4:08	5:56	8:05	10:34
125	0:22	0:50	1:28	2:18	3:18	5:09	7:26	9:55	11:20
150	0:26	0:59	1:46	2:45	3:58	6:11	8:30		
175	0:31	1:09	2:03	3:13	4:37	7:05			
200	0:35	1:19	2:21	3:40	5:17				12:06
225	0:40	1:29	2:38	4:08	5:40			10:25	13:36
250	0:44	1:39	2:56	4:35			8:31	11:35	15:07
275	0:48	1:49	3:14	4:43			9:21	12:44	16:38
300	0:53	1:59	3:31				10:12	13:53	18:09
350	1:02	2:19	3:47			8:16	11:54	16:12	21:10
400	1:10	2:38			6:03	9:27	13:36	18:31	24:12
450	1:19	2:50			6:48	10:38	15:19	20:50	27:13
500	1:28			5:14	7:34	11:49	17:01	23:09	30:14

D. PAYMENT FOR TESTS

Payment for tests will not be paid for separately, but shall be included in the unit price of pipe, per foot. If any section fails to meet the test, it shall be repaired at the Contractor's expense and retested until it meets the leakage limitation.

2-2 MEASUREMENT

For payment purposes, the length of sewers installed shall be measured along the centerline. No deductions in length will be made for tees or fittings.

2-3 PAYMENT

Payment for pipe sewers shall be made at the contract unit price of the size and type indicated on the bid item at the contract unit price per foot for the size and type indicated. The cost of all items of construction not specifically listed for separate payment shall be included as an incidental expense in the contract price. No more than ninety percent (90%) of the value of work included in the unit price shall be eligible for inclusion in a partial payment estimate until leakage tests have been performed as specified and the pipes and joints are found to be satisfactory.

2-4 MEASUREMENT AND PAYMENT

The cost of all items described under "Pipe Laying, Jointing and Testing" not shown as bid items on the Proposal shall not be measured or paid for by item, but shall be included as part of the respective unit bid prices per foot for conduit construction of the size and type specified.

SECTION 3. MANHOLES FOR SANITARY SEWERS

3-1 DESCRIPTION

Manholes shall be leak-tight and shall be constructed of pre-cast concrete units, or cast-in-place concrete only, all in compliance with Plans and these Specifications.

3-2 MATERIALS

3-2.01 REINFORCED CONCRETE

Reinforced concrete shall consist of Portland Cement, mineral aggregates and water, in which steel has been embedded in such manner that the steel and concrete set together.

A. CEMENT

Cement shall conform to the requirements of the Specifications for Portland Cement ASTM C 150, and may be either standard Portland Cement or air-entrained Portland Cement of any type unless otherwise specified in the Special Provisions.

B. WIRE FABRIC REINFORCEMENT

Reinforcement shall consist of wire conforming to ASTM A185 or A497. Also, smooth wire conforming to ASTM A8Z and deformed wire conforming to ASTM A496.

C. BAR REINFORCEMENT

Bar reinforcement shall conform to ASTM A615, grade 40.

D. AGGREGATES

Aggregates shall conform to ASTM C33, except that the requirements for gradation shall not apply to precast items.

E. MIXTURES

The aggregates shall be so sized and graded, and proportioned and thoroughly mixed in proportions of cement and water as will produce a homogeneous concrete mixture of such quality that the manhole components will conform to the strength and watertightness requirements of these specifications.

F. CURING

Cast-in-place manhole components shall be moist-cured for a period not less than seven (7) days except that when high-early-strength cement is used, the curing shall be not less than three (3) days. Pigmented membrane curing compound or other approved method may be applied in lieu of moist curing.

G. STRENGTH

All concrete placed under these specifications shall have a minimum compressive strength of thirty-five hundred (3,500) psi at twenty-eight (28) days. Strength

determination shall be in accordance with ASTM C-39, unless otherwise approved by the Engineer.

3-2.02 STEPS

Manhole steps shall be cast iron ASTM A48 furnished and installed as shown on the Plans with load and pullout ratings meeting OSHA standards.

3-2.03 CAST IRON FRAMES AND COVERS

Castings shall conform to the requirements of gray iron castings ASTM A48 and conform to the details shown on the Plans. They shall be adjusted to final grade with precast concrete rings and mortar.

3-2.04 PRECAST MANHOLE COMPONENTS

Precast manholes shall conform with ASTM C-478 and with design dimensions. Cones and sections shall be substantially free from fractures, large or deep cracks and surface roughness. Slabs shall be sound and free from gravel pockets.

3-2.05 ADJUSTING RINGS

Final adjustment of frames and grates to grade shall be accomplished through the use of precast concrete adjusting rings. The rings shall be designed to provide a structural capacity equal to the cones and sections. They shall have a device for positively positioning and securely fastening the ring to the frame so as to match the surface grade and slope and prevent movement when under traffic loadings.

3-2.06 MONOLITHIC CONCRETE MANHOLES

Monolithic concrete manholes shall conform to detailed shop drawings submitted to the Engineer for approval prior to beginning Work and shall conform to the dimensional requirements specified. Walls and base shall be six inches (6") minimum thickness and space of steps shall be sixteen inches (16").

3-3 CONSTRUCTION DETAILS

3-3.01 FOUNDATION PREPARATION

A. DEWATERING

Dewatering of the site shall conform to the requirements for sewer trench de-watering in Section 2-1.02.

B. SUB-BASE PREPARATION

Adequate foundation for all manhole structures shall be obtained by removal and replacement of unsuitable material with well graded granular material; or by tightening with coarse ballast rock, or by such other means as provided for foundation preparation of the connected sewers, or as shown on the Plans.

3-3.02 BEDDING

Precast base sections shall be placed on a well graded granular bedding course conforming to the requirements for sewer bedding in Section 2, but not less than six inches (6") in thickness and extending

to the limits of the excavation. The bedding course shall be firmly tamped and made smooth and level to assure uniform contact and support of the precast element.

3-3.03 CAST-IN-PLACE BASES

Unless otherwise specified, cast-in-place bases shall be at least eight inches (8") in thickness and shall extend at least six inches (6") radially outside of the outside diameter of the manhole section.

3-3.04 PRECAST MANHOLES

Precast manholes may be constructed with a precast base section or a monolithic base structure as specified or shown on the Plans.

A precast base section shall be carefully placed on the prepared bedding so as to be fully and uniformly supported in true alignment and making sure that all entering pipes can be inserted on proper grade.

All lift holes on precast elements for sanitary sewer manholes shall be completely filled with a concrete plug and sealed with an approved bitumastic material. All joints between precast elements on sanitary sewer manholes shall be made with an approved bitumastic material or an approved rubber gasket.

The first precast section shall be placed on the monolithic base structure before the base has taken initial set, and shall be carefully adjusted to true grade and alignment with all inlet pipes properly installed so as to form an integral watertight unit; or the section shall be mortared into a suitable groove provided in the top of the monolithic base. The first section shall be uniformly supported by the base concrete, and shall not bear directly on any of the pipes.

Precast sections shall be placed and aligned to provide vertical sides and vertical alignment of the ladder rungs. The completed manhole shall be rigid, true to dimensions, and be watertight.

3-3.05 MONOLITHIC CONCRETE MANHOLES

Monolithic concrete manholes shall be constructed in accordance with the provisions of this Section and the details shown on the Plans.

3-3.06 EXCAVATION AND BACKFILLING

In order to permit the joints to be mortared properly and also to permit proper compaction of the backfill material, the excavation shall be made to a diameter of at least six inches (6") greater than the diameter of the structure.

The space between the sides of the excavation and the outer surfaces of the manhole, shall be backfilled with selected granular backfill if the manhole is in a pavement or if the nearest point of the excavation for the manhole falls within 2 feet of the pavement edge. If the structure falls beyond these limits, other backfilling material may be used, provided it meets with the approval of the Engineer.

3-3.07 INLET AND OUTLET PIPES

Pipe or tile placed in the masonry for inlet or outlet connections shall extend through the wall and beyond the outside surface of the wall a sufficient distance to allow for connections, and the masonry shall be carefully constructed around them so as to prevent leakage along the outer surfaces.

3-3.08 PLACING CASTINGS

Casting placed on concrete or masonry surface shall be set in full bituminous mastic beds. Castings shall be set accurately to the finished elevation so that no subsequent adjustment will be necessary.

A. ***STREETS AT GRADE***

Where Work is in paved streets or areas which have been brought to grade, not more than sixteen inches (16") shall be provided between the top of the cone or slab and the underside of the manhole casting ring for adjustment of the casting ring to street grade.

B. ***STREETS OR ALLEYS WITH NO ESTABLISHED GRADE***

Where Work is in the streets or other areas which have not been brought to grade, not less than four inches (4") nor more than sixteen inches (16") shall be provided between the top of the cone or slab and the underside of the manhole casting ring for adjustment of the casting ring to street grade.

The top of the manhole casting shall be flush with the street surface unless otherwise directed by the Engineer.

C. ***MANHOLES NOT WITHIN STREET OR ALLEY AREAS***

Where Work is in cultivated areas, the top of the casting, unless otherwise directed by the Engineer, shall be eighteen inches (18") below the established ground surface.

Unless otherwise directed, in non-cultivated areas, the top of manhole castings shall be at grade of existing surface.

D. ***SEALING MANHOLES***

Sanitary sewer manholes which are covered with earth or are located in low areas than can collect rainwater, and any other manholes indicated on the Plans, to be sealed, shall be equipped with an approved self-sealing lid.

3-3.09 CHANNELS

Channels shall be made to conform accurately to the sewer grade and shall be brought together smoothly with well rounded junctions, satisfactory to the Engineer, and in conformance with details shown on the Plans.

3-3.10 PIPE CONNECTIONS

Special care shall be taken to see that the openings through which pipes enter the structure shall be provided with flexible watertight connections conforming with ASTM C 923, "Standard Specifications For Resilient Connectors Between Reinforced Concrete Manhole Structures And Pipes." Other methods may be used to ensure watertightness when specified in the Special Provisions.

3-3.11 DROP MANHOLE CONNECTIONS

Drop manhole connections, whenever shown on the Plans, shall conform in all respects to details shown on the Plans.

3-3.12 CLEANING

All newly constructed manholes shall be cleaned of any accumulation of silt, debris, or foreign matter of any kind, and shall be free from such accumulations at the time of final inspection.

3-4 PAYMENT

Payment for each Manhole shall consist of a basic price for each.

3-5 MEASUREMENT AND PAYMENT

The following items under "Manholes for Sanitary Sewers" are specifically listed for separate measurement and payment:

"Manholes" of the type and size indicated.

"Drop Manholes" of the type and size indicated.

SECTION 4. SERVICE SEWERS

4-1 DESCRIPTION

A service sewer is a branch sanitary sewer line constructed from the main sanitary sewer line to a point described on the Plans or to a point established by the Engineer.

The general requirements for construction of sewers in other sections of these Specifications shall apply for service sewers unless they are inconsistent with any of the provisions of this particular section, and the Specifications shall apply alike to all service sewers on public rights of way and private property.

Unless otherwise specified, service sewers and fittings shall be six inches (6") in diameter.

4-2 MATERIALS

4-2.01 PIPE AND FITTINGS

Approved pipe and fitting materials shall be ductile iron, PVC, or vitrified clay. All other materials shall conform to the material requirements for sanitary sewer construction in other sections of the Specifications.

4-2.02 JOINTS

Approved jointing material shall be flexible gasketing. Flexible gasketing shall be construed to include rubber, synthetic rubberlike and plastic materials specially manufactured for the joint, pipe size, and use intended and shall be furnished by the manufacturer of the pipe to be used. Physical properties of the flexible gasketing shall conform to that defined in Section 1.

4-3 CONSTRUCTION DETAILS

4-3.01 GENERAL

Service sewer construction shall conform to all applicable ordinances or regulations unless otherwise stated in the Special Provisions. The Owner will obtain any necessary permits for service sewer construction.

4-3.02 EXCAVATION AND BACKFILL

Excavation and backfilling for service sewers shall conform to the requirements of other sewers, excepting that no backfill in excess of that required to hold the pipe in true alignment shall be placed prior to inspection.

4-3.03 PIPE LAYING AND JOINTING

Pipe laying and jointing, except as hereinafter provided, shall in general conform to the requirements of Section 2. During the pipe laying and jointing, the service sewer shall be kept free of any water, dirt or objectionable matter.

A watertight, factory-made plug shall be installed at the end of each sewer service.

A. LINE AND GRADE

Pipe shall be laid with a minimum grade of one-eighth inch (1/8") per lineal foot unless otherwise ordered. The Contractor shall establish such alignment and grade control as is necessary to properly install the service sewer.

B. PIPE LAYING

Pipe shall be laid in a straight line at a uniform grade between fittings, or on a uniform horizontal or vertical curvature achieved by deflecting pipe joints within the limits recommended by the manufacturer of the pipe used.

4-3.04 FITTINGS

All fittings shall be factory-produced and shall be designed for installation on the pipe to be used. Fittings shall be of the same quality and material as the pipe used.

The maximum deflection permissible at any one (1) fitting shall not exceed 45 degrees (one-eighth (1/8) bend). The maximum deflection of any combination of two adjacent fittings shall not exceed 45 degrees (one-eighth (1/8) bend) unless straight pipe of not less than two and one-half feet (2-1/2') in length be installed between such adjacent fittings, or unless one of such fittings be a wye branch with a cleanout provided on the straight leg.

Service sewers shall be connected to the tee, wye, or riser provided in the public sewer where such is available, utilizing approved fittings or adaptors. Where no tee, wye, or other riser is provided or available, connection shall be made by machine made tap and suitable saddle, or other methods as specified in the Special Provisions.

4-3.05 CLEANOUTS

Cleanouts shall be provided at locations and in accordance with details shown on the Plans.

4-3.06 RESTORATION, FINISHING AND CLEANUP

The Contractor shall restore all paved surfaces, curbing, sidewalks, or other surfaces to their original condition in such manner as to meet the requirements of applicable sections. All surplus material and temporary structures, as well as all excess excavation, shall be removed and the entire site of Contractor operations shall be left in a neat and clean condition.

4-4 MEASUREMENT

Measurement shall be along the pipe from the outside surface of the main sewer to the extreme end of the last pipe or fitting placed. Measurement shall be to the nearest one foot (1').

4-5 PAYMENT

Payment or service sewers shall be at the unit contract price per foot or each for "Service Sewers" of the size indicated. Tees, wyes, bends, adaptors, and plugs shall be considered as incidental to the construction.

All other costs shall be considered as incidentals to the construction of the service sewer and shall be included in the unit Contract prices for "Service Sewers".

4-6 MEASUREMENT AND PAYMENT

The cost of all items described under "Service Sewers" shall not be measured or paid for by item, but shall be included as part of the respective unit bid prices for conduit construction of the size specified.

SECTION 5. PIPE COVERING AND EMBANKMENT FOR SEWER CONSTRUCTION

5-1 DESCRIPTION

This section of the Specification applies to the construction of pipe covering and embankment. Pipe covering shall be constructed where the invert of the pipe is so shallow that placing of earth over the pipe becomes necessary to provide a minimum depth of cover. Pipe cover and embankment shall be constructed where the invert of the pipe is above the existing ground and it becomes necessary to construct an embankment upon which the pipe and pipe covering is to be placed. The embankment and cover shall be constructed to lines shown on the Plans.

5-2 CONSTRUCTION DETAILS

5-2.01 PIPE BED

The area upon which the embankment for the pipe bed is to be placed shall be stripped to the extent the Engineer directs to provide a firm bedding.

The embankment upon which the pipe is to be installed shall be constructed up to the spring line in six inch (6") lifts, each lift being compacted to a density equal to ninety-five percent (95%) of ASSHTO T 99 density. The material used in constructing the embankment shall be such that it will readily compact to required density. The Contractor may use any type of compacting equipment he wishes provided the required end result is obtained, and provided no damage occurs to surface or subsurface improvements.

5-2.02 PIPE COVER

The pipe cover material above the compacted embankment shall be placed without compacting, and shall be shaped to the required section.

5-2.03 SOURCE OF MATERIAL

The source of material shall be that which is specified in the Special Provisions.

5-3 MEASUREMENT

Measurement will be by the cubic yard of embankment as calculated from cross sections based on elevations of the ground surface after stripping and the neat line of the section conforming to the drawing. No deduction will be made for pipe volume displacement.

5-4 PAYMENT

Payment will be made at the unit Contract price per cubic yard for Pipe Covering and Embankment, which price shall be full compensation for furnishing all labor, equipment, and materials necessary to strip, construct and compact the embankment and cover as specified to the satisfaction of the Engineer.

SECTION 6. FORCE MAIN MATERIAL AND INSTALLATION

6-1 DESCRIPTION

Pipe used in force main construction, unless otherwise specified, shall be Polyvinyl Chloride Pipe (PVC) or Ductile Iron Pipe (DIP). All force main shall have flexible gasketed joints unless otherwise specified.

The Contractor shall only use the force main pipe material specified on the Plans unless he receives written permission from the Engineer to substitute one of the other materials mentioned herein. No verbal approval, regardless of the source, will be recognized for changing the pipe material, class or type of joint.

6-2 GENERAL

Where reference is made to an ASTM or ANSI designation, it shall be the latest revision at the time of call for Bids, except as noted on the Plans or in the Special Provisions.

6-3 CERTIFICATION

It shall be the responsibility of the pipe manufacturer to certify that pipe and joint material furnished is capable of withstanding the pressure rating as specified or required, if properly installed.

6-4 MATERIALS

A. DUCTILE IRON FORCE MAIN AND FITTINGS

Ductile Iron Pipe (DIP) force main shall conform to ANSI A21.51 (AWWA C151), designed per ANSI A21.50 (AWWA C150), and shall comply with the American National Standard C104/A21.4-95 for Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water. Flanged fittings shall be Class 53 that meet the requirements of AWWA C110/A21.10. Flanged joints shall meet the requirements of AWWA C115/A21.15 with full-face gaskets for joints on 12-inch diameter and smaller pipe and ring type gaskets for larger pipe. Mechanical joint fittings shall meet the requirements of AWWA C153/A21.53. Mechanical joints shall comply with American National Standard C111/A21.50-90 for Rubber Gasket Joints for Ductile-Iron Pressure Pipe and Fittings. All underground DIP force main shall be Class 52 wrapped in 8-mil thick polyethylene encasement in accordance with ANSI/AWWA C105/A21.5, Method B, with pipe and joints wrapped separately. For ductile iron pipe and fittings with mechanical joints that require harnessing, provide ductile iron mechanical joint retainer glands that are designed to resist pullout of the joints at the test pressures specified. Provide stainless steel bolts and nuts meeting the requirements of ASTM A 307, Grade B. Where required provide wall castings and connecting pieces meeting the requirements of AWWA C110/A21.10.

Installation of DIP shall be governed by AWWA Standard C600-93, AWWA Standard for Installation of Ductile-Iron Water Mains and Their Appurtenances. Bedding shall be in

6-8 SEWER FLOW CONTROL AND BYPASS PUMPING

It is the intent of this specification to provide the minimum requirements for sewer flow control bypass pumping.

The Contractor shall provide all labor, equipment, supervision, and materials necessary to control flows via bypass pumping through a section or sections of pipe designated for replacement. The Contractor shall be responsible for controlling and maintaining all sanitary and storm flows within the sewer system during the Work. The Contractor may drain flows by pipes, chases, fluming, bypass pumping, or other appropriate methods approved by the Owner.

Precautions shall be taken to ensure that flow control and dewatering operations shall not cause flooding or damage to public or private properties. In the event flooding or damage occurs, the Contractor shall make provisions to correct such damage at no additional cost to the Owner. The Contractor shall be responsible for any damages to public or private property, overflows from the sewer system and violations resulting in fines as a result of the dewatering/bypass operation.

When required for this project, the Contractor shall provide all labor, equipment, and materials necessary for the transfer of flow around the sections of pipe and/or the existing lift station. If the Contractor utilizes a subcontractor for bypass pumping operations, the subcontractor shall have at least five years of experience in the bypass pumping industry.

The bypass shall be made by diversion of the flow from an existing upstream location, around the section(s) to be taken from service for inspection or rehabilitation, to an existing downstream location. The bypass system shall be of adequate capacity to handle all flows, including wet weather related flows. If bypass pumping is utilized by the Contractor to control flows, the Contractor shall be responsible for monitoring the bypass pumping operation at all times until Work is complete. The location of pump(s), force main, discharge point, pumping rates, etc., shall be approved by the Owner.

The Contractor shall prepare a detailed Flow Control Plan that describes the measures to be used to control flows. The Contractor shall submit the Plan to the Engineer for review prior to beginning any flow control work. The Contractor's Plan shall include, but not necessarily be limited to, the following:

A. Stand-by/back-up pump set for the bypass application.
B. Detail plan for 24-hour monitoring.
C. Fueling of pump sets on demand.
D. Location of flow diversion structures, collapsible sewer plugs, dams, pumps, and related materials and equipment. Sewer plug method and type of plugs or gates to be used.
E. Key operational control factors, (i.e. maximum flow elevations upstream of dams).
F. Pump sizes and flow rates.
G. Destination of bypassed flows, including routing of force mains and provisions for vehicular and pedestrian traffic as necessary.
H. Wet weather event procedures.

I. Staging areas for the pumps.
J. Number, size, material, locations, and method of installation of suction piping.
K. Bypass pump sizes, capacity, number of each size to be on site, and power requirements.
L. Calculations of static lift, friction loss, and flow velocity.
M. Stand-by power.
N. Downstream discharge plan.
O. Method of noise control for each pump.
P. Temporary pipe supports and anchoring required.
Q. Heavy equipment needed for installation of pumps and piping.

The number and size of pumps utilized in bypass pumping shall be such that if the largest pump is out of service, bypass flows will be maintained during the bypass operation. Bypass pumping equipment shall include pumps, conduits, engines, and related equipment necessary to divert the flow or sewage around the section in which work is to be performed. In addition, the Contactor shall maintain at the same location and in operable condition, duplicate equipment to be used in case there is equipment failure. In this event, the Contractor shall promptly repair or replace the failed equipment to the satisfaction of the Owner.

The bypass system shall be of sufficient capacity to handle the peak flow of the pipe. The Contractor shall provide the necessary labor and supervision to set up and operate the pumping and bypassing system. The Contractor shall comply with any local sound ordinance. The equipment shall be manned continuously. During bypass pumping operations, the Contractor shall provide the necessary labor to continually monitor the operation and ensure uninterrupted and sufficient pumping at all times. The bypass pumping system shall be fueled every 24 hours or when the fuel tank reaches one quarter full, whichever comes first.

The Contractor shall provide all materials and labor as necessary to maintain flows in the existing sewer interceptor and all collector and lateral lines at all times and under all weather conditions. Interruption of flows will not be permitted. Overflows from bypass operations will not be permitted to enter into any streams or bodies of water. The Contractor will be solely responsible for any legal actions taken by the federal or state regulatory agencies if such overflows occur during construction.

New sewer pipes may be used by the Contractor to carry the sanitary flows after the new pipes have passed inspection and testing. Any "temporary" connections to the new sewer pipes shall be approved by the Owner.

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Engine driven equipment for bypass pumping equipment shall have "critical grade mufflers." The enclosure shall be portable in order to allow the enclosure to be moved when bypass pumping equipment is moved. These conditions are subject to any other additional stipulations that may be required by local sound ordinances.

Bypass pumping, including all elements detailed above, will be paid for at the contract lump sum price of SEWER FLOW CONTROL AND BYPASS PUMPING.

6-9 WATER USE

The Contractor desiring to use water from municipal hydrants will be required to make an application to the Owner, and if the request is granted, shall conform with the ordinances of the municipality, as well as with the rules and regulations of the Water Department, and will be held responsible for all damages to hydrants and water pipe used for the purposes of securing water. Pipe wrenches approved by the Water Department shall be utilized for opening and closing hydrants and other appurtenances.

When additional water from fire hydrants is necessary to avoid delay in normal work procedures, the water shall be conserved and not used unnecessarily. No fire hydrant shall be obstructed in case of a fire in the area served by the hydrant.

The Owner wishes to keep accurate records of the amount of water used for the construction purposes. The Contractor shall use an approved water meter to record usage, and shall report the total water used to the Water Superintendent at the end of each working day. The Contractor will be responsible for the cost of the water billed at the normal residential rate.

SECTION 7. FORCE MAIN VALVES

7-1 GENERAL

Provide valve operators complete, including a suitable enclosure, with all appurtenances necessary for the operator to perform its intended function. Such appurtenances include, but are not limited to, anchor bolts and other mounting hardware, extension stems, operating nuts, direct burial valve boxes, and other such items.

7-2 MANUFACTURERS

Acceptable manufacturers are listed below. Other manufacturers of equivalent products may be submitted.

A. Automatic Air Valves:
   1. Val-Matic Valve & Mfg. Corporation
   2. GA Industries
   3. APCO
   4. Engineer-approved equal

B. Eccentric Plug Valves:
   1. DeZURIK
   2. GA Industries
   3. Engineer-approved equal

C. Single Disc Swing Check Valves:
   1. American Flow Control
   2. Clow Valve Company
   3. M&H Valve Company
   4. Mueller Company
   5. GA Industries
   6. Engineer-approved equal

7-3 MATERIALS

Fabricate valves and operators of materials resistant to corrosion for the required service. For valve components the following standards shall apply:

A. Operator housings and pedestal handwheels:

1.	Cast iron	ASTM A 126, Class B ASTM A 48, Class 30 or 35
2.	Ductile iron	ASTM A 395 ASTM A 536, Grade 65-45-12
3.	Cast steel	ASTM A 27/A27M

B.	Operator worms, steel		ASTM A 29/A29M Grade Designation 8620
	1.	Operator gears, steel	ASTM A 572/A572M (spur & helical)
	2.	Worm gears, bronze	ASTM B 148, Alloy C95400 or C95500 ASTM B 584, Alloy C86300

7-4 VALVE JOINTS

Fabricate all valves with flanged ends, unless otherwise specified. For metallic flanged joints, provide flanges that are faced accurately at right angles to the axis of the casting. Face and drill flanges and shop coat with a rust-preventive compound before shipment. For flanged joints, provide flanges whose dimensions and drillings meet the requirements of ASME B16.1, 125 pounds as a minimum. For valves installed in force mains with test pressure requirements higher than 125 psi, provide flanges whose pressure ratings equal or exceed the specified test pressure of the force main. Furnish special drillings where required. For valves having flanges that do not conform to the thickness requirements of ASME B16.1, test each valve in accordance with the hydrostatic shell test pressure requirements of ASME B16.1.

7-4 OPERATING FORCE

Fabricate valves to limit the maximum force required to operate all manual valves, including but not limited to valves with wrench operated nuts, levers, handwheels and chainwheels, to 40 pounds. Limit the overall length of each wrench or single-arm lever to 18 inches. Limit the overall length of each dual-arm lever to 36 inches.

7-5 FLOOR AND BENCH STANDS

Accurately center floor and bench stands over the valve. Solidly bolt stands to the floor or support structure, with through-bolts wherever possible. Place approximately 3/4 inch of non-shrink cement grout beneath stands mounted on concrete or similar construction to assure uniform support. For stands installed within the area of a removable type floor, platform, or grating, securely mount them on their own support structure independent of the removable element, unless otherwise shown or specified.

7-6 VALVE VAULTS

Where a valve is shown or specified to be located within a vault, the vault shall be furnished and installed as shown on the drawings.

7-7 TYPE-SPECIFIC VALVE SPECIFICATIONS

Provide valves of the type(s) specified conforming to the specifications detailed in the sections below.

7-7.01 AIR RELEASE VALVES

A. SCOPE AND INTENT

This specification is intended to cover the design, manufacture, and testing of 1 in. (25 mm) through 8 in. (200 mm) Wastewater Combination Air Valves suitable for pressures up to 150 psig (1000 kPa).

Wastewater Combination Air Valves shall be fully automatic float operated valves designed to exhaust large quantities of air during the filling of a piping system and close upon liquid entry. The valve shall open during draining or if a negative pressure occurs. The valve shall also release accumulated air from a piping system while the system is in operation and under pressure. The valve shall perform the functions of both Wastewater Air Release and Wastewater Air/Vacuum Valves and furnished as a single body and dual body type as indicated on the plans.

B. STANDARDS, APPROVALS, AND VERIFICATION

Valves shall be manufactured and tested in accordance with American Water Works Association (AWWA) Standard C512. The manufacturer shall have a quality management system that is certified to ISO 9001:2000 by an accredited, certifying body.

C. CONNECTIONS

Single body valves sizes 4 in. (100 mm) and smaller shall have full size NPT inlets and outlets equal to the nominal valve size with a 2 in. (50 mm) inlet on 1 in. (25 mm) valves. The body inlet connections shall be hexagonal for a wrench connection. The body shall have 2" NPT cleanout and 1" NPT drain connection on the side of the casting. The valve shall have three additional NPT connections for the addition of backwash accessories.

D. DESIGN

Valves shall provide an extended body with a through flow area equal to the nominal size. Floats shall be unconditionally guaranteed against failure including pressure surges. Valves 4 in. (100 mm) and larger employing a bottom float guide shall be provided with a resilient bumper to cushion the float during sudden opening conditions. The seat shall provide drop tight shut off to the full valve pressure rating.

Single body valves shall have a full port orifice, a double guided plug, and an adjustable threaded orifice button. The 1 in. (25 mm) body shall be globe style to increase float clearance and reduce clogging. The plug shall be protected against direct water impact by an internal baffle and extended float stem. The float shall include a sensitivity skirt to minimize spillage.

E. *MATERIALS AND CONSTRUCTION*

Body material shall be ASTM A536 Grade 65-45-12 ductile iron. The float, plug, guide shafts, and bushings shall be constructed of Type 316 stainless steel. Non-metallic guides and bushings are not acceptable. Resilient seats shall be Buna-N. Interior of valve to be coated with fusion bonded epoxy. The exterior of the valve shall be coated with a universal alkyd primer.

Backwash accessories shall be furnished and shall consist of an inlet shut-off valve, a blow-off valve, a clean water inlet valve, rubber supply hose, and quick disconnect couplings. Accessory valves shall be quarter-turn, full ported bronze ball valves.

F. *MANUFACTURER QUALIFICATIONS*

The manufacturer shall demonstrate a minimum of five (5) years' experience in the manufacture of air valves. The valves shall be manufactured and tested in accordance with American Water Works Association Standard (AWWA) C512. When requested, the manufacturer shall provide test certificates, dimensional drawings, parts list drawings, and operation and maintenance manuals.

Wastewater Combination Air Valve shall be manufactured by Val-Matic Manufacturing Corporation, Elmhurst, IL, USA; GA Industries, Cranberry Township, PA, USA or Engineer-approved equal.

7-7.02 ECCENTRIC PLUG VALVES

A. *SCOPE AND INTENT*

This specification is intended to cover the design, manufacture, and testing of quarter turn plug valves meeting the requirements of AWWA C517 having an eccentric action that causes the plug to rise off the seat contact during the opening movement rather than sliding from its seat.

B. *MATERIALS AND CONSTRUCTION*

Provide plug valves with Buna-N or Chloroprene faced plugs.

Construct plug valves of cast iron or semi-steel at least equal to ASTM A 126, Class B, or ductile iron at least equal to ASTM A536 Grade 65-45-12. Construct the body seats with a welded-in overlay, of not less than 90 percent pure nickel, on all surfaces contacting the plug face. Make the overlay a minimum of 1/16-inch thick. Provide zinc plated bonnet bolts, studs and nuts on exposed valves and stainless steel buried valves.

Make the water-tightness of the valve seating adjustable. Provide a seating adjustment device that is external to the valve and that can be used without the need to remove the valve from the piping and with the valve under pressure.

Furnish plug valves with oil impregnated, permanently lubricated, Type 316 stainless steel bearings in the upper and lower journals.

Provide a stem seal consisting of multiple, self-adjusting and replaceable chevron type packing rings and a packing gland. Make the stem seal adjustable and replaceable without removing the valve from the piping and without the need to disassemble the valve and operator. For buried or submerged service, provide a sealed enclosure to keep the stem seal clean.

Unless otherwise specified, construct the valve with a minimum port area of 80 percent of the full area of the pipe in which the valve is installed.

Equip plug valves, except for buried or submerged service, with external visible indication of the plug position.

Unless otherwise shown or specified, equip valves with quarter-turn gear operators. Furnish one wrench for each size valve in each individual room or space in which valves are located. All geared operators to have bronze bearing located above and below the worm gear, as well as grease seals.

Unless otherwise shown or specified, for eccentric plug valves installed in horizontal piping, orient the valve such that when the shaft is in the horizontal position the seat is in the downstream position, and when the valve is in the open position, the plug is up. Unless otherwise shown or specified, for eccentric plug valves installed in vertical piping, orient the valve with the plug up when the valve is in the closed position.

C. SOURCE QUALITY CONTROL

Perform a bi-directional seat leakage shop test on each eccentric plug valve in accordance with Section 5 of AWWA C517. Demonstrate that there is no leakage past the plug.

Give each eccentric plug valve hydrostatic shop pressure tests in accordance with Section 5 of AWWA C517. Demonstrate with the hydrostatic tests that the valve is structurally sound and that there are no leaks through the external surfaces of the valve.

7-7.03 SINGLE DISC SWING CHECK VALVES

A. SCOPE AND INTENT

Provide single disc swing check valves designed to allow a full diameter passage and to operate with a minimum loss of pressure.

B. MATERIALS AND CONSTRUCTION

Provide 1/8- through 3-inch check valves that meet the requirements of MSS SP-80. Except as specified herein, provide 4-inch through 24-inch check valves that meet the requirements of AWWA C508.

Equip check valves with cast or ductile iron body; bronze or stainless steel renewable seat rings; bronze, cast or ductile iron disc with replaceable bronze or rubber disc rings; bronze disc hinge bushings; and stainless steel hinge pins. Carefully mount discs and provide discs that swivel in disc hinges. Provide pins, discs and other parts that are non-corrosive, non-sticking, and properly cured to operate satisfactorily within a temperature range of 34 to 100 degrees Fahrenheit and with the fluid specified.

Check valves shall be of the lifting arm type. Screw type check valves will not be allowed. Equip 6-inch and larger check valves with outside levers and weights.

7-8 PAYMENT

This work shall be paid for at the contract unit price per each for the type of valve specified at the diameter specified, complete with the valve vault (if specified), which payment shall include full compensation for furnishing labor, materials, and equipment, complete, in-place, and accepted, and for all materials necessary to complete the work as shown on the plans and specified above.

DIVISION II

Technical Specifications

WATER DISTRIBUTION

SECTION 1. PIPE FOR WATER MAINS AND SERVICE CONNECTIONS

1-1 GENERAL

These Specifications cover the pipe fittings and accessory items normally used for water distribution systems. Special considerations will be covered in the Plans and Special Provisions.

Specification references made herein for manufactured materials such as pipe, hydrants, valve and fittings refer to designations for American Water Works Association (AWWA) or to American National Standards Institute (ANSI), as they are effective on the date of call for bids.

Copies of these publications may be obtained at nominal cost from the American Water Works Association, 6666 West Quincy Avenue, Denver, Colorado 80235 and from the American National Standards Institute, 1430 Broadway, New York, New York 10018.

1-2 PIPE MATERIALS

The type of pipe and fittings to be used in water mains will be stated in the Special Provisions, Plans or Bid items.

Where new water main is proposed to be constructed in the vicinity of an existing non potable force main, the water main shall be identified as a potable water line in a manner approved by the Engineer.

The Contractor shall be responsible for all material furnished by him and shall replace at his own expense all such material found defective in manufacture or damaged in handling after delivery by the manufacturer. This shall include the furnishing of all material and labor required for the replacement of installed material discovered defective prior to the final acceptance of the Work.

The Contractor shall be responsible for the safe storage of material furnished by or to him, and accepted by him, and intended for the Work, until it has been incorporated in the completed project. The interior of all pipe fittings and other accessories shall be kept free from dirt and foreign matter at all times. Valves and hydrants shall be drained and stored in a manner that will protect them from damage by freezing.

Any material furnished by the Owner that becomes damaged after acceptance by the Contractor shall be replaced by the Contractor at his own expense.

1-2.01 CONCRETE CYLINDER PIPE

Reinforced concrete water pipe, steel cylinder type prestressed, shall conform to the latest AWWA Standard C 301. Size, class marking, specials, lengths, etc., shall be as specified on the Plans or in the Special Provisions.

1-2.02 DUCTILE IRON PIPE

Ductile Iron Pipe shall conform to ANSI A 21.51 (AWWA C151), class to thickness designed per ANSI A 21.50 (AWWA C150), tar (seal) coated and/or cement lined per ANSI A 21.4 (AWWA C104), with mechanical or rubber ring (slip seal or push on) joints. Plans or Special Provisions shall indicate standard designation, thickness, class, coating and/or lining, and joint type.

1.2.03 CAST IRON OR DUCTILE IRON PIPE FITTINGS

All cast iron or ductile iron fittings, 3 inch through 48 inch shall conform to the latest ANSI/AWWA C110. Cast or ductile iron, coatings or linings or other items shall be specified in the Special Provisions.

1-2.04 SERVICE PIPE, STOPS, FITTINGS, AND BOXES

A. ***SERVICE PIPE***

All service pipe shall be copper water tube, Type K, soft temper, for underground service, conforming to ASTM B-88 and B251. The pipe shall be marked with the manufacturer's name or trade mark indicative of the type of pipe. The outside diameter of the pipe shall conform to ASTM B251 Table 2.

B. ***STOPS AND FITTINGS***

All corporation stops and curb stops shall be fabricated of brass and shall be provided with outlets suitable for copper connections. Curb stops shall be of the round-way type. Fittings for service pipe shall be copper and of the compression type.

1-2.05 SPECIALTY VALVES

Specialty valves and fittings such as cutting-in valves, tapping sleeves and valves, inserting valves, and air release valves shall conform to the requirements of the Special Provisions and shall be installed at locations indicated on the Plans.

1-2.06 SERVICE METERS AND APPURTENANCES

Service meters and appurtenances shall be located, furnished and installed in accordance with the requirements of the Special Provisions and the Plans. Appurtenances where required may include meter box, meter box cover, meter yoke, corporation cock, curb stop and incidental fittings.

SECTION 2. PIPE INSTALLATION FOR WATER MAINS

2-1 GENERAL

Pipe shall be installed in accordance with the manufacturer's specifications and instructions for the type of pipe used and applicable AWWA standards, such as C600 and C603, unless modified or changed in the Special Provisions.

2-2 CONSTRUCTION

2-2.01 PROTECTION OF WATER MAINS

A. GENERAL

Water mains and water service lines shall be protected from sanitary sewers, storm sewers, combined sewers, house sewer service connections and drains as follows:

B. HORIZONTAL SEPARATION-WATER MAINS AND SEWERS

1. Water mains shall be located at least ten feet horizontally from any existing or proposed drain, storm sewer, sanitary sewer, combined sewer or sewer service connection.

2. Water mains may be located closer than ten feet to a sewer line when

   a. local conditions prevent a lateral separation of ten feet; and

   b. the water main invert is at least 18 inches above the crown of the sewer; and

   c. the water main invert is either in a separate trench or in the same trench on an undisturbed earth shelf located to one side of the sewer.

3. When it is impossible to meet (1) or (2) above, both the water main and drain or sewer shall be constructed of slip-on or mechanical joint cast or ductile iron pipe or prestressed concrete pipe, equivalent to water main standards of construction. The drain or sewer shall be pressure tested to the maximum expected surcharge head before backfilling.

C. VERTICAL SEPARATION-WATER MAINS AND SEWERS

1. A water main shall be separated from a sewer so that its invert is a minimum of 18 inches above the crown of the drain or sewer whenever water mains cross storm sewers, sanitary sewers or sewer service connections. The vertical separation shall be maintained for that portion of the water main located within ten feet horizontally of any sewer or drain crossed. A length of water main pipe

shall be centered over the sewer to be crossed with joints equidistant from the sewer or drain.

2. Both the water main and sewer shall be constructed of slip-on or mechanical joint cast or ductile iron pipe, prestressed concrete pipe, equivalent to water main standards of construction when:

   a. it is impossible to obtain the proper vertical separation as described in (1) above; or

   b. the water main passes under a sewer or drain.

3. A vertical separation of 18 inches between the invert of the sewer or drain and the crown of the water main shall be maintained where a water main crosses under a sewer. Support the sewer or drain lines to prevent settling and breaking the water main, as shown on the Plans or as approved by the Engineer.

4. Construction shall extend on each side of the crossing until the perpendicular distance from the water main to the sewer or drain line is as least ten feet.

D. WATER SERVICE LINES

1. The horizontal and vertical separation between water service lines and all storm sewers, sanitary sewers, combined sewers or any drain or sewer service connection shall be the same as water main separation described in Sections 2-2.02B and 2-2.01C above.

2. Water pipe described in Sections 2-2.01B, 2-2.01C and 2-2.01D shall be met unless special considerations are covered in the Plans and Special Provisions.

E. SPECIAL CONDITIONS

Conditions in Sections 2-2.01B, 2-2.01C and 2-2.01D shall be met unless special considerations are covered in the Plans and Special Provisions.

F. SEWER MANHOLES

No water pipe shall pass through or come into contact with any part of a sewer or sewer manhole.

2-2.02 EXCAVATION AND BACKFILL

Excavation and backfill for water mains shall conform to the provisions of Division II, Sections 1, 2 and 3 of the Excavation and Cleanup Specifications and the requirements below.

A. DEPTH OF PIPE COVER

Unless otherwise shown on the plans or indicated in the Special Provisions, all pipe shall be laid to a minimum depth of five (5') feet measured from the existing ground surface

or established grade to the top of the barrel of the pipe. In areas subject to subsequent excavation or fill, the mains shall be laid to assure a minimum depth of five (5') feet or to grades shown on the Plans.

B. TRENCH WIDTH

The trench width may vary and depend upon the size of pipe, depth of trench and the nature of the excavated material encountered. In any case, the trench width shall be ample to permit the pipe to be laid and jointed properly and the backfill to be placed and compacted.

C. PIPE FOUNDATIONS

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

D. DEWATERING OF TRENCH

Where water is encountered in the trench, it shall be removed during pipe- laying and jointing operation. Provisions shall be made to prevent floating of the pipe. Trench water shall not be allowed to enter the pipe at any time.

2-2.03 HANDLING OF THE PIPE

All types of pipe shall be handled in such manner as will prevent damage to the pipe or coating. Accidental damage to pipe or coating shall be repaired to the satisfaction of the Engineer or be removed from the job and methods of handling shall be corrected to prevent further damage when called to the attention to the Contractor.

Threaded pipe ends shall be protected by couplings or other means until laid.

The pipe and fittings shall be inspected by the Contractor for defects while suspended above grade.

Dirt or other foreign material shall be prevented from entering the pipe or pipe joint during handling or laying operations and any pipe or fitting that has been installed with dirt or foreign material in it shall be removed, cleaned and re-laid. At times when pipe laying is not in progress, the open ends of the pipe shall be closed by a watertight plug or by other means approved by the Engineer to ensure absolute cleanliness inside of the pipe.

2-2.04 LAYING OF PIPE ON CURVES

Long radius curves, either horizontal or vertical, may be laid with standard pipe by deflections at the joints. If the pipe is shown curved on the Plans and no special fittings are shown, the Contractor can assume that the curves can be made by deflection of the joints with standard lengths of pipe.

Where field conditions require deflections of curves not anticipated by the Plans, the Engineer will determine the methods to be used. No additional payment will be made for laying pipe on curves as shown on the Plans, nor for field changes involving standard lengths of pipe deflected at the joints.

Maximum deflections at pipe joints and laying radius for the various pipe lengths are as found in the following standards:

Ductile Iron Pipe Bell and Spigot Joints only Required for Special Conditions	ANSI/AWWA C600
Ductile Iron Pipe Mechanical Joints	ANSI/AWWA C600
Ductile Iron Pipe Push on Joints	NSI/AWWA C-600
Concrete Cylinder Pipe	See Manufacturer's Recommendations

When rubber gasketed pipe is laid on a curve, the pipe shall be jointed in a straight alignment and then deflected to the curve alignment. Trenches shall be made wider on curves for this purpose.

2-2.05 DUCTILE IRON PIPE

A. JOINTS FOR DUCTILE IRON PIPE

Joints for ductile iron pipe shall be in accordance with the following applicable specifications unless otherwise noted:

1. Mechanical Joints - AWWA C111 and C600
2. Push-On Joints - AWWA C111 and C600

B. JOINTING MECHANICAL JOINT PIPE

The outside of the spigot and inside of the bell of mechanical joint pipe shall be thoroughly cleaned to remove all foreign matter from the joint. The cast iron gland shall then be slipped on to the spigot end of the pipe with the lip extension of the gland toward the socked or bell end. The rubber gasket shall be placed on the spigot end with

the thick edge toward the gland. The pipe shall be pushed forward to completely seat the spigot end in the bell. The gasket shall then be pressed into place within the bell, being careful to have the gasket evenly located around the entire joint. The cast iron gland shall then be moved along the pipe into position and bolted.

Nuts spaced 180 degrees shall be tightened alternately to AWWA C600 Standards in order to produce an equal pressure on all parts of the gland.

C. JOINTING RUBBER GASKET JOINT PIPE (AWWA C111)

The inside of the bell shall be thoroughly cleaned to remove all foreign material from the joints. The circular rubber gasket shall be inserted in the gasket seat provided.

A thin film of gasket lubricant shall be applied to the inside surface of the gasket. Gasket lubricant shall be a solution of vegetable soap or other solution supplied by the pipe manufacturer and approved by the Engineer.

The spigot end of the pipe shall be cleaned and entered into the rubber gasket in the bell, using care to keep the joint from contacting the ground. The joint shall then be completed by forcing the plain end into the seat of the bell. Pipe which is not furnished with depth mark shall be marked before assembly to assure that the spigot end is inserted to the full depth of the joint.

Field-cut pipe lengths shall be bevelled to avoid damage to the gasket and facilitate making the joint.

To insure electrical conductivity on ductile iron pipe water mains, brass wedges shall be installed as follows:

Pipe Size	Wedges Required
2" thru 12"	2 each (180° apart)
Above 12"	2 pair of 2 each (180" apart)

Caldweld bonding, as approved or specified by Engineer, may also be utilized.

2-2.06 CONCRETE PRESSURE PIPE

A. LAYING CONCRETE PRESSURE PIPE

Pipe shall be laid and jointed in accordance with manufacturer's recommendations and these Specifications. In the absence of manufacturer's recommendations, the AWWA installation manual M-9 shall be used.

B. JOINTING CONCRETE PRESSURE PIPE

All joint surfaces of the bell and spigot (tongue and groove) shall be thoroughly cleaned to remove all dirt and foreign material. The spigot or tongue end of the pipe with the gasket in place and with all surfaces lubricated as recommended by the pipe manufacturer shall be inserted in the ball or groove. the pipe shall then be shoved or pulled home.

The outside annular space at the joint shall be filled with cement mortar or with a preformed joint filler when approved by the Engineer.

The grouting of the outside joints shall be made by wrapping the joint with two bands of strong waterproof Sisalkraft paper or other approved material. The band of paper shall then be tightly strapped to the pipe using tools recommended by the manufacturer. The joints shall then be filled with mortar from one side only, until the mortar appears on the other side of the pipe. Mortar shall be mixed with the least amount of water that will permit placing by the method described. Flexible wires shall be worked around the joint to assist grouting and ensure proper filing of the joint. The top of the pipe shall then be grouted and the paper band laid over the entire joint to protect it while curing.

The inside annular space in pipe 42 inches and larger in diameter shall also be filled with cement mortar and troweled flush. Mortar shall consist of one (1) part portland cement and two (2) parts of plaster sand. Mortar for inside joints shall be mixed with only enough water for "dry packing".

No grouting of joints will be allowed within two joints of laying operations. A representative of the Engineer will be present when joints are being poured.

2-2.07 THRUST BLOCKING

Blocking to prevent movement of lines under pressure shall be placed at all bends, tees, caps, valve and hydrants with Portland Cement Concrete, a minimum of 12" thick, placed between solid ground and the fittings, and shall be anchored in such a manner that pipe and fitting joints will be accessible for repairs.

All bends of 11-1/4 degrees or greater, and all tees and plugs shall be thrust protected to prevent movement of the lines under pressure as shown on the Plans.

Where conditions prevent the user of concrete thrust blocks, tied joints or restrained joints of a type approved by the Engineer shall be used.

2-2.08 CONNECTIONS TO EXISTING MAINS

All connections to water mains in use shall be made by the Contractor unless otherwise provided in the Special Provisions. All crosses or other specials required to be inserted in an existing main shall be furnished and set by the Contractor.

Where the connection of new work to old requires interruption of service and notification of customers affected, the superintendent of the Municipality, and the Contractor shall mutually agree upon a date and time for connections which will allow ample time to assemble labor and materials, and to notify all customers affected.

2-2.09 WATER SERVICE PIPING

A. GENERAL

Water service pipe shall be installed in accordance with provisions in Section 2.

B. EXCAVATION AND BACKFILL

The Contractor shall open side trenches and construct services from the main to such depth and lengths as directed by the Engineer. Unless otherwise directed, depths shall not be less than specified for water mains. Excavation and backfill of side trenches shall be as specified in Division II, Excavation and Cleanup Specifications.

C. LAYING WATER SERVICE PIPE

1. Underground water service pipe shall be laid not less than ten (10') feet horizontally from the building drain, and shall be separated there from by undisturbed or compacted earth.

2. Where conditions in paragraph (1) cannot be met, the water service pipe shall be installed in accordance with the following provisions:

   a. The bottom of the water service pipe, at all points, shall be at least eighteen (18") inches above the top of the building drain line at its highest point.

   b. The water service pipe shall be placed on a solid shelf excavated to one side of the common trench.

3. Where both the water service pipe and building drain line are installed with less separation than in paragraph (2) or in the same trench, the building drain line shall be constructed of cast iron soil pipe with push- on joints, type K hard-tempered copper pipe with sweated joints, or rigid plastic pipe as specified in the Illinois State Plumbing Code. The trench shall not be backfilled until the installation is approved by the Engineer.

2-2.10 WATER SERVICE CONNECTION

The Contractor shall make all taps for service connections and install the service pipe, unless otherwise provided on the Plans and in the Special Provisions.

Each water service pipe shall be connected to the water main through a brass corporation stop. The main shall be tapped at an angle of forty-five degrees (45°), with the vertical, and the stop must be turned so that the T-handle will be on top.

The service pipe shall be laid in the trench sufficiently weaving to allow not less than one (1') foot extra length in its entire length.

A curb stop shall be furnished and installed for each service at a location shown on the Plans, specified or as directed by the Engineer. A cast iron service box shall be furnished and installed over the curb stop and held in a truly vertical position, until sufficient backfill has been placed to insure permanent vertical alignment of the box. The top of the box shall be adjusted and set flush with the established ground surface grade.

2-2.11 PRESSURE TESTING OF WATER MAINS

A. PRESSURE TEST

After the pipe has been laid and partly backfilled as specified herein, all newly laid pipe or any valved sections of it shall, unless otherwise expressly specified, be subjected to a hydrostatic pressure equal to 50 per cent more than the operating pressure at the lowest elevation of the pipe section, but not to exceed the pressure rating of the type of pipe specified. The duration of each pressure test shall be for a period of not less than one hour and not more than six hours. The basis provisions of AWWA C603 and C600 shall be applicable, if specified.

B. PROCEDURE FOR TEST

Each section of pipe to be tested, as determined by the Engineer, shall be slowly filled with water and the specified test pressure shall be applied by means of a pump connected to the pipe in a satisfactory manner. The pump pipe shall be furnished by the Contractor. Before applying the specified test pressure, all air shall be expelled from the pipe. To accomplish this, taps shall be made, if necessary, at points of highest elevation and afterwards tightly plugged. Any cracked or defective pipes, fittings, valves, or hydrants discovered in consequence of this pressure test shall be removed and replaced by the Contractor with sound material and the test shall be repeated until satisfactory to the Engineer. Provisions of AWWA C600 and C603, where applicable, shall apply.

C. *LEAKAGE TEST*

1. After completion of the pressure test, a leakage test shall be conducted to determine the quantity of water lost by leakage under the specified test pressure. Test pressure is defined as the maximum operating pressure of the section under test and is based on the elevation of the lowest point in the line or section under test corrected to the elevation of the test gauge. Applicable provisions of AWWA C-600 and C603 shall apply. Duration of each leakage test shall be a minimum of one (1) hour in addition to the pressure test period.

2. Allowable leakage in gallons per hour for pipeline shall not be greater than that determined by the formula:

   $L = NDP1/2/7400$

Note: L = Allowable leakage in gallons per hour
N = Number of joints in length of pipeline tested.
D = Nominal diameter of the pipe in inches.
P = Average test pressure during leakage test in pounds per square inch gauge.

3. Leakage is defined as the quantity of water to be supplied in the newly laid pipe or any valved section under test, which is necessary to maintain the specified leakage test pressure after the pipe has been filled with water and the air expelled.

4. Flanged pipe shall be "bottle tight".

2-2.12 DISINFECTION OF WATER MAINS

A. *FLUSHING*

Sections of pipe to be disinfected shall first be flushed to remove any solids or contaminated material that may have become lodged in the pipe. If no hydrant is installed at the end of the main, then a tap should be provided large enough to develop a velocity of at least two and five-tenths feet (2.5') per second in the main. One two and one-half inch (2-1/2") hydrant openings will, under normal pressures, provide this velocity in pipe sizes up to and including twelve-inch (12").

All taps 2" size and smaller required for chlorination or flushing purposes, or for temporary or permanent release of air shall be provided for by the Contractor as a part of the construction of water mains. Taps larger than 2" shall be paid for as a bid item or as an extra.

B. *REQUIREMENT OF CHLORINE*

Before being placed into service, all new mains and repaired portions of, or extensions to existing mains shall be chlorinated so that the initial chlorine residual is not less than 50 mg/1 and that a chlorine residual of not less than twenty-five (25 mg/1) remains in the water after standing twenty-four (24) hours in the pipe.

See Division I, Section 7-12 "Use of Fire Hydrants" regarding use of water for flushing and disinfection.

C. *FORM OF APPLIED CHLORINE*

Chlorine shall be applied by one of the methods which follow subject to approval by the Engineer.

1. *LIQUID CHLORINE*

A chlorine gas-water mixture shall be applied by means of a solution-feed chlorinating device, or the dry gas may be fed directly through proper devices for regulating the rate of flow and providing effective diffusion of the gas into the water within the pipe being treated. Chlorinating devices for feeding solutions of the chlorine gas, or the gas itself, must provide means for preventing the backflow of water into the chlorine.

2. *CHLORINE-BEARING COMPOUNDS IN WATER*

A mixture of water and high-test calcium hypochlorite (65-70%C1) may be substituted for the chlorine gas water mixture. The dry powder shall first be mixed as a paste and then thinned to a one per cent (1%) chlorine solution by adding water to give a total quantity of seven and five-tenths (7.5) gallons of water per pounds of dry powder. This solution shall be injected in one end of the section of main to be disinfected while filling the main with water in the amounts as shown in the table which follows:

Chlorine Requirements to Produce 50 mg/1
Concentration in 100 Foot of Pipe - By Diameter

Pipe Size Inches	100% Chlorine, Lb.	1% Chlorine Solution, Gals.
4	0.027	0.33
6	0.061	0.73
8	0.108	1.30
10	0.170	2.04
12	0.240	2.88

3. *TABLET DISINFECTION*

Tablet disinfection is best suited to short extensions (up to 2500 ft.) and smaller diameter mains (up to 12-inches). Since preliminary flushing must be eliminated in using this method, it should be utilized only when scrupulous cleanliness has been used in construction. It shall not be used if trench water or foreign material has entered the main or if the water is below 41°F.

Tablets should be placed in each section of pipe, hydrants, hydrant branches and other appurtenances. Tablets must be at the top of the main and shall be attached by an adhesive, such as Permatex No. 1 or any alternative approved by the Engineer. Tablets in joints between pipe sections, hydrants, hydrant branches or appurtenances are to be crushed and placed inside the annular space, rubbed like chalk in butt ends of sections to coat them if the type of assembly does not permit crushing.

In filling a section of piping with water when using the tablet method, water velocity shall be less than one foot (1') per second.

Number of 5-Grain Hypochlorite Tablets Required
For a Dosage of 50 mg/1 per Length of Pipe Section

Pipe Size, Inches	Length of Pipe Section Foot				
	Up to 13	18	20	30	40
2	1	1	1	1	1
4	1	1	2	2	2
6	2	2	3	3	4
8	2	3	4	5	6
10	3	5	7	7	9
12	5	6	10	10	14

D. *POINT OF APPLICATION*

The preferred point of application of the chlorinating agent is at the beginning of the pipe line extensions or any valved section of it, and through a corporation stop inserted in the pipe. The water injector for delivering the chlorine-bearing water into the pipe should be supplied from a tap made on the pressure side of the gate valve controlling the flow into the pipe line extension. Alternate points of application may be used when approved by the Engineer.

E. *PREVENTING REVERSE FLOW*

Valve shall be manipulated so that the strong chlorine solution in the line being treated will not flow back into the line supplying the water. Check valves may be used if desired.

F. RETENTION PERIOD

Treated water shall be retained in the pipe at least twenty-four (24) hours. After this period, the chlorine residual at pipe extremities and at other representative points shall be at least twenty-five (25) mg/1.

G. CHLORINATING VALVES AND HYDRANTS

In the process of chlorinating newly laid pipe, all valves or other appurtenances shall be operated while the pipe line is filled with the chlorinating agent and under normal operating pressure.

H. FINAL FLUSHING AND TESTING

Following chlorination, all treated water shall be thoroughly flushed from the newly laid pipe at its extremity until the replacement water throughout its length shows upon test, a chlorine residual of less than 1 mg/1. In the event chlorine is normally used in the source of supply, then the test shall show a residual of not in excess of that carried in the system.

After flushing, water samples collected on two (2) successive days from the treated piping system, as directed by the Engineer, shall show satisfactory bacteriological results. Bacteriological analyses must be performed by a laboratory approved by the Illinois Department of Public Health.

I. REPETITION OF FLUSHING AND TESTING

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

2-2.13 MEASUREMENT

In addition to the items listed for separate measurement and payment in Division II, Excavation and Backfill for Underground Conduits, and Restoration of Surfaces, the following items shall be measured for payment when required for water main construction:

WATER MAIN:
Water main shall be listed in the bid items by size and type, and shall be measured in lineal feet, slope measurement, along the center line without deduction for valves and fittings. However, when the water main terminates in a hydrant valve or other main connection, measurement shall be from the center of the hydrant valve or other main connection.

GATE VALVES AND VALVE BOXES OR VAULTS
Gate valves and valve boxes of the size required shall be measured for payment as an installed unit.

BUTTERFLY VALVES
Butterfly valves of the type and size required shall be measured for payment as an installed unit.

CAST OR DUCTILE IRON FITTINGS
Cast or Ductile iron fittings shall be measured for payment by the pound, or by units as shown on the Proposal Form. The weight of accessories shall be included as part of the weight of the fittings. Shipper's invoice weight shall be taken as the weight for payment purposes, subject to confirmation by actual weighing near the site if there is reason to doubt the accuracy of invoice weights.

SERVICE PIPE
Service pipe of the size and type required shall be measured by the lineal foot for installed length, or by units (Long Tap or Short Tap) as shown as a Bid item.

FIRE HYDRANTS
Fire hydrants by size and type required shall be measured for payment as an installed unit complete with accessories and thrust blocking. Where a gate valve is required on the connection between the water main and the fire hydrant, the gate valve shall be included with the payment for fire hydrant.

SPECIALTY VALVES
Specialty valves shall be measured as an installed unit by size and type required.

WATER MAIN IN TUNNEL
Water Main in Tunnel, Water Main Jacked or Water Main in Casing of the size and type indicated shall be measured in lineal feet installed in accordance with requirements of the Plans.

CONNECTIONS TO EXISTING MAINS
Where shown as a separate pay item, this work will be measured for separate payment. If not shown as a separate bid item, this work will be included as an incidental expense in the unit price for water main. In no event will payment be made when separate payment is provided for a tapping sleeve and a tapping valve.

THRUST BLOCKING AND RESTRAINED JOINTS
Unless otherwise provided in the Special Provisions, thrust blocking, restrained joints or ties as specified shall be included as an incidental expense in the payment for water mains and shall not be measured for separate payment.

SECTION 3. GATE VALVES FOR WATER MAINS

3-1 DESCRIPTION

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

The minimum requirements for all gate valves shall, in design, material and workmanship, conform to the standards of the latest AWWA C500. All materials used in the manufacture of waterworks gate valves shall conform to the AWWA standards designed for each material listed.

3-2 MATERIALS

3-2.01 MANUFACTURE AND MARKING

The gate valves shall be standard pattern and shall have the name or mark of the manufacturer, size and working pressure plainly cast in raised letters on the valve body.

3-2.02 TYPE AND MOUNTING

The valve bodies shall be cast iron, mounted with approved non-corrosive metals. All wearing surfaces shall be bronze or other approved non-corrosive material and there shall be no moving bearing or contact surfaces of iron in contact with iron. Contact surfaces shall be machined and finished in the best workmanlike manner, and all wearing surfaces shall be easily renewable.

All gate valves shall be two-faced, non-rising stem, double disc, with parallel sets of bronze or other approved wedging devices placed between them. The stem shall be of high tensile strength bronze or other approved non-corrosive metal. All nonferrous bushings shall be of substantial thickness tightly fitted and pressed into machined seats. All valves shall open by turning to the left counter-clockwise, unless otherwise specified. Consideration shall be given to types of bronze used where high galvanic waters (high pH or specific conductance) are present. See AWWA C500. Paragraph 2.2.3.4.

3-2.03 END CONNECTIONS

End connections of gate valves shall consist of one of the following types unless otherwise provided in the Special Provisions or shown on the Plans:

A. Mechanical Joints
B. Push-On (Rubber-gasket) Joints
C. Bell End Joints, lead (only where required for special conditions)
D. Flange Joints
E. Screwed or Threaded Joints.

3-2.04 GATE VALVES 16-INCH AND LARGER

Gate valves sixteen (16") inch and larger to be installed in a horizontal position in a horizontal pipeline shall be of the double-disc type and shall be equipped with solid-bronze (Grade I or IV) or 300 series stainless steel tracks securely fastened in body and bonnet. The weight of the gates shall be carried on rollers throughout their entire length of travel. For double-disc valves of the rolling-disc type, the discs shall serve as rollers. For double disc valves or other than the roller disc type, the dics shall be carried on solid-bronze) Grade I, II, III, or IV) rollers securely attached to them. All valves shall be equipped with bronze scrapers to traverse the tracks ahead of the rollers.

Valves sixteen (16") inch and larger installed in a vertical or inclined lines shall be equipped with tracks manufactured of an acceptable grade of bronze or 300 series stainless steel secured to the valve body and bonnet to support the lower disc during operation, and equipped with slides to assist the travel of the gate assembly.

They shall be non-rising stem type and shall be equipped with approved rugged gate position indicators. The valves shall be provided with handwheels of ample proportion.

All gears on gate valves shall be cut tooth steel gears housed in heavy cast iron grease cases or approved design.

When manually operated gate valve sixteen (16") inches and larger are required, they shall be equipped with a by-pass and by-pass valve. By-pass valve shall be of the same type as the main valve, shall be equipped with handwheel and shall have the stem in a vertical position unless otherwise indicated. Sizes shall be as follows:

Valve Diameter (Inches)	By-Pass Diameter (Inches)
16 to 20	3
24 and 30	4
36 and 42	6
48 and larger	8

All gate valves sixteen (16") and larger shall be geared with gearing designed for handwheel operation. Gear ratios shall not be less than as follows:

Valve Diameter (Inches)	Gear Ratio
16	2:1
20	2:1
24	2:1
30	3:1
36	3:1
42	4:1
48	4:1

3-2.05 GATE VALVE STEM SEALS

All gate valves of size twelve (12") inches shall be furnished with two (2) pressure actuated O-ring stem seals, with one (1) O-ring below the stem thrust collar and bearing surfaces and one (1) O-ring above. The area between the O-rings shall be filled with a lubricant to give continuous lubrication to the stem collar and bearing surfaces so as to provide long-term ease of operation. An upper and lower stem collar bushing of an acceptable grade of bronze shall be acceptable in lieu of the above if the stem collar and bearing surfaces are exposed to internal water pressure.

Valves larger than twelve (12") inches shall be as described above unless they are required to be furnished with extended stems with gear cases, in which case they shall be furnished with adjustable stuffing boxes so that they may be repacked without the need to disassemble and remove the gear case.

3-2.06 WRENCH NUTS

Wrench nuts shall be made of cast iron and shall be one and fifteen-sixteenths (1-15/16") inches square at the top, two (2") inches square at the base, one and three-fourths (1-3/4") inches high, unless otherwise designated in the Special Provisions. Nuts shall have a flanged base upon which shall be cast an arrow at least two (2") inches long showing the direction of opening. The word "Open" in one-half (1/2") inch or larger letters shall be cast on the nut to clearly indicate the direction of opening the valve.

3-2.07 TAPPING VALVES

Tapping valves shall be furnished with flanged inlet end connections having a machined projection on the flanges to mate with a machined recess on the outlet flanges of the tapping sleeves and crosses. The outlet ends shall conform in dimensions to the AWWA Standards for hub or mechanical joint conditions, except that the outside of the hub shall have a large flange of attaching a drilling machine. The seat opening of the valves shall be larger than normal size to permit full diameter cuts. Tapping sleeve or cross shall be of the same manufacturer as the tapping valve.

3-2.08 HYDROSTATIC TEST PRESSURE AT FACTORY

Each gate valve shall be tested at the factory for performance and operation prior to painting and shall be subjected to the following hydrostatic pressure tests: each three (3") inch to twelve (12") inch valve, inclusive, shall be subject to hydrostatic pressure test under pressures of both three hundred (300) psi and one hundred seventy-five (175) psi, and each sixteen (16") inch to forty-eight (48") inch valve, inclusive, shall be subject to test pressures of three hundred (300) psi and one hundred fifty (150) psi. These tests shall be conducted in accordance with provisions of AWWA C500. Tests for special valves shall be made as provided in the Special Provisions.

3-2.09 PAINTING AT THE FACTORY

After the factory test and inspection and before leaving the factory, all ferrous parts of the valves except finished or bearing surfaces shall be painted inside and out with a rust preventative compound.

3-3 INSTALLATION OF GATE VALVES

All gate valves shall be inspected upon delivery in the field to insure proper working order before installation. They shall be set and jointed to the pipe in the manner as set forth in the AWWA Standards for the type of connection ends furnished.

Valves twelve (12") inch and under shall be installed in a vertical position and be provided with a standard valve vault or case iron valve box so arranged that no shock will be transmitted to the valve. The box shall be centered over the operating nut, and the cast iron box cover shall be set flush with the road bed or finished surface.

After installation, all valves shall be subjected to the field test for piping as outlined in Section 2. of these specifications. Should any defects in materials or workmanship appear during these tests, the Contractor shall correct such defects with the least possible delay and to the satisfaction of the Engineer. Should the Contract fail to do this within a reasonable period of time in the judgment of the Owner, he may cause such defects to be corrected and deduct the cost thereof from any money or payments due or to become due the Contractor.

SECTION 4. BUTTERFLY VALVES FOR WATER MAINS

4-1 DESCRIPTION

Butterfly valves to be installed in water main distribution systems shall conform to AWWA C504-70 specifications. As specified, a valve may be one of the following type or classes as designated by Plans or Special Provisions.

A. Wafer Valves - Class 150B, in sizes through 20 inches
B. Short-Body Valves - All classes, in 3 to 72 inch sizes
C. Long Body Valves - Class 75A, 75B, 150A and 150B in 3 to 72 inch sizes.
D. Mechanical Joint End Valves - Class 150B in size 3 through 20 inch diameter and all classes in 30 inch through 48 inch diameter sizes.

End connections shall consist of one of the following types as provided in the Special Provisions or as shown on the Plans:

A. Mechanical Joints
B. Push-On (Rubber-gasket) Joints
C. Flange Joints
D. Screw or Threaded Joints

4-2 DATA TO BE FURNISHED BY CONTRACTOR

If required, the Contractor shall submit for approval by the Engineer drawings showing the principal dimensions, general construction and materials used for all parts of the valves and operator. All work shall be done and all valves shall be furnished in accordance with these drawings after they have been approved by the Engineer.

4-3 WORKMANSHIP

Valve parts shall be designated, and manufacturing tolerances set, to provide interchangeability of parts between units of the same size and produced by any one manufacturer. When assembled, valves manufactured in accordance with this standard shall be well-fitted and smooth running, and body and shaft seal shall be watertight. All equipment shall be guaranteed against defects in workmanship or materials for one (1) year after installation or two (2) years after shipment, whichever time elapses first.

4-4 MARKINGS

Markings for other than wafer valves shall be cast on the body or shall be on cast plates with raised letters, attached to the valve body. The markings shall show the valve size, manufacturer, class and year of manufacture. The minimum size of letters shall be 1/4 inch for valves 3 to 12 inches in diameter, and

1/2 inch for valves larger than 12 inches in diameter. Corrosion- resistant plates attached to the body and with 1/8 inch etched or engraved letters may be used for markings on wafer valves.

4-5 PAINTING

Unless otherwise specified, all internal steel or cast iron surfaces of each valve, except finished or bearing surfaces, shall be shop painted with two (2) coats of asphalt varnish conforming to Federal Specification TT-V-51f, and exterior steel or cast iron surfaces of each valve, except finished or bearing surfaces, shall be shop painted with two (2) coats of zinc chromate conforming to Federal Specification TT-P-645A; or, in the case of valves for buried service, with two (2) coats of asphalt varnish conforming to Federal Specification TT-V-51f.

4-6 TESTS

Each butterfly valve shall be tested for leakage in the manufacturer's shop and such leakage shall conform to AWWA C504.

SECTION 5. VALVE VAULTS AND BOXES FOR WATER MAINS AND WATER SERVICES

5-1 GENERAL

This section shall apply to the construction of standard valve vaults or chambers, special valve vaults or changers, cast iron valve boxes, curb boxes and meter boxes, all in accordance with the Standard Drawings.

Deep valves shall be provided with cast iron valves boxes set over the operating stem, except where otherwise specified or shown on the Plan.

5-2 MATERIALS

5-2.01 RING AND COVER AND VALVE BOX CASTINGS

Castings for cast iron ring and cover and for cast iron parts of valve boxes shall conform to the requirements of Standard Specifications for Gray Iron Castings, ASTM. Designation A-48.

5-3 CONSTRUCTION DETAILS

5-3.01 VALVE VAULT (OR BASINS)

Valve vaults (or basins) may be either pre-cast or cast-in-place only, according to the details shown on the drawings. Applicable provisions of Division II, Sanitary Sewers and Storm Sewers, Section 4 shall govern construction of valve vaults and chambers.

5-3.02 CAST IRON VALVE BOXES

Cast iron valve boxes as shown on the drawing are placed for enclosing gate valves of small size in lieu of gate valve chambers.

Adjustable cast iron valve boxes shall be set to position during backfilling operations so they will be in a vertical alignment to the gate valve operating stem. The lower casting of the unit shall be installed first in such a manner as to be cushioned and to not rest directly upon the body of the gate valve or upon the water main. The upper casting of the unit shall then be placed in proper alignment into such an elevation that its top will be a final grade. Backfilling around both units shall be placed and compacted to the satisfaction of the Engineer.

5-3.03 CURB BOXES

Curb boxes shall be screwed type, with the base threaded to attach to the curb stop or shall be Buffalo or "arch" type, and of such construction that it shall be capable of extension to finished grade. The type of curb box shall be shown on the Plans, or indicated in the Special Provisions.

SECTION 6. FIRE HYDRANTS

6-1 DESCRIPTION

These specifications are to be used in conjunction with the AWWA Standard C502 for dry barrel fire hydrants for ordinary water works service.

6-2 MATERIALS

6-2.01 MATERIALS FOR HYDRANTS AND APPURTENANCES

Hydrants shall be of a manufacture and pattern approved by the Owner. The name or mark of the manufacturer, size of valve opening, and year of manufacturer shall be clearly cast in raised letters on the upper barrel section above finished grade.

Hydrants shall be designed for a working pressure of 150 psi, and equipped with not less than two (2) O-ring stem seals. Hydrant body castings shall be manufactured of cast iron or ductile iron. The lower barrel section, elbow (shoe) casting, and flanges below grade shall be either cast iron or ductile iron.

Hydrants shall be internally mounted with approved non-corrodible metals and in such a way that parts working together shall not both be iron or steel. Consideration shall be given to type of bronze used where high galvanic waters (high pH or specific conductance) is present. See AWWA C502, paragraph 2.8.

All wearing and working internal parts shall be accurately machined, easily renewable, and shall be removable through the top of the hydrant.

Lugs, if required for harnessing the hydrant to the connecting pipe from the main in the street, shall be provided on the bell of the elbow or on the hydrant bottom casting. A drawing of the lug construction shall be submitted for approval on request of the Engineer.

The hydrant barrel shall be provided with a clearly marked circumferential rib to denote the intended ground line. There shall be a flange above this point at a sufficient height to permit access to the flange. Unless indicated otherwise on the Plans, hydrants shall be of the "traffic" or "break-away" design with easily replaceable breaking devices for the gradeline flange and operating stem that prevent damage to barrel sections upon impact.

6-2.02 HYDRANT DETAILS

Unless required otherwise to conform to the Owner's existing equipment and specifications, the following hydrant details shall be provided:

Bury (trench) depth shall be as shown on the Plans.

When tested in accordance with AWWA C502, friction losses through the hydrant shall not exceed the maximum permissible losses listed in Table 3, AWWA C502.

Hydrants with six (6") inch inlet connections shall be furnished with two (2) 2-1/2 inch hose nozzles and one (1) 4-1/2 inch pumper nozzle. Hydrants with 4 inch inlet connections shall be furnished with two (2) 2-1/2 inch hose nozzles.

All nozzles shall be manufactured of an acceptable grade of bronze, properly secured to the barrel section to prevent blowing out, and accurately threaded in accordance with National Standard Hose Coupling Thread Specifications, or to match Owner's existing or as indicated in the Special Provisions.

All nozzles shall be furnished with inside threaded cast iron caps fitted with suitable gaskets for positive water tightness under test pressure. Operating nut and nozzle cap wrench nuts shall be 1-1/2 inch pentagon, measured from point to opposite flat at the base, tapering uniformly to 1-7/16 inch at the top, and the height of the nut shall be not less than 1 inch. Nozzle caps shall be securely chained to the upper barrel section.

The hydrant shall open by turning to the left (counter-clockwise) and the direction of opening shall be permanently and clearly marked on the bonnet assembly near the operating nut.

6-2.03 FACTORY HYDROSTATIC TEST

Before the hydrant is painted at the factory, it shall be subjected to an internal hydrostatic test of 300 pound per square inch with the hydrant valve in a closed position and again with the hydrant valve in an open position.

6-2.04 PAINTING

All iron parts of the hydrant both inside and outside shall be thoroughly cleaned and painted. All inside surfaces and the outside surfaces below the ground line shall be coated with asphalt varnish. They shall be covered with two coats, the first having dried thoroughly before the second is applied.

The outside of the hydrant above the finished ground line shall be thoroughly cleaned and thereafter painted with one coat of paint of a durable composition, and one additional coat of a color specified by the Owner.

6-3 CONSTRUCTION DETAILS

Hydrants shall be installed at the locations as shown on the Plans. They shall be plumb and shall be set so that the lowest hose connection is at least twenty-four (24") inches above the surrounding finished grade. All hydrants shall be inspected in the field upon delivery to the job to insure proper operation before installation. A minimum of 1/4 cubic yard of coarse stone, broken concrete, or like material shall be placed at and around the base of the hydrant to insure proper drainage of the hydrant after use. The

blocking of the hydrant shall consist of a wedge of P.C. Concrete of not less than 1/4 cubic yard extending from the hydrant to undisturbed soil and shall be so placed to form a solid barrier adjacent to the hydrant base to counteract the pressure of water exerted thereon. Care shall be taken to insure that weep holes are not covered by concrete. The hydrant shall be set on a concrete clock to insure a firm bearing for the hydrant base. The hydrant, valve and tee shall be interconnected by steel rods if required by Special Provision. The resetting of existing hydrants and moving and reconnecting of existing hydrants shall be handled in a manner similar to a new installation.

SECTION 7. PRESSURE CONNECTION

7-1 GENERAL

These Specifications cover the installation of fittings and valves on water mains while the mains are under operating pressure. Special Considerations will be covered in the Plans and Special Provisions.

Specification references made herein for manufactured material such as valves, saddles, tees, and fittings refer to designations for American Water Works Association (AWWA), or to American National Standards Institute (ANSI), as they are effective on the date of call for bids.

Copies of these publications may be obtained at nominal cost from The American Water Works Association, 6666 West Quincy Avenue, Denver, Colorado 80235, and from the American National Standards Institute, 1430 Broadway, New York, New York 10018.

7-2 DEFINITION OF TERMS

The following definitions shall apply to the terms used in this section.

PRESSURE TAPPING

A procedure by which a hole is cut into a water main under pressure, without taking the main out of service. A Tapping Fitting is attached, pressure tight, around the main. A Tapping Valve is then attached to the outlet of the Tapping Fitting, and a Tapping Machine is attached to the Tapping Valve, allowing the pressure tapping operation to begin.

TAPPING MACHINE

Any one of several machines designed and constructed for pressure tapping ductile iron, cast iron, steel, plastic, asbestos cement, or concrete water main. The Tapping Machine has a means of rotating and advancing a Shell Cutter through the side wall of the main being tapped. The Machine is pressure tight when bolted to the tapping valve. This allows the cut to be made without taking the main out of service, or losing pressure.

PILOT DRILL

The forward part of the Tapping Machine Boring Bar, which first penetrates the main. The Pilot Drill provides alignment for the Shell Cutter. The Pilot Drill must have latches, clips, or other approved means of retaining the Coupon as it is severed from the body of the main.

SHELL CUTTER

A hollow, cylindrical cutter, with teeth on its periphery; resembling a hole saw. The Shell Cutter is concentric with the Pilot Drill. The Shell Cutter removes the portion of the main called the Coupon, completing access to the main.

COUPON

That portion of the existing main removed by the Shell Cutter and held by the Pilot Drill, to be subsequently removed as the Pilot Drill-Shell Cutter assembly is withdrawn into the Tapping Machine adaptor.

TAPPING VALVE
Any full ported gate valve, which will allow the Shell Cutter to pass through it and effect the pressure tap.

TAPPING FITTING
Also called Sleeve, Saddle, or Tapping Tee; a two or three-piece bolted fitting, split to allow placement over the main to be pressure tapped.

7-3 MATERIALS

The type of valves and fittings to be used in the Pressure Connection will be specified in the Plans and Special Provisions.

7-4 VALVES

Valves shall conform to AWWA C500. All valves over 16" diameter should generally be provided with by-passes. Horizontal Valves shall have tracks, rollers, scrapers, and enclosed steel cut bevel gears.

7-5 TAPPING FITTINGS

Cast Iron Material shall conform to AWWA C110. Steel fittings shall have a factory-applied epoxy coating. All bolts and other fastening devices shall be stainless steel or other corrosion resistant material.

7-6 INSTALLATION PROCEDURE

The existing water main shall be uncovered and exposed to allow calipering of the pipe in advance of the pressure connection. If the main is reinforced concrete, or reinforced concrete cylinder pipe, the manufacturer shall be consulted for specifications, procedures, and design data.

Sufficient length of main shall be exposed to allow for operation of the tapping machinery. The main shall be supported on concrete pedestals, as detailed on the Project Plans, at sufficient intervals to properly carry its own weight, plus the weight of the tapping machinery and fitting. Any damage to the main due to improper or insufficient supports shall be repaired at the Contractor's expense.

After the tapping saddle or tee has been mounted on the main the tapping valve shall be bolted to the outlet flange, making a pressure tight connection.

The tapping machine, by means of a special adaptor shall then be bolted to the outlet flange of the tapping valve, also making a pressure tight connection. After the tapping machine is in place the installation shall be pressure tested at operating pressure plus 50%, to insure the integrity of the installation. Water under pressure can be introduced through a port in the tapping machine. The

tapping machine and the fitting shall be externally supported, so that no additional weight is placed upon the main.

The tapping valve shall then be opened; allowing the shell cutter-pilot drill assembly to advance through the valve body unit contact is made with the wall of the main. With the tapping machine's feed set, power shall be supplied, starting rotation of the cutter-pilot drill assembly.

The minimum diameter cut permitted shall be specified by the Design Engineer. For pressure taps through 12" diameter the minimum diameter shall be 1/2" less than the nominal diameter of the pipe to be attached. For 14" through 20" installations the minimum diameter shall be 1-1/2" less; for larger taps the allowable minimum diameter shall be 2" - 3" less than the nominal diameter of the pipe being attached.

When the pilot drill penetrates the wall of the main, the nozzle, valve body, and tapping machine will be filled with water. The bleeder valve on the tapping machine will indicate the presence of water. The cut shall be continued for a sufficient period of time after this indication to allow the coupon to be completely severed from the wall of the main.

The coupon shall be retained on the pilot drill by means of latches, spring detents, wire clips, or threads on the pilot drill; depending upon the make of the tapping machine. As the boring bar is retracted the coupon, pilot drill, and shell cutter return back into the tapping machine adaptor.

At this time the tapping valve shall be closed, sealing the main. The tapping machine shall be removed, and the valve shall be opened to flush any foreign material.

The same procedure shall be followed for the insertion of other fittings.

7-7 EXCAVATION AND BACKFILL

Excavation and Backfill for pressure connections shall conform to the provisions of Division II, Section 1, 2 and 3.

Poured concrete thrust blocks shall be provided to prevent movement of the installation when main pressure is applied.

SPECIAL PROVISIONS

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Project 18-R0617

VILLAGE OF TINLEY PARK

NORTH STREET IMPROVEMENT - OAK PARK AVENUE TO 67TH COURT

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

This project consists of the removal of the existing pavement structures as noted and replacement with Permeable Interlocking Concrete Pavers. Additionally, hot-mix asphalt grinding and resurfacing, HMA pavement, curb and gutter removal and replacement, pavement marking, driveway removal and replacement, storm sewer extension, decorative brick crosswalks, drainage structure adjustments/reconstructions, water main replacement and sanitary sewer replacement are all included.

Coordination with the village METRA lots for the road closure is required. An informational message board shall be provided a minimum of 2 weeks prior to each entrance closure.

MWRDGC PROVISIONS

This project is partially funded with a green infrastructure grant provided by the MWRDGC. The contractor is advised that the following provisions of the MWRDGC must also be followed:

- MWRDGC's Purchasing Act
- Multi-Project Labor Agreement
- Affirmative Action Ordinance, Revised Appendix D
    - Contract Goals:
        - MBE a minimum dollar amount of $40,000
        - WBE a minimum dollar amount of $20,000
        - SBE a minimum dollar amount of $20,000
- Affirmative Action Utilization Plan
- Affirmative Action Status Report (to be provided monthly)
- Veteran's Business Enterprise Contracting Policy Requirements Appendix V (project goal of $6,000)
- VBE Commitment Form

All necessary information must be received prior to the processing of any invoices.

AGGREGATE FOR TEMPORARY ACCESS

This work shall consist of providing temporary driveway/roadway access during construction in accordance with Article 107.09 and 402.10 of the Standard Specifications.

This work will not be paid for separately and shall be included in the unit cost of various contract items.

DUST CONTROL

The contractor shall be responsible for controlling the dust and air-borne dirt generated by his/her construction activities.

The implementation of dust control procedures shall be required if wind and dry soil conditions reduce visibility on adjacent roads and property. Concerns for health and safety to the public using adjacent facilities will be grounds for the implementation of a dust control plan. When circumstances warrant, a specific dust control plan shall be developed. The contractor and the engineer shall review the nature and extent of dust generating activities and cooperatively develop specific types of control techniques appropriated to that specific situation. Sample techniques that may warrant consideration include such measures as:

1. Minimize track out of soil onto nearby publicly traveled roads.
2. Reduce vehicle speed on unpaved surfaces.
3. Cover haul vehicles.
4. Apply chemical dust suppressants or water to exposed surfaces, particularly to surfaces on which construction vehicles travel.

This work will not be paid for separately and shall be included in the unit cost of various contract items.

COMPLETION DATE

Time is of the essence. The contractor is advised that all work shall begin on or before April 1, 2019 and completed by October 15, 2109 including all punch list work. Should the contractor fail to comply with the listed dates, the provisions of Section 108.09 shall be applied.

PREQUALIFICATION

The Contractor shall be IDOT prequalified for roadway. 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 be required as part of this project.

Section 7-2.02E Pollution Liability WILL be required as part of this project.

NOTIFICATION COORDINATION

If the Contractor is required to impede access to any private 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.

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.

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

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 – SOUTH STREET RECONSTRUCTION." 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.

Priming/tacking of the streets must be done on the day of paving.

Prior to HMA surface removal, all curb removal and replacement and curb slot restoration must be completed.

Milling operations cannot be more than ten days ahead of any paving operation unless granted special permission by the Village and their authorized representative.

Street sweeping will be required after grinding operations, within 24 hours before paving.

Any irrigation systems, brick pavers, decorative rock, special corner landscaping, mailboxes, etc., within the ROW 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 area 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: 701427-05, 701606-10, 701611-01, 701701-10, 701901-07

DISTRICT ONE DETAILS: TC-10, TC-16, TC-22

SPECIAL PROVISIONS: Traffic Control Plan, Maintenance of Roadways, Alleys and Driveways

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.

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.

This work shall be paid for per LUMP SUM for TRAFFIC CONTROL AND PROTECTION (SPECIAL).

TEMPORARY INFORMATION SIGNING

The contractor shall provide an advance message board two weeks prior to the start of the work advising the commuter traffic that the access to the lot will be detoured. The exact messages to be used shall be as approved by the village. The contractor is to coordinate with Donna Framke, 708-444-5000 the week prior to activating the message board so the village can use its social media presence in addition to the message board.

The message board will be used prior to each change in the detour and will remain in place for 2 weeks post the detour start.

This week shall be paid for per LUMP SUM for TEMPORARY INFORMATION SIGNING.

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.

EARTH EXCAVATION, SPECIAL

Earth excavation shall be completed per Section 202 except that the removal of all pavement, regardless of composition, shall be included in the cubic yard bid for Earth Excavation, Special. Concrete sidewalk and concrete curb and gutter removal are paid for separately. All other materials that require removal for the construction of the new roadway shall be paid as Earth Excavation, Special. Embankment will not be measured for payment.

RUBBER ADJUSTING RINGS

Both new and or existing storm, sanitary, water and municipal utility structures shall have all adjustments to grade performed with rubber fibrepolyurethane prepolymer composite adjusting rings as approved by the Engineer. The cost of the adjustment rings is considered incidental to the various pay items.

TOPSOIL FURNISH AND PLACE, 6"

This work shall consist of the furnishing and placing of six inches (6") 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 curb replacement regardless of the schedule for the sod replacement. 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. The maximum width for restoration will be three feet (3').

This work, including the topsoil, pulverizing, etc. shall be paid for at the contract unit price per SQUARE YARD for TOPSOIL FURNISH AND PLACE, 6".

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. 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.

HOT-MIX ASPHALT DRIVEWAY REMOVAL AND REPLACEMENT, 6"

Where existing asphalt driveways or parkways are to be removed, they shall be removed to a straight sawed joint and restored with an application on the aggregate base of Bituminous Materials (Prime Coat) at a rate of 0.25 pounds per square foot, four inches (4") of Hot-Mix Asphalt Binder Course, IL 19.0, N50, then an application of Bituminous Materials (Tack Coat) at a rate of 0.025 pounds per square foot and a two inches (2") of Hot-Mix Asphalt Surface Course, Mix "D", N50. The replacement width shall be a maximum of three feet (3') unless otherwise directed by the Engineer and done in accordance with Section 440 of the Standard Specifications. Any material needed below the HMA material due to the depth of the curb removal, shall be brought to the proper depth with Aggregate Base Course, Type B (CA-6) as specified in Section 1004.01 and shall be considered incidental to this pay item.

The cost for Hot-Mix Asphalt Binder and Surface Courses, prime coat, tack coat, and aggregate will be paid for at the contract unit price bid per SQUARE YARD of HOT-MIX ASPHALT DRIVEWAY PAVEMENT, 6". The cost for saw cutting, any additional excavation, and removal of the existing driveway pavement (regardless of the depth needed to obtain the required thickness) will be paid for at the contract unit price bid per SQUARE YARD of DRIVEWAY PAVEMENT REMOVAL.

Access to all properties shall be maintained throughout the duration of construction by means of temporary aggregate accordance with Articles 107.09 and 402.10 and shall be incidental to the various removal items.

All grassed areas disturbed by the removal and replacement of this item shall be restored in accordance with the TOPSOIL FURNISH AND PLACE, 6" and SODDING, SPECIAL specified elsewhere in these special provisions and paid for through those items.

GEOTECHNICAL FABRIC, SPECIAL

This work shall consist of furnishing and placing geotechnical fabric on the prepared subgrade (prior to aggregate subbase, base, and bedding) and along the sides of the proposed concrete curb on either side of the proposed pavement section. Geotextile shall be a woven geotextile with a higher permeability due to the presence of clay soils. A mono-filament, multi-filament or fibrillated-filament type woven geotextile shall be used. The fabric shall be a minimum 6 ounces per square yard.

Material shall meet the minimum requirement for Type 2, AASHTO M-288 Geotextiles for Highway Applications.

This work shall be paid for at the contract unit price per SQUARE YARD measured in place for GEOTECHNICAL FABRIC, SPECIAL which shall include all labor, materials (including overlaps), and any additional appurtenances required to complete this work.

Geotextile for the fabric lined trench for underdrains are not measured for payment.

UNDERGROUND CONDUIT

This work shall consist of constructing Underground Raceways in accordance with Section 810 of the Standard Specification under North Street for the future use by utility companies and the village. The locations are show on the plans and the ends shall be capped watertight. All conduit shall include a tonable pull string in addition to the marking tape. The conduit shall be extended beyond the improvement area so that the access points will not impact the new pavements. Conduit shall be a minimum of 12 inches below the pavement subgrade. Conduit ends shall be surveyed and shown on the record drawings with GPS coordinates provided.

This work shall be paid for at the contract unit price as specified in 810.06 for UNDERGROUND CONDUIT of the type and size indicated, which price shall include all labor, backfilling, materials, and any additional appurtenances required to complete this work.

REMOVABLE STAINLESS-STEEL ROADWAY BOLLARDS, 4-INCH WITH EMBEDMENT SLEEVE

This work shall consist of constructing traffic deterring bollards as shown in the details provided in the plans. The bollards shall be stainless-steel, schedule 80 pipe and furnished with the manufacturer's embedment sleeve. The sleeve shall be installed in a cast-in-place square concrete footing as detailed in the plans. The bollards shall be as manufactured by Calpipe Security Bollards, Type SSR04080 or approved equal. Ten (10) keys shall be provided for the locking lid. A carrying bag shall be furnished for each bollard.

This work shall be paid for at the contract unit price per EACH for REMOVABLE STAINLESS-STEEL ROADWAY BOLLARDS, 4-INCH WITH EMBEDMENT SLEEVE which price shall include all labor, backfilling, materials, and any additional appurtenances required to complete this work, other than for the concrete foundation.

CAST IN PLACE CONCRETE BOLLARD FOUNDATION

This work shall consist of constructing a 24" by 24" concrete foundation for the installation of the embedment sleeve and removable bollard as detailed in the plans. As an alternate, the foundation can be a 24" drilled shaft with the top 6" formed to the 24" by 24" square to better conform to the brick pavement. A 2" PVC drain pipe shall be provided from the embedment sleeve that will outlet to the pavement subgrade so the sleeve remains water free. The foundation shall be one-eight inch (1/8") below the finished pavement surface.

This work shall be paid for at the contract unit price per EACH for CAST IN PLACE CONCRETE BOLLARD FOUNDATION, which price shall include all labor, materials, and any additional appurtenances required to complete this work.

PROJECT HOT-MIX ASPHALT MIXTURE REQUIREMENT CHART

HOT-MIX ASPHALT MIXTURE REQUIREMENT CHART	
ITEM	AIR VOIDS @ N_{des}
RESURFACING	
HMA Surface Course, Mix "D", N70 (IL 9.5 mm); 2"	4% @ 70 Gyr.
FULL DEPTH PAVEMENTS	
HMA Surface Course, Mix "D", N70 (IL 9.5 mm); 2"	4% @ 70 Gyr.
HMA Base Course (HMA Binder Course (IL-19mm); 8")	4% @ 70 Gyr.

DRIVEWAY AND METRA LOT PAVEMENT	
HMA Surface Course, Mix "D", N50 (IL 9.5 mm); 2"	4% @ 50 Gyr.
HMA Binder Course (IL-19mm); 4"	4% @ 50 Gyr.

The "AC Type" for Non-Polymerized HMA the "AC Type" shall be "PG 64-22" unless modified by District One Special Provisions. For Use of Recycled Materials, see Special Provisions.

The unit weight used to calculate all Hot-Mix Asphalt Surface Mixtures is 112 lbs/sq yd/in.

PORTLAND CEMENT CONCRETE SIDEWALK

Where new concrete sidewalk is to be constructed, it shall be constructed with a minimum four inches (4") of cushion of CA 6 stone and five inches (5") of PC Concrete. This work shall be done in conformance with Sections 424 and 440 of the Standard Specifications except as modified herein. Integral curb and sidewalk shall be installed per the details in the plans with no additional compensation.

All sidewalk replacement shall be done with a minimum form size of 2 inches by 6 inches. Form material can be wood or steel. All sidewalks through driveways shall be 8 inches thick.

The saw cutting and any additional excavation required to construct these sidewalks will be considered incidental to the sidewalk removal. The placement of a minimum four inches (4") of CA 6 stone will be considered incidental to sidewalk placement. This work will be paid for at the contract unit price per SQUARE FOOT for PORTLAND CEMENT CONCRETE SIDEWALK, of the thickness specified, including any integral curb sections.

CONCRETE RIBBON CURB, SPECIAL

This work shall consist of constructing a flush concrete ribbon curb along the edges of the proposed crosswalks and at the pavement transitions in accordance with the applicable sections of Section 606 of the Standard Specifications and details included in the plans. The curb shall be eighteen inches (18") wide with a brick setting ledge and fifteen inches (15") deep. The top of curb shall be no more than one-eighth of an inch above or below the surface of the permeable pavers as noted on the Typical Sections. See the Plan and Profile sheets for locations of the proposed curb types. Two full length No. 4 rebar shall be installed across the entire length of curb.

This work shall be paid for at the contract unit price per FOOT for CONCRETE RIBBON CURB, SPECIAL, which shall include all labor, materials, and any additional appurtenances required to complete this work, including any subbase aggregate.

CONCRETE EDGE CURB

This work shall consist of constructing a concrete curb along the edges of the proposed permeable pavement section in accordance with the applicable sections of Section 606 of the Standard Specifications. The curb shall be eighteen inches (18") wide and fifteen inches (15") deep. The top of curb shall be no more than one-eighth of an inch above or below the surface of the permeable pavers as noted on the Typical Sections. See the Plan and Profile sheets for locations of the proposed curb types. Two ten-foot-long No. 4 rebar shall be installed across any trench.

This work shall be paid for at the contract unit price per FOOT for CONCRETE EDGE CURB, [of the size specified] which shall include all labor, materials, and any additional appurtenances required to complete this work, including any subbase aggregate.

TACTILE/DETECTABLE WARNING SURFACE

This item shall consist of the placement of detectable warning plates in accordance with the IDOT Standard for Perpendicular Curb Ramps for Sidewalks in accordance with Article 424.09 of the Standard Specifications. The detectable warning plate(s) shall be polymer composite material brick red in color cast in place design and meet the Village of Tinley Park Standards. No hardware shall be used to fasten the tiles to the concrete. The Contractor is responsible for the installation of the device according to the manufacturer's specifications and the handicap ramp as described in the contract plans and specifications. 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.

PIPE UNDERDRAINS, TYPE 2

This work shall be done in accordance with Section 601 of the Standard Specifications except as modified herein. The pipe underdrains shall be placed in the center of a fabric lined trench below the pavement subgrade as indicated on the plans or as directed by the Engineer. A minimum of 6" CA-7 shall be provided around the perimeter of the pipe and inside the fabric lined trench. The pipe underdrain shall maintain a minimum slope of 0.20% throughout the length of the underdrain run. The trench width, depth and backfill shall conform to the applicable portions of Section 601 of the Standard Specifications. The underdrain shall be plugged in accordance with the Standard Specifications at the upstream dead end and shall be cored in to the proposed storm sewer structures as indicated on the plans. The coring of the structures shall not be paid for separately but shall be considered incidental to the pipe underdrain pay item.

This work shall be measured in place and paid for at the contract unit price per lineal foot for PIPE UNDERDRAINS, TYPE 2, of the size specified. The trench stone and fabric is included in the unit price bid.

DRAINAGE & UTILITY STRUCTURES TO BE ADJUSTED OR RECONSTRUCTED

This work shall consist of the adjustment and/or reconstruction of drainage and utility structures at those locations as indicated in the plans or as directed by the engineer in the field.

This work shall also include the adjustment of drainage and utility structures in HMA pavement at locations where the existing surface of the pavement is to be lowered to an elevation resulting in the existing structure being too high. Under this item the Contractor shall remove the existing frames and rings as required, plate the structure and backfill with HMA binder course to a level even with the existing pavement. After all HMA surface has been removed, the existing pavement shall be removed at the structure and frame adjusted prior to placing the surface course.

The General Contractor shall be responsible for coordinating this work with the subcontractor, not the Village or their authorized representative. This work shall be completed in accordance with the applicable portions of Section 602 of the Standard Specifications. ***All adjustments shall be made with rubber adjustment rings unless otherwise directed by the Engineer. The cost for the rubber adjustment rings will be paid for separately and shall not be included in the cost of the structure adjustment. It is anticipated that one (1) structure will require steel adjusting rings as noted on the plans per Article 603 of the***

Standard Specifications. Any steel adjusting rings shall not be paid for separately but shall be considered included in the cost of the drainage or utility structure to be adjusted.

Concrete will not be allowed to fill the gap between the structure and the existing pavement. A full depth patch will be required for adjustments not within the curb and will be paid for at the Class D patch unit price. This work will be paid for at the contract unit price EACH for [type of drainage or utility structure] TO BE ADJUSTED.

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 lab testing costs above $1,000.00.

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.

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.

WATER

DUCTILE IRON WATER MAIN, CLASS 52, WITH POLYETHYLENE ENCASEMENT, METHOD B

This work shall consist of the construction of ductile iron water main at locations indicated on the plans or as directed by the Engineer. The water main shall be "Ductile Iron," ANSI thickness Class 52, Clow "Super Bell-Tite", "Push-On" Joint, or approved equal, and must meet all applicable requirements of ANSI A21.51 (AWWA C151)[pipe]; ANSI A21.10 (AWWA C110) or AWWA C153; [fittings], ANSI A21.11 (AWWA C111)[joints], and ANSI A21.4 (AWWA C104)[pipe lining] specifications. Alloyed steel bolts shall be used to prevent corrosion. All water mains shall be wrapped in 8-mil thick polyethylene encasement (ANSI/AWWA C105/A21.5) Method B, with pipe and joints wrapped separately.

Measurement shall be made along the centerline of water main installed. The cost for furnishing all labor, materials and equipment necessary for excavation, construction of the new water main, backfilling, all materials and labor required for wrapping the water main will be paid for at the contract unit price per FOOT for DUCTILE IRON WATER MAIN, [SPECIFIED SIZE] CLASS 52, WITH POLYETHYLENE ENCASEMENT, METHOD B.

MECHANICAL JOINT RESTRAINTS

All mechanical joint restraints shall be incorporated in the design of a follower gland. The gland shall be manufactured of ductile iron conforming to ASTM A 536. Dimensions of the gland shall be such that it can be used with the standardized mechanical joint bell and tee-head bolts conforming to AWWA C111 and C153.

The restraint mechanism shall consist of numerous individually activated gripping surfaces to maximize restraint capability. The gripping surfaces shall be wedges designed to spread the bearing surfaces on the pipe. Twist-off nuts, sized same as tee-head bolts, shall be used to insure proper actuating of restraining devices. When the nut is sheared off, a standard hex nut shall remain. The mechanical joint restraint device for ductile iron pipe shall have a working pressure of at least 250 psi with a minimum safety factor of 2. Gasket material identical to that described above shall be utilized at all joints and fittings.

The mechanical joint restraint devices shall be EBAA Iron, Inc. MegaLug 1100 series, Uni-Flange Series 1400, or engineer-approved equal.

All design associated with mechanical joint restraints shall be completed by the contractor and his supplier. Design calculations shall be submitted to the Engineer for review and approval prior to the ordering of materials. The cost for designing, materials, and labor for furnishing, installing, adjusting, and testing of mechanical joint restraints will not be compensated for separately but shall be considered incidental to the contract. No additional compensation will be given for the weights of the mechanical joint restraint. The contractor shall not include the weights of the mechanical joint restraints in the fitting weights when submitting invoices.

FITTINGS

All fittings shall be manufactured by Clow, or approved equal, and made from gray-iron or ductile iron and furnished with mechanical joint ends. All fittings shall have a pressure rating of 250 psi and shall be wrapped with an 8-mil thick polyethylene material per AWWA Standard C105. At locations indicated on the plans or as directed by the Engineer, the water main shall be constructed around existing utility structures or other obstacles by use of tees, bends or other appropriate fittings. Gasket material identical to that described above shall be utilized at all joints and fittings.

The cost for all fittings, excluding that incidental to the hydrant, cut and cap, and tapping sleeve installations, will be paid at the contract unit price per POUND for DUCTILE IRON FITTINGS.

VALVES

All 10 inches and smaller valves shall be East Jordan, Mueller, or approved equal resilient wedge type abiding to AWWA C509 and AWWA C550.

All proposed valves 12 inches or larger shall be Pratt butterfly type with extension stem and ground level position indicator, or approved equal iron body, rubber seat butterfly valve, Class 150B, counter clockwise to open, conforming to AWWA C504 and approved by the Village of Tinley Park Water Department. The cost for each valve shall be included in the appropriate valve vault or valve box unit price.

VALVE VAULTS

Valve vaults shall be installed at the locations indicated in the plans or as directed by the Engineer. Valves shall be centered directly under the vault lid opening unless otherwise approved by the Engineer. Valve vaults shall conform to ASTM C478. For valves up to and including 12 inches in diameter, valve vaults shall have a forty-eight (48) inch inside diameter; for pressure connections and valves larger than 12 inches in diameter, valve vaults shall have a sixty (60) inch inside diameter.

No more than two (2) adjusting rings with six (6) inch maximum height adjustment shall be allowed. Rubber adjusting rings instead of concrete adjusting rings are required for all valve vaults and precast concrete rings are not allowed. All joints between vaults sections shall be sealed with mastic and McWrap or equal shall be used around the outside wall of the vault at the joints.

All vaults shall be provided with a heavy duty Type 1 frame and closed lid. The manhole frame and cover shall be an East Jordan 1022Z3 embossed "WATER" and "VILLAGE OF TINLEY PARK". Valve vault construction shall be as specified in the Division II Technical Specifications and detail drawings shown in the plans. Measurement for payment shall be per EACH for valve vaults installed, and shall include the appropriate VALVE or TAPPING SLEEVE AND VALVE as called out in the plans and proposal sheet.

CUT AND CAP

The Contractor shall install the water main as shown on the plans and completely flush and chlorinate said main. The Contractor shall then be required to disconnect the house services from the old main and connect new services to the new main at locations as shown on the plan and as directed by the Engineer. This connection of services shall not be accomplished until a satisfactory chlorination report is received on the new main in that area.

After all water services have been reinstated, the contractor shall abandon the existing water main in place by installing caps at the locations indicated in the plans or as directed by the Engineer, assisted by the Water Department, performing appropriate valve closings as necessary. The cost for any caps or plugs installed will be paid for at the contract unit price bid per EACH for [SPECIFIED SIZE] CUT AND CAP.

ABANDON VALVE BOX

Valves in valve boxes specified on the plans to be abandoned shall be closed and then cut a minimum of twelve inches (12") below the existing ground surface and then filled with concrete, sand or other appropriate material. This work will be paid for at the contract unit price per EACH for ABANDON VALVE BOX.

ABANDON VALVE VAULT

Valves in valve vaults specified on the plans to be abandoned shall be closed and then cut a minimum of twelve inches (12") below the existing ground surface. The uppermost cone/barrel section of the vaults shall also be removed to a minimum depth of twelve inches (12") below the existing ground surface. The remaining vault shall then be filled with concrete, sand, or other appropriate material as directed by the Engineer. This work will be paid for at the contract unit price per EACH for VALVE VAULTS TO BE ABANDONED.

VALVE MAINTENANCE

This work shall consist of performing rehabilitation of the existing water valves at those locations as directed by the engineer. Maintenance shall include the removal and replacement of all nuts and bolts on the valve with new stainless-steel bolts. Additionally, all packing shall be replaced.

The cost for this work, including all labor, excavation, materials and incidentals will be paid for at the contract unit price bid per EACH for VALVE MAINTENANCE.

FIRE HYDRANT WITH AUXILIARY VALVE, VALVE BOX AND TEE

This work shall consist of the installation of new hydrants, auxiliary valves, valve boxes, tees and associated pipe and fittings at the locations indicated in the plans or as directed by the Engineer. Hydrants shall be as manufactured by East Jordan Iron Works (model 5BR-250), or equal as approved by the Tinley Park Water Department and Tinley Park Fire Chief. The cost for connecting 6"water main pipe and/or fittings needed for offsetting the hydrant from the water main shall be incidental to the hydrant construction.

All hydrants shall be painted as directed by the Village of Tinley Park Water Department. All work shall be in accordance with the Division II Technical Specifications of this contract. The cost for this work will be paid for at the contract unit price bid per EACH for FIRE HYDRANT WITH AUXILIARY VALVE, VALVE BOX AND TEE.

FIRE HYDRANTS TO BE REMOVED

This item of work where indicated on the plans shall be in accordance with Article 564 of the Standard Specifications.

Once the new main is in service, including satisfactorily pressure tested, chlorinated and all service lines installed, existing hydrants and auxiliary valves shall be carefully disconnected from the existing water main, delivered to the public works garage, and remain the property of the Village of Tinley Park. This work will be paid for at the contract unit price per EACH for FIRE HYDRANTS TO BE REMOVED.

SANITARY SEWERS, PVC PIPE, WATERMAIN QUALITY PIPE

This work shall consist of the installation of PVC sanitary sewer using water main quality pressure pipe at locations indicated on the plans or as directed by the Engineer. Polyvinyl Chloride Solid Wall Pipe (Pressure Class 235, DR 18), blue in color, conforming to AWWA C900 (AWWA Standard for Polyvinyl Chloride [PVC] Pressure Pipe and Fabricated Fittings, 4 in. Through 12 in. for Water Distribution) with elastomeric gasketed joints meeting the requirements of AWWA C907 (Injection-Molded Polyvinyl Chloride [PVC] Pressure Fittings, 4 in. Through 12 in. for Water Distribution), unless otherwise directed by the Engineer. All pipe must be certified to CSA B137.3 "Rigid Poly (Vinyl Chloride)(PVC) Pipe for Pressure Applications". Each PVC pipe length and fitting shall be clearly marked with the following:

1. Manufacturer's Name
2. Nominal Pipe Size
3. Cell Classification
4. Minimum Pipe Stiffness

All joints 50 feet on either side of a petroleum pipeline crossing shall have Nitrile gasket material, which shall be incidental to the water main installation. The Contractor shall take great care not to scratch, indent, puncture or otherwise damage the PVC pipe during installation. All pipe materials used shall be inspected and approved by the Engineer before and during installation. If a pipe section has been damaged in any way before or during installation, it shall be removed and replaced with a pipe section acceptable to the Engineer. Pipe installation shall strictly conform to the manufacturers recommendations.

All trenches beneath and within 2' of roadways, shoulders, curb, sidewalks or driveways shall be backfilled with aggregate meeting the requirements of Section 208 of the standard specifications.

Bedding shall consist of crushed gravel, or crushed stone 1/4" to 1" in size. As a minimum, the material shall conform to the requirements of Article 1104.01 of the "Standard Specifications for Road and Bridge Construction," of the State of Illinois. The gradation shall conform to gradation CA 11 of the Illinois Standard Specifications or to ASTM Gradation 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. Bedding shall be a minimum of 4 inches. The backfill material to a level twelve inches (12") over the top of the pipe shall be of the same material as the bedding material specified above and shall be carefully placed so as to completely fill the space under and around the pipe, in eight inch layers, loose measurement, and compacted to the satisfaction of the Engineer. The remainder of the trench shall be backfilled as provided in Division II, Excavation and Cleanup, Section 1. Materials shall be backfilled to 95% standard laboratory density. Excess excavated material shall be disposed of in accordance with Section 2-2.06.

Sanitary sewers shall be tested by the air testing method as outlined in the general specifications and this cost is to be included in the unit price per lineal foot of sewer line.

The sanitary sewer shall be televised prior to reconnection of flow.

This work will be paid for at the contract unit price per FOOT of PVC SANITARY SEWER, (OF THE SIZE INDICATED) which price shall include the installation of the sewer, tees, service risers, by-pass pumping, excavation, bedding and backfilling, testing of the sewer line and all work as mentioned above.

SEWER FLOW CONTROL AND BYPASS PUMPING

The Contractor shall provide all labor, equipment, supervision, and materials necessary to control flows via bypass pumping. The Contractor shall be responsible for controlling and maintaining all sanitary flows within the sewer system during the Work. The Contractor may drain flows by pipes, chases, fluming, bypass pumping, or other appropriate methods approved by the Owner.

Precautions shall be taken to ensure that flow control and dewatering operations shall not cause flooding or damage to public or private properties. In the event flooding or damage occurs, the Contractor shall make provisions to correct such damage at no additional cost to the Owner. The Contractor shall be responsible for any damages to public or private property, overflows from the sewer system and violations resulting in fines as a result of the dewatering/bypass operation.

When required for this project, the Contractor shall provide all labor, equipment, and materials necessary for the transfer of flow around the sections of pipe. If the Contractor utilizes a subcontractor for bypass pumping operations, the subcontractor shall have at least five years of experience in the bypass pumping industry.

The bypass shall be made by diversion of the flow from an existing upstream location, around the section(s) to be taken from service for inspection or rehabilitation, to an existing downstream location. The bypass system shall be of adequate capacity to handle all flows, including wet weather related flows. If bypass pumping is utilized by the Contractor to control flows, the Contractor shall be responsible for monitoring the bypass pumping operation at all times until Work is complete. The location of pump(s), force main, discharge point, pumping rates, etc., shall be approved by the Owner.

The Contractor shall prepare a detailed Flow Control Plan that describes the measures to be used to control flows. The Contractor shall submit the Plan to the Engineer for review prior to beginning any flow control work. The Contractor's Plan shall include, but not necessarily be limited to, the following:

- Stand-by/back-up pump set for the bypass application
- Detail plan for 24-hour monitoring
- Fueling of pump sets on demand
- Location of flow diversion structures, collapsible sewer plugs, dams, pumps, and related materials and equipment. Sewer plug method and type of plugs or gates to be used.
- Key operational control factors, (i.e. maximum flow elevations upstream of dams)
- Pump sizes and flow rates
- Destination of bypassed flows, including routing of force mains and provisions for vehicular and pedestrian traffic as necessary
- Wet weather event procedures
- Staging areas for the pump
- Number, size, material, locations, and method of installation of suction piping
- Bypass pump sizes, capacity, number of each size to be on site, and power requirements
- Calculations of static lift, friction loss, and flow velocity
- Stand-by power
- Downstream discharge plan

- Method of noise control for each pump
- Temporary pipe supports and anchoring required
- Heavy equipment needed for installation of pumps and piping

The number and size of pumps utilized in bypass pumping shall be such that if the largest pump is out of service, bypass flows will be maintained during the bypass operation. Bypass pumping equipment shall include pumps, conduits, engines, and related equipment necessary to divert the flow or sewage around the section in which work is to be performed. In addition, the Contactor shall maintain at the same location and in operable condition, duplicate equipment to be used in case there is equipment failure. In this event, the Contractor shall promptly repair or replace the failed equipment to the satisfaction of the Owner.

The bypass system shall be of sufficient capacity to handle the peak flow of the pipe. The Contractor shall provide the necessary labor and supervision to set up and operate the pumping and bypassing system. The Contractor shall comply with any local sound ordinance. The equipment shall be manned continuously. During bypass pumping operations, the Contractor shall provide the necessary labor to continually monitor the operation and ensure uninterrupted and sufficient pumping at all times. The bypass pumping system shall be fueled every 24 hours or when the fuel tank reaches one quarter full, whichever comes first.

The Contractor shall provide all materials and labor as necessary to maintain flows in the existing sewer interceptor and all collector and lateral lines at all times and under all weather conditions. Interruption of flows will not be permitted. Overflows from bypass operations will not be permitted to enter into any streams or bodies of water. The Contractor will be solely responsible for any legal actions taken by the federal or state regulatory agencies if such overflows occur during construction.

New sewer pipes may be used by the Contractor to carry the sanitary flows after the new pipes have passed inspection and testing. Any "temporary" connections to the new sewer pipes shall be approved by the Owner.

New sewer pipes may be used by the Contractor to carry the sanitary flows after the new pipes have passed inspection and testing. Any "temporary" connections to the new sewer pipes shall be approved by the Owner.

Engine driven equipment for bypass pumping equipment shall have "critical grade mufflers." The enclosure shall be portable in order to allow the enclosure to be moved when bypass pumping equipment is moved. These conditions are subject to any other additional stipulations that may be required by local sound ordinances.

This work shall be paid for at the contract unit price per LUMP SUM for SEWER FLOW CONTROL AND BYPASS PUMPING.

TRENCH BACKFILL

This work shall consist of backfilling excavations made for water mains and sanitary sewer mains, services, stubs and manholes lying within 2' of existing or proposed paved areas with compacted trench backfill, gradation CA 6 in accordance with Section 208 of the Standard Specifications.

This work will be paid for per FOOT for TRENCH BACKFILL, SANITARY SEWER, or TRENCH BACKFILL, WATER MAIN. No additional consideration will be given to over-excavation resulting from the use of trench boxes.

PERMEABLE INTERLOCKING CONCRETE PAVEMENT

This work shall consist of constructing a permeable interlocking concrete pavement on an open graded aggregate base per the cross sections shown in the plans. The pattern shall be a stitched diagonal herringbone with a soldier course along the curb line (the soldier course is to be perpendicular to the curb line). The color shall be Granite Blend or as approved by the village. Work shall be as per the details that follow and a different brick and pattern is prescribed for the intersection area. The work shall be paid for per SQUARE YARD measured in place for PERMEABLE PAVERS, 3-1/8" AND AGGREGATE BASES which work shall include all aggregate courses, all labor, materials, and any additional appurtenances required to complete this work. Geotextile fabric will be the only related item paid for separately.

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes
1. Permeable interlocking concrete pavers.
2. Crushed stone bedding material.
3. Open-graded subbase aggregate.
4. Open-graded base aggregate.
5. Bedding and joint/opening filler materials.
6. Edge restraints.
7. Geotextiles.

B. Related Sections
1. Section [____X___]: Curbs.
2. Section [____X___]: [Stabilized] aggregate base.
3. Section [____X___]: Underdrains, type 2
4. Section [_____ _]: Impermeable liner.
5. Section [____X___]: Edge curbs
6. Section [___ X___]: Drainage pipes and appurtenances.
7. Section [____X___]: Earthworks/excavation/soil compaction.

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM)
1. C131 Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
2. C136 Method for Sieve Analysis for Fine and Coarse Aggregate.
3. C140 Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units.
4. D448 Standard Classification for Sizes of Aggregate for Road and Bridge Construction.
5. C936 Standard Specification for Solid Interlocking Concrete Pavers.
6. C979 Specification for Pigments for Integrally Colored Concrete.
7. C1645 Standard Test Method for Freeze-thaw and De-icing Salt Durability of Solid Concrete Interlocking Paving Units.
8. C1781 Standard Test Method for Surface Infiltration Rate of Permeable Unit Pavement Systems.
9. D3385 Standard Test Method for Infiltration Rate of Soils in Field Using Double-Ring Infiltrometer.
10. E2835 Standard Test Method for Measuring Deflections using a Portable Impulse Plate Load Test Device

B. Interlocking Concrete Pavement Institute (ICPI)
1. Permeable Interlocking Concrete Pavement manual (5th edition)
2. Permeable Design Pro software for hydrologic and structural design

1.03 SUBMITTALS

A. In accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
B. Paver manufacturer's/installation subcontractor's drawings and details: Indicate perimeter conditions, junction with other materials, expansion and control joints, paver layout shall be herringbone, [patterns,] [color arrangement,] installation per the details included in the plan details. Indicate layout, pattern and relationship of paving joints to fixtures, and project formed details.
C. Minimum 3 lb (2 kg) samples of subbase, base and bedding aggregate materials.
D. Sieve analysis of aggregates for subbase, base and bedding materials per ASTM C 136.
E. Project specific or producer/manufacturer source test results for void ratio and bulk density of the base and subbase aggregates.
F. Soils report indicating density test reports, classification, and infiltration rate measured on-site under compacted conditions, and suitability for the intended project.
G. Erosion and sediment control plan.
H. Structural analysis for vehicular applications using ICPI Permeable Interlocking Concrete Pavements manual, Permeable Design Pro or other approved design methods and models.
I. Permeable concrete pavers:
    1. Paver manufacturer's catalog sheets with product specifications.
    2. Four representative full-size samples of each paver type, thickness, color, and finish. Submit samples indicating the range of color expected in the finished installation.
    3. Accepted samples become the standard of acceptance for the work of this Section.
    4. Laboratory test reports certifying compliance of the concrete pavers with ASTM C 936.
    5. Manufacturer's certification of concrete pavers by ICPI as having met applicable ASTM standards.
    6. Manufacturers' material safety data sheets for the safe handling of the specified paving materials and other products specified herein.
    7. Paver manufacturer's written quality control procedures including representative samples of production record keeping that ensure conformance of paving products to the product specifications.
J. Paver Installation Subcontractor:
    1. Demonstrate that job foremen on the project have a current certificate from the Interlocking Concrete Pavement Institute Concrete Paver Installer Certification program and a record of completion from the PICP Installer Course.
    2. Job references from projects of a similar size and complexity. Provide Owner/Client/General Contractor names, postal address, phone, fax, and email address.
    3. Written Method Statement and Quality Control Plan that describes material staging and flow, paving direction and installation procedures, including representative reporting forms that ensure conformance to the project specifications.

1.04 QUALITY ASSURANCE

A. Paver Installation Subcontractor Qualifications:
    1. Utilize an installer having successfully completed concrete paver installation similar in design, material and extent indicated on this project.
    2. Utilize an installer with job foremen holding a record of completion from the Interlocking Concrete Pavement Institute PICP Installer Technician Course.
B. Regulatory Requirements and Approvals: Village of Tinley Park
C. Review the manufacturers' quality control plan, paver installation subcontractor's Method Statement and Quality Control Plan with a pre-construction meeting of representatives from the manufacturer, paver installation subcontractor, general contractor, engineer and/or owner's representative.
D. Mock-Ups:
    1. Install a 10 ft x 10 ft (3 x 3 m) paver area.

Note: Mechanized installations may require a larger mock up area. Consult with the paver installation contractor on the size of the mock up.

    2. Use this area to determine surcharge of the bedding layer, joint sizes, and lines, laying pattern, color and texture of the job.
    3. This area will be used as the standard by which the work will be judged.

4. Subject to acceptance by owner, mock-up may be retained as part of finished work.
5. If mock-up is not retained, remove and properly dispose of mock-up.

1.05 DELIVERY, STORAGE, AND HANDLING

A. General: Comply with Division 1 Product Requirement Section.
B. Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.
C. Delivery: Deliver materials in manufacturer's original, unopened, undamaged container packaging with identification tags intact on each paver bundle.
   1. Coordinate delivery and paving schedule to minimize interference with normal use of buildings adjacent to paving.
   2. Deliver concrete pavers to the site in steel banded, plastic banded, or plastic wrapped cubes capable of transfer by forklift or clamp lift.
   3. Unload pavers at job site in such a manner that no damage occurs to the product or existing construction
D. Storage and Protection: Store materials in protected area such that they are kept free from mud, dirt, and other foreign materials.

1.06 ENVIRONMENTAL REQUIREMENTS

A. Do not install in rain or snow.
B. Do not install frozen bedding materials.

1.07 MAINTENANCE

A. Extra materials: Provide 5% additional material for use by owner for maintenance and repair.
B. Pavers shall be from the same production run as installed materials.

PART 2 PRODUCTS

2.01 PAVING UNITS

A. Manufacturer: Unilock
   1. Contact:
B. Permeable Interlocking Concrete Paver Units (mainline and intersection):
   1. Paver Type: Unilock Eco-Priora
      a. Material Standard: Comply with ASTM C936. Use -15 deg. C as the lowest temperature for freeze-thaw durability testing while test specimens are immersed in a 3% saline solution per ASTM C1645.
      b. Herringbone Color [and finish]: Granite Fusion and premier finish
      c. Soldier Course Color [and finish]: II Campo and granite finish
      d. Color Pigment Material Standard: Comply with ASTM C979.
      e. Size: 5 x 10, 3.125" thick.

Note: Concrete pavers may have spacer bars on each unit. Spacer bars are recommended for mechanically installed pavers. Manually installed pavers may be installed with or without spacer bars. Verify with manufacturers that overall dimensions do not include spacer bars.

2.02 PRODUCT SUBSTITUTIONS

A. Substitutions: Permitted for gradations for crushed stone jointing material, base and subbase materials. Base and subbase materials shall have a minimum 0.32 porosity. All substitutions shall be approved in writing by the project engineer.

2.03 CRUSHED STONE FILLER, BEDDING, BASE AND SUBBASE

A. Crushed stone with 90% fractured faces, LA Abrasion < 40 per ASTM C 131.
B. Do not use rounded river gravel for vehicular applications.
C. All stone materials shall be washed with less than 2% passing the No. 200 sieve.
D. Joint/opening filler, bedding, base and subbase: conforming to ASTM D448 gradation as shown in

Tables 1, 2 and 3 below:

Note: No. 89 or No. 9 stone may be used to fill pavers with narrow joints.

Table 1
ASTM No. 8 Grading Requirements
Bedding and Joint/Opening Filler

Sieve Size	Percent Passing
12.5 mm (1/2 in.)	100
9.5 mm (3/8 in.)	85 to 100
4.75 mm (No. 4)	10 to 30
2.36 mm (No. 8)	0 to 10
1.16 mm (No. 16)	0 to 5

Table 2
ASTM No. 57 Base
Grading Requirements

Sieve Size	Percent Passing
37.5 mm (1 1/2 in.)	100
25 mm (1 in.)	95 to 100
12.5 mm (1/2 in.)	25 to 60
4.75 mm (No. 4)	0 to 10
2.36 mm (No. 8)	0 to 5

Note: ASTM No. 3 or No. 4 stone may be used as subbase material if ASTM No. 2 stone is unavailable.

Table 3
Grading Requirement for ASTM No. 2 Subbase

Sieve Size	Percent Passing
75 mm (3 in.)	100
63 mm (2 1/2 in.)	90 to 100
50 mm (2 in.)	35 to 70
37.5 mm (1 1/2 in.)	0 to 15
19 mm (3/4 in.)	0 to 5

2.04 ACCESSORIES

A. Provide accessory materials as follows:

1. Edge Restraints
   a. Concrete curb and gutter, ribbon curbs or crosswalk flush curbs are provided for edge restraint. The 12" wide cobble curse outside the pavement shall be provided with a rigid edge restraint.

2. Geotextile:
   a. Material Type and Description: woven geotextile with a higher permeability due to the presence of clay soils. A mono-filament, multi-filament or fibrillated-filament type woven geotextile shall be used. The fabric shall be a minimum 6 ounces per square yard.
   b. Material Standard: As approved by the village.
   c. Manufacturer: [Acceptable to interlocking concrete paver manufacturer that meets the above and is approved by the village]

PART 3 EXECUTION

3.01 ACCEPTABLE INSTALLERS

A. The contractor that installs the brick pavement shall demonstrate at least 5 other similar

installations under similar conditions and will provide references.

B. The village reserves the right to accept or reject the installer.

3.02 EXAMINATION

A. Acceptance of Site Verification of Conditions:

1. General Contractor shall inspect, accept and certify in writing to the paver installation subcontractor that site conditions meet specifications for the following items prior to installation of interlocking concrete pavers.

   a. Verify that subgrade preparation, compacted density and elevations conform to specified requirements.
   b. Provide written density test results for soil subgrade to the Owner, General Contractor and paver installation subcontractor.
   c. Verify location, type, and elevations of edge restraints, utility structures, and drainage pipes and inlets.

2. Do not proceed with installation of bedding and interlocking concrete pavers until subgrade soil conditions are corrected by the General Contractor or designated subcontractor.

3.03 PREPARATION

A. Verify that the soil subgrade is free from standing water.

B. Stockpile joint/opening filler, base and subbase materials such that they are free from standing water, uniformly graded, free of any organic material or sediment, debris, and ready for placement.

C. Edge Restraint Preparation:

1. Install edge restraints per the drawings

3.04 INSTALLATION

A. General

1. Any excess thickness of soil applied over the excavated soil subgrade to trap sediment from adjacent construction activities shall be removed before application of the geotextile and subbase materials.
2. Keep area where pavement is to be constructed free from sediment during entire job. Geotextiles, base and bedding materials contaminated with sediment shall be removed and replaced with clean materials.
3. Do not damage drainpipes, overflow pipes, observation wells, or any inlets and other drainage appurtenances during installation. Report any damage immediately to the project engineer.

B. Geotextiles

1. Place on top and sides of soil subgrade. Secure in place to prevent wrinkling from vehicle tires and tracks.
2. Overlap a minimum of 24 in. in the direction of drainage.

C. Open-graded subbase and base

1. Moisten, spread and compact the CA 1 (No. 2) subbase in maximum 8 in. (200 mm) lifts without wrinkling or folding the geotextile. Place subbase to protect geotextile from wrinkling under equipment tires and tracks. Do not place subbase aggregate on a subgrade or geotextile with water ponded on it.
2. For each lift, make at least two passes in the vibratory mode then at least two in the static mode with a minimum 10 t (8 T) vibratory roller until there is no visible movement of the No. 2 stone. Do not crush aggregate with the roller
3. Use a minimum 13,500 lbf (60 kN) plate compactor with a compaction indicator to compact areas that cannot be reached by the vibratory roller. Do not crush the aggregate with the plate compactor.
4. The surface tolerance of the compacted No. 2 subbase shall be ±2 1/2 in. (±65mm) over a 10 ft (3 m) straightedge.
5. Moisten, spread and compact the CA 7 (No. 57) base layer in one 4 in. (100 mm) thick lift. On this layer, make at least two passes in the vibratory mode then at least two in the static mode with a minimum 8 T vibratory roller until there is no visible movement of the No. 57 stone. Do not crush aggregate with the roller.

6. The surface tolerance the compacted No. 57 base should not deviate more than. ±1 in. (25 mm) over a 10 ft (3 m) straightedge.
7. Light Weight Deflectometer (LWD) for Compacted Subbase and Base Aggregate Deflection Testing
   a. After three preloading drops, the maximum average deflection from three additional drops shall be no greater than 0.5 mm.
   b. Conduct LWD tests on every 725 T of remaining area of compacted subbase and base aggregates.

8. Test Report
   a. The test report shall include the following:
      1) Project description.
      2) Sketch of test area and numbered test locations.
      3) Aggregate type and layer thicknesses.
      4) Aggregate characteristic properties: gradation, porosity, bulk density.
      5) Compaction equipment type and weight.
      6) Static and/or vibratory compaction.
      7) Number of passes of the compaction equipment.
      8) Average of three deflections for each location.

D. Bedding layer
1. Moisten, spread and screed the CA 15 (No. 8) stone bedding material. Maintain a consistent 2 in. thickness prior to compaction with the pavers.
2. Fill voids left by removed screed rails with No. 8 stone.
3. The surface tolerance of the screeded No. 8 bedding layer shall be ±3/8 in (10 mm) over a 10 ft (3 m) straightedge.
4. Do not subject screeded bedding material to any pedestrian or vehicular traffic before paving unit installation begins.

E. Permeable interlocking concrete pavers and joint/opening fill material
1. Lay the paving units in the pattern(s) and joint widths shown on the drawings. Maintain straight pattern lines.
2. Fill gaps at the edges of the paved area with cut units. Cut pavers subject to tire traffic shall be no smaller than 1/3 of a whole unit.
3. Cut pavers and place along the edges with a double-bladed splitter or masonry saw.
4. Fill the openings and joints with a washed ASTM No. 8 stone.

Note: Some paver joint widths may be narrow and not accept most of the No. 8 stone. Use joint material that will fill joints such as washed ASTM No. 89 or No. 9 stone.

5. Remove excess aggregate on the surface by sweeping pavers clean.
6. Compact and seat the pavers into the bedding material using a low-amplitude, 75-90 Hz plate compactor capable of at least 5,000 lbf. This will require at least two passes with the plate compactor.
7. Do not compact within 6 ft (2 m) of the unrestrained edges of the paving units.
8. Apply additional aggregate to the openings and joints if needed, filling them completely. Remove excess aggregate by sweeping then compact the pavers. This will require at least two passes with the plate compactor.
9. All pavers within 6 ft (2 m) of the laying face must be left fully compacted at the completion of each day.
10. The final surface tolerance of compacted pavers shall not deviate more than ±3/8 (10 mm) under a 10 ft (3 m) long straightedge.
11. The surface elevation of pavers shall be a minimum of 1/8 to a maximum 1/4 in. (3 to 6 mm) above adjacent drainage inlets, concrete collars or channels.

3.05 FIELD QUALITY CONTROL

A. After sweeping the surface clean, check final elevations for conformance to the drawings.
B. Lippage: No greater than 1/8 in. (3 mm) difference in height between adjacent pavers.

C. Neoprene modified asphalt adhesive product catalog sheets with specifications.
D. Bituminous setting bed: asphalt cement mix design to be used in the bituminous setting bed conforming to ASTM D 3381.
E. Sieve analysis per C 136 for sand mixed with bitumen and sand for joints between concrete pavers.
F. Concrete pavers:
   1. Four representative full-size samples of each paver type, thickness, color, finish that indicate the range of color variation and texture expected in the finished installation. Color(s) selected by Owner from manufacturer's available colors.
   2. Accepted samples become the standard of acceptance for the work.
   3. Test results from an independent testing laboratory for compliance of concrete pavers with ASTM C 936.
   4. Manufacturer's certification of concrete pavers by ICPI as having met applicable ASTM standards.
   5. Manufacturer's catalog product data, installation instructions, and material safety data sheets for the safe handling of the specified materials and products.
G. Paver Installation Subcontractor:
   1. A copy of Subcontractor's current certificate from the Interlocking Concrete Pavement Institute Concrete Paver Installer Certification program.
   2. Job references from projects of a similar size and complexity. Provide Owner/Client/General Contractor names, postal address, phone, fax, and email address.

1.04 QUALITY ASSURANCE
A. Paving Subcontractor Qualifications:
   1. Utilize an installer having successfully completed concrete paver installation similar in design, material, and extent indicated on this project.
   2. Utilize an installer holding a current certificate from the Interlocking Concrete Pavement Institute Concrete Paver Installer Certification program.
B. Regulatory Requirements and Approvals: [Specify applicable licensing, bonding or other requirements of regulatory agencies.].
C. Mock-Ups:
   1. Install a 7 ft x 7 ft (2 x 2 m) paver area.
   2. Use this area to determine surcharge of the bitumen-sand layer and adhesive, joint sizes, lines, laying pattern(s), color(s) and texture of the job.
   3. This area will be used as the standard by which the work will be judged.
   4. Subject to acceptance by owner, mock-up may be retained as part of finished work.
   5. If mock-up is not retained, remove and properly dispose of mock-up.

1.05 DELIVERY, STORAGE & HANDLING
A. General: Comply with Division 1 Product Requirement Section.
B. Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.
C. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers packaging with identification labels intact.
   1. Coordinate delivery and paving schedule to minimize interference with normal use of buildings adjacent to paving.
   2. Deliver concrete pavers to the site in steel banded, plastic banded or plastic wrapped packaging capable of transfer by forklift or clamp lift.
   3. Unload pavers at job site in such a manner that no damage occurs to the product.
D. Storage and Protection: Store materials protected such that they are kept free from mud, dirt, and other foreign materials. Store concrete paver cleaners and sealers per manufacturer's instructions.
   1. Cover joint sand with waterproof covering if needed to prevent exposure to rainfall or removal by wind. Secure the covering in place.

1.06 PROJECT/SITE CONDITIONS
A. Environmental Requirements:

1. Do not install bitumen setting bed or pavers during heavy rain or snowfall.
2. Do not install bitumen setting bed and pavers over frozen base materials.
3. Do not install frozen bitumen setting bed materials.
4. Do not install concrete pavers on frozen bitumen setting bed materials.

1.07 MAINTENANCE

A. Extra Materials: Provide 5% additional material for use by owner for maintenance and repair.
B. Pavers shall be from the same production run as installed materials.

PART 2 - PRODUCTS

2.01 INTERLOCKING CONCRETE PAVERS

A. Manufacturer: Unilock.
   1. Contact:
B. Interlocking Concrete Paver Units, including the following:
   1. Paver Type: Series 3000, 6x6, Keyboard motiff
      a. Material Standard: Comply with material standards set forth in ASTM C 936.
      b. Color and finish: Ice Gray (SS0041) and Black Granite, Premier Finish.
      c. Color Pigment Material Standard: Comply with ASTM C 979.
      d. Size: 6 inches x 6 inches x 3.125 inches thick.
      e. Average Compressive Strength (ASTM C 140): 8000 psi (55 MPa) with no individual unit under 7200 psi (50 MPa).
      f. Average Water Absorption (ASTM C 140): 5% with no unit greater than 7%.
      g. Freeze/Thaw Resistance (ASTM C 1645): 28 freeze-thaw cycles with no greater loss than 225 g/m^2 of paver surface area or no greater loss than 500 g/m^2 of paver surface area after 49 freeze-thaw cycles. Freeze-thaw testing requirements shall be waived for applications not exposed to freezing conditions.

2.02 PRODUCT SUBSTITUTIONS

A. Substitutions: No substitutions permitted.

2.03 BITUMEN SETTING BED MATERIALS

A. Primer for base: Anionic asphalt emulsion SS-1h, per ASTM D 977.
B. Sand for asphalt bed
   1. Clean, non-plastic, free from deleterious or foreign matter, symmetrically shaped, natural or manufactured from crushed rock.
   2. Do not use limestone screenings, stone dust, or sand in the bedding material that does not conform to the grading requirements.
   3. Graded according to ASTM C 136.

Note: Bedding sand gradation can conform to ASTM D1073, grading No. 2 which is similar to the gradation in Table. 1.

4. Bedding Sand Material Requirements: Conform to the grading requirements of ASTM C 33 with modifications as shown in Table 1.

Table 1
Grading Requirements for Bedding Sand
ASTM C 33

Sieve Size	Percent Passing
No. 4 (4.75 mm)	100
No. 8 (2.36 mm)	85 to 100
No. 16 (1.18 mm)	50 to 85
No. 30 (0.600 mm)	25 to 60
No. 50 (0.300 mm)	10 to 30
No. 100 (0.150 mm)	2 to 10

No. 200 (0.075 mm) 0 to 5

C. Asphalt cement: Meet ASTM D3381, viscosity grade AC-20; heated to 300° F (150° C), 7% asphalt mixed with 93% sand in batches 145 lbs. (66 kg) asphalt to 1,855 lbs. (840 kg) sand. Exact proportions to be determined by the Contractor.

D. Neoprene modified asphalt adhesive: Karnak 237 2% AF Neo-asphalt.

2.04 JOINT MATERIALS

A. Joint sand: light gray polymeric sand with grading conforming to ASTM C 144.

B. Sealant and backer materials: see Section 07920 – Joint Sealants.

PART 3 – EXECUTION

3.01 ACCEPTABLE INSTALLERS

A. To be as approved by the village

3.02 EXAMINATION

A. Acceptance of Site Verification of Conditions:

1. General Contractor shall inspect, accept and certify in writing to the paver installation subcontractor that site conditions meet specifications for the following items prior to installation of interlocking concrete pavers:
   a. Verify that concrete base materials, thickness, surface tolerances and elevations conform to specified requirements.
   b. Verify location of 2 in. (50 mm) diameter weep holes at 6 ft centers at lowest elevations against curbs, walls, or other permanent structures as indicated on the drawings. Verify holes filled with washed pea gravel. Provide temporary plugs for holes to prevent ingress of sand-asphalt setting bed or neoprene adhesive during construction. Remove plugs when paving adjacent to drain holes.
   c. Verify that concrete surfaces to receive the bitumen bedding material are free of dust, oil, grease, paint, wax, curing compounds, primer, sealers, form release agents, from cracks over 3/16 in. (5 mm) in width, or any deleterious substances and debris which may prevent or reduce bonding.
   d. Conduct moisture tests to verify that concrete surfaces are cured, free from hydrostatic pressure and having a moisture content of less than 5%.
   e. Verify location, type, and elevations of edge restraints, [concrete collars around] utility structures, and drainage inlets.
   f. Do not proceed with installation of bedding sand and interlocking concrete pavers until base conditions are corrected by the General Contractor or designated subcontractor.

3.03 PREPARATION

A. Verify base is dry, certified by General Contractor as meeting material, installation and grade specifications.

B. Verify that base is clean, dry, and ready to accept tack coat, bitumen setting bed, pavers, and imposed loads.

3.04 INSTALLATION

A. Concrete base preparation
   1. Fill any cracks under 3/16 in. (5 mm) wide with mortar.
   2. Sweep the surface clean.

B. Asphalt primer
   Apply at a rate of 1.0 gal/ 100 ft².

Note: Emulsified asphalt primer tack coats are typically applied at a rate of 0.6 to 1.0 gal per 100 ft² (2.5 to 4.1 liters per 10.0 m²) to asphalt base and 0.9 to 1.3 gal per 100 ft² (3.6 to 5.3 liters per 10.0 m²) to concrete base. Cutback asphalt tack coats are typically applied at a rate of 1.0 to 1.3 gal per 100 ft² (4.1 to 5.3 liters per 10.0 m²) to asphalt base and 1.2 to 1.5 gal per 100 ft² (4.8 to 6.1 liters per 10.0 m²) to a concrete base. Once

applied the tack coat should not be disturbed and should be allowed to cure or break before covering with the setting bed material. This may take a few hours dependent on weather conditions. Asphalt primer tack coats are recommended for vehicular applications.

C. Bituminous setting bed
   1. Place in panels between ¾ in. (20 mm) high screed rails spaced approximately 12 ft (4 m). Rake and screed smooth with strike board.
   2. Use screed rails to achieve a level setting bed conforming to elevations and slope shown on the drawings. After one panel is complete, advance screed rails to the next position in readiness for screeding adjacent panels with strike board. Fill depressions left from removed screed rails and smooth to height consistent with panel.
   3. Place an area in size that will remain at least 270° F (130° C) during compaction.
   4. Compact the setting bed with a powered roller compactor to an even, nominal thickness of ¾ in. (20 mm) after compaction.
   5. Re-heat, fill, and compact low areas with setting bed materials to conform to slope and elevation shown on the drawings.
   6. Re-heat, remove, level, and compact setting bed in high areas to conform to slope and elevation shown on the drawings.
   7. Irregularities or evenness in the grade of the concrete base surface may be corrected with setting bed materials only with approval by the [Architect].

D. Neoprene modified asphalt adhesive
   1. Apply to cold asphalt setting bed with a squeegee in a thickness not exceeding 1/16 in. (2 mm). Do not apply pavers to adhesive until dry skin forms on surface of adhesive.

E. Concrete pavers
   1. Free from dust, dirt, and stains. Do not use soiled, cracked, or broken units.
   2. Place paving units firmly onto adhesive with joints not to exceed 1/8 in. (3 mm), or as recommended in manufacturer's literature. Maintain straight pattern lines, joint lines and coursing per the drawings.
   3. Cut pavers to fit edges with a masonry saw. No cut paver shall be smaller than 1/3 of a whole unit if exposed to vehicular traffic. Firmly place all edge units on adhesive.

F. Joint filler and sealant
   1. Extend control and structural joints through full depth of paving units. Do not extend joints through bituminous bedding materials from joints in concrete base that control shrinkage cracking.
   2. Install joints at all building facades or other vertical surfaces.
   3. Install pre-molded joint filler as units are set in bituminous bed. Maintain top of filler 3/8 in. (10 mm) below exposed faces of paving units for insertion of sealant.
   4. Install joint sealant per manufacturer's recommendations.

G. Joint sand
   1. After the pavers, joint filler, and sealant are installed, spread dry joint sand and fill joints between the slabs.
   2. Sweep surface clean.

3.05 FIELD QUALITY CONTROL

Note: Surface tolerances on flat slopes should be measured with a rigid straightedge. Tolerances on complex contoured slopes should be measured with a flexible straightedge capable of conforming to the complex curves on the pavement surface.

A. The final surface tolerance from grade elevations shall not deviate more than ±. 3/8 in. (±10 mm) under a 10 ft (3 m) straightedge.
B. Check final surface elevations for conformance to drawings.
C. The surface elevation of pavers shall be 1/8 in. to 1/4 in. (3 to 6 mm) above adjacent drainage inlets, concrete collars or channels.
D. Lippage: No greater than 1/8 in. (3 mm) difference in height between adjacent pavers.

3.06 PROTECTION

A. After work in this section is complete, the General Contractor shall be responsible for protecting work from damage due to subsequent construction activity on the site.

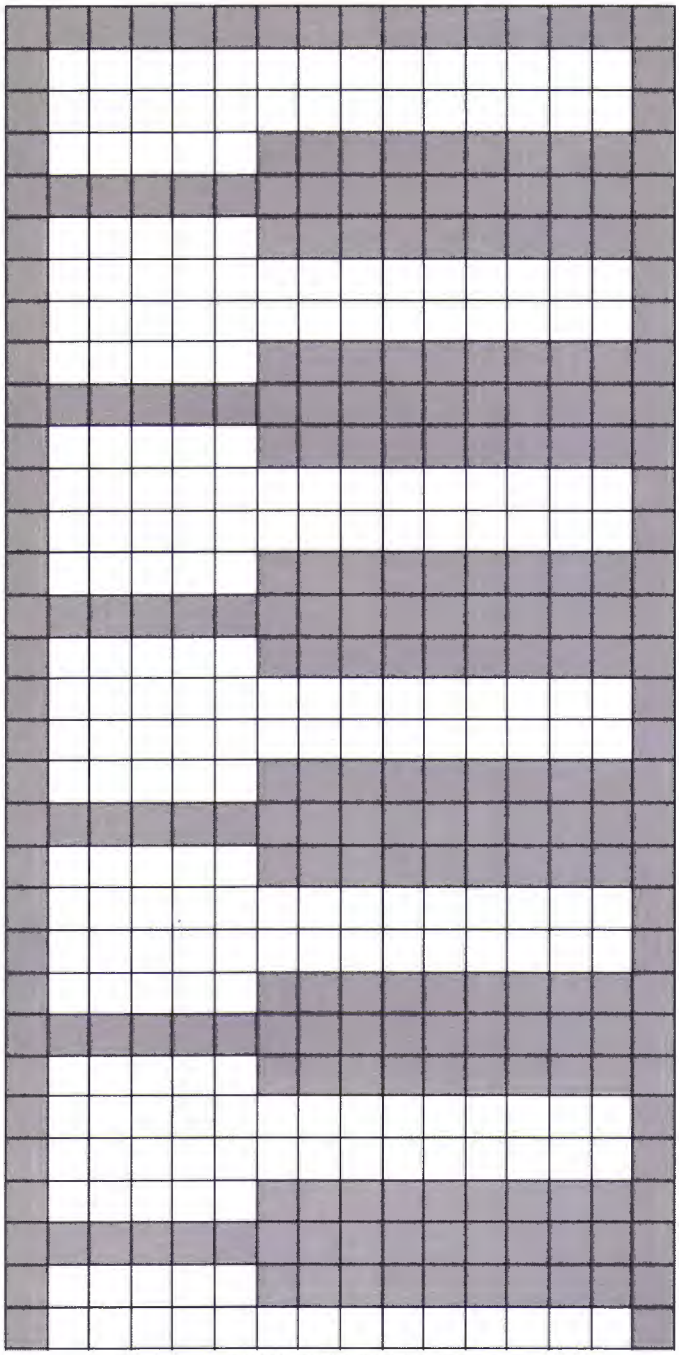

Figure 1 - PIANO CROSSWALK PATTERN

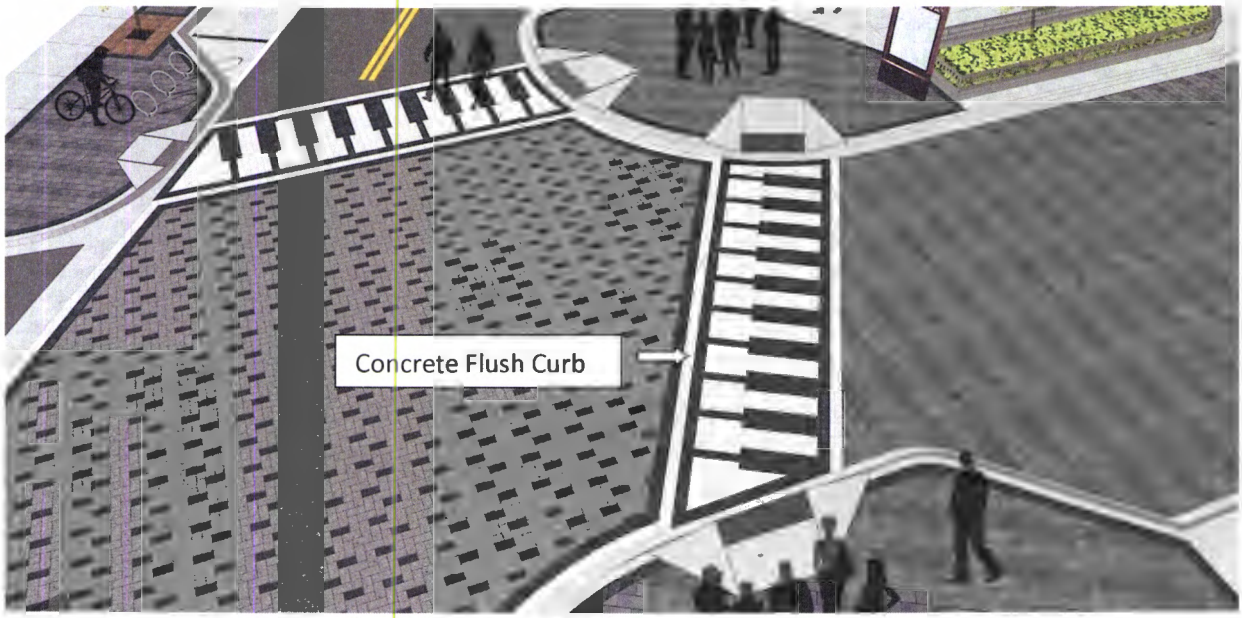

Figure 2 - CONTRASTING PATTERN AT INTERSECTION

END OF SECTION

PROJECT SIGN

The contractor shall erect a 36-inch by 24-inch project sign on a telescoping steel sign support in the south parkway of North Street upon completion of the project at a location as determined by the village. The sign and posts shall be in accordance with Section 720 and 728 of the Standard Specifications and shall state the following: "This project is a joint effort between the Village of Tinley Park and the Metropolitan Water Reclamation District of Greater Chicago, designed to promote the use of green infrastructure as an effective means of stormwater management," or other message as approved by the MWRDGC and Village.

The contractor shall submit a proposed drawing from the sign manufacturer showing the materials, lettering and installation for village approval. The color palate shall be selected by the village.

This work shall be paid for per EACH for PROJECT SIGN, which cost shall include the sign panel, telescoping posts, installation and all incidental work necessary for a completed sign.

DETECTOR LOOP REPLACEMENT AND/OR INSTALLATION (ROADWAY GRINDING, RESURFACING, & PATCHING OPERATIONS)

Effective: January 1, 1985

Revised: January 5, 2016

The following Traffic Signal Special Provisions and the "District 1 Standard Traffic Signal Design Details" supplement the requirements of the State of Illinois "Standard Specifications for Road and Bridge Construction" Sections 810, 886, 1079 and 1088.

The intent of this Special Provision is to prescribe the materials and construction methods commonly used to replace traffic signal detector loops and replace magnetic signal detectors with detector loops during roadway resurfacing, grinding and patching operations. Loop detector replacement will not require the transfer of traffic signal maintenance from the District Electrical Maintenance Contractor to this contract's electrical contractor. Replacement of magnetic detector will require wiring revisions inside the control cabinet and therefore the transfer of maintenance will be required. All material furnished shall be new. The locations and the details of all installations shall be as indicated on the Plans or as directed by the Engineer.

The work to be provided under this contract consists of furnishing and installing all traffic signal work as specified on the Plans and as specified herein in a manner acceptable and approved by the Engineer.

Notification of Intent to Work.

Contracts such as pavement grinding or patching which result in the destruction of traffic signal detection require a notification of intent to work and an inspection. A minimum of seven (7) working days prior to the detection removal, the Contractor shall notify the:

- Traffic Signal Maintenance and Operations Engineer at (847)705-4424
- IDOT Electrical Maintenance Contractor at (773) 287-7600

at which time arrangements will be made to adjust the traffic controller timing to compensate for the absence of detection.

Failure to provide proper notification may require the District's Electrical Maintenance Contractor to be called to investigate complaints of inadequate traffic signal timing. All costs associated with these expenses will be paid for by the Contractor at no additional expense to the Department according to Section 109 of the "Standard Specifications."

Acceptance of Material.

The Contractor shall provide:

1. All material approval requests shall be submitted a minimum of seven (7) days prior to the delivery of equipment to the job site, or within 30 consecutive calendar days after the contract is awarded, or within 15 consecutive calendar days after the preconstruction meeting, whichever is first.
2. Four (4) copies of a letter listing the vendor's name and model numbers of the proposed equipment shall be supplied. The letter will be reviewed by the Traffic Design Engineer to determine whether the equipment to be used is approved. The letters will be stamped as approved or not approved accordingly and returned to the Contractor.
3. One (1) copy of material catalog cuts.
4. The contract number, permit number or intersection location must be on each sheet of the letter and material catalog cuts as required in items 2 and 3.

Inspection of Construction.

When the road is open to traffic, except as otherwise provided in Section 801 and 850 of the Standard Specifications, the Contractor must request a turn-on and inspection of the completed detector loop installation at each separate location. This request must be made to the 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.

Acceptance of the traffic signal equipment by the Department shall be based upon inspection results at the traffic signal "turn on." If approved, traffic signal acceptance shall be verbal at the "turn on" inspection followed by written correspondence from the Engineer. If this work is not completed in time, the Department reserves the right to have the work completed by others at the Contractor's expense.

All cost of work and materials required to comply with the above requirements shall be included in the pay item bid price, 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 will be subject to removal and disposal at the Contractor's expense.

Restoration of Work Area.

Restoration of the traffic signal work area due to the detector loop installation and/or replacement shall be included in the cost of this item. All roadway surfaces such as shoulders, medians, sidewalks, pavement shall be replaced as shown in the plans or in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded.

Removal, Disposal and Salvage of Existing Traffic Signal Equipment.

The removal, disposal, and salvage of existing traffic signal equipment shall be included in the cost of this item. All material and equipment removed shall become the property of the Contractor and disposed of by the Contractor outside the State's right-of-way. No additional compensation shall be provided to the Contractor for removal, disposal or salvage expense for the work in this contract.

DETECTOR LOOP REPLACEMENT.

This work shall consist of replacing existing detector loops which are destroyed during grinding, resurfacing, or patching operations.

If damage to the detector loop is unavoidable, replacement of the existing detection system will be necessary. This work shall be completed by an approved Electrical Contractor as directed by the Engineer.

Replacement of the loops shall be accomplished in the following manner: The Engineer shall mark the location of the replacement loops. The Traffic Signal Maintenance and Operations Engineer shall be called to approve loop locations prior to the cutting of the pavement. The Contractor may reuse the existing coilable non-metallic conduit (CNC) located between the existing handhole and the pavement if it hasn't been damaged. CNC meeting the requirements of NEC Article 353 shall be used for detector loop raceways to the handholes. All burrs shall be removed from the edges of the existing conduit which could cause damage to the new detector loop during installation. If the existing conduit is damaged beyond repair, if it cannot be located, or if additional conduits are required for each proposed loop; the Contractor shall be required to drill through the existing pavement into the appropriate handhole, and install 1" (25 mm) CNC. This work and the required materials shall not be paid for separately but shall be included in the pay item Detector Loop Replacement. Once suitable CNC raceways is established, the loop may be cut, installed, sealed and spliced to the twisted-shielded lead-in cable in the handhole.

All loops installed in new asphalt pavement shall be installed in the binder course and not in the surface course. The edge of pavement or the curb shall be cut with a 1/4" (6.3 mm) deep x 4" (100 mm) saw-cut to mark location of each loop lead-in.

A minimum of seven (7) working days prior to the Contractor cutting loops, the Contractor shall have the proposed loop locations marked and contact the Traffic Signal Maintenance and Operations Engineer (847)705-4424 to inspect and approve the layout.

Loop detectors shall be installed according to the requirements of the "District 1 Standard Traffic Signal Design Details." Saw-cuts from the loop to the edge of pavement shall be made perpendicular to the edge of pavement when possible in order to minimize the length of the saw-cut unless directed otherwise by the Engineer or as shown on the plan.

The detector loop cable insulation shall be labeled with the cable specifications.

Each loop detector lead-in wire shall be labeled in the handhole using a water proof tag, from an approved vendor, secured to each wire with nylon ties. The lead-in wire, including all necessary connections for proper operation, from the edge of pavement to the handhole, shall be included in the detector loop pay item.

Loop sealant shall be a two-component thixotropic chemically cured polyurethane. The sealant shall be installed 1/8" (3 mm) below the pavement surface. If installed above the surface the excess shall be removed immediately.

Round loop(s) 6 ft (1.8 m) diameter may be substituted for 6 ft (1.8 m) by 6 ft (1.8 m) square loop(s) and shall be paid for as 24 feet (7.2 m) of detector loop.

Resistance to ground shall be a minimum of 100 mega-ohms under any conditions of weather or moisture. Inductance shall be more than 50 and less than 700 microhenries. Quality readings shall be more than 5.

Heat shrink splices shall be used according to the "District 1 Standard Traffic Signal Design Details."

Detector loop replacement shall be measured along the sawed slot in the pavement containing the loop cable up to the edge of pavement, rather than the actual length of the wire in the slot. Drilling handholes, sawing the pavement, furnishing and installing CNC to the appropriate handhole, cable splicing to provide a fully operable detector loop, testing and all trench and backfill shall be included in this item.

Basis of Payment.

Detector Loop Replacement shall be paid for at the contract unit price per foot (meter) of DETECTOR LOOP REPLACEMENT.

DRAINAGE AND INLET PROTECTION UNDER TRAFFIC (DISTRICT 1)

Effective: April 1, 2011
Revised: April 2, 2011

Add the following to Article 603.02 of the Standard Specifications:

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

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

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

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

Revise Article 603.07 of the Standard Specifications to read:

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

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

(a) Temporary Asphalt Ramps. Temporary hot-mix asphalt ramps shall be placed around the casting, flush with its surface and decreasing to a featheredge in a distance of 2 ft (600 mm) around the entire surface of the casting.

(b) Temporary Rubber Ramps. Temporary rubber ramps shall only be used on roadways with permanent posted speeds of 40 mph or less and when the height of the casting to be protected meets the proper sizing requirements for the rubber ramps as shown below.

Dimension	Requirement
Inside Opening	Outside dimensions of casting + 1 in. (25 mm)

Thickness at inside edge	Height of casting ± 1/4 in. (6 mm)
Thickness at outside edge	1/4 in. (6 mm) max.
Width, measured from inside opening to outside edge	8 1/2 in. (215 mm) min

Placement shall be according to the manufacturer's specifications.

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

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

Effective: November 1, 2012
Revise: January 1, 2018

Revise Section 1031 of the Standard Specifications to read:

"**SECTION 1031. RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES**

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

(a) Reclaimed Asphalt Pavement (RAP). RAP is the material resulting from cold milling or crushing an existing hot-mix asphalt (HMA) pavement. RAP will be considered processed FRAP after completion of both crushing and screening to size. The Contractor shall supply written documentation that the RAP originated from routes or airfields under federal, state, or local agency jurisdiction.

(b) Reclaimed Asphalt Shingles (RAS). Reclaimed asphalt shingles (RAS). RAS is from the processing and grinding of preconsumer or post-consumer shingles. RAS shall be a clean and uniform material with a maximum of 0.5 percent unacceptable material, as defined in Central Bureau of Materials Policy Memorandum, "Reclaimed Asphalt Shingle (RAS) Sources", by weight of RAS. All RAS used shall come from a Central Bureau of Materials approved processing facility where it shall be ground and processed to 100 percent passing the 3/8 in. (9.5 mm) sieve and 90 percent passing the #4 (4.75 mm) sieve. RAS shall meet the testing requirements specified herein. In addition, RAS shall meet the following Type 1 or Type 2 requirements.

(1) Type 1. Type 1 RAS shall be processed, preconsumer asphalt shingles salvaged from the manufacture of residential asphalt roofing shingles.

(2) Type 2. Type 2 RAS shall be processed post-consumer shingles only, salvaged from residential, or four unit or less dwellings not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP).

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

(a) RAP Stockpiles. The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. Additional processed RAP (FRAP) shall be stockpiled in a separate working pile, as designated in the QC Plan, and only added to the sealed stockpile when test results for the working pile are complete and are found to meet tolerances specified herein for the original sealed FRAP stockpile. Stockpiles shall be sufficiently separated to prevent intermingling at the base. All stockpiles (including unprocessed RAP and FRAP) shall be identified by signs indicating the type as listed below (i.e. "Non- Quality, FRAP -#4 or Type 2 RAS", etc...).

(1) Fractionated RAP (FRAP). FRAP shall consist of RAP from Class I, HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in FRAP shall be crushed aggregate and may represent more than one aggregate type and/or quality, but shall be at least C quality. All FRAP shall be processed prior to testing and sized into fractions with the separation occurring on or between the #4 (4.75 mm) and 1/2 in. (12.5 mm) sieves. Agglomerations shall be minimized such that 100 percent of the RAP in the coarse fraction shall pass the maximum sieve size specified for the mix the FRAP will be used in.

(2) Restricted FRAP (B quality) stockpiles shall consist of RAP from Class I, HMA (High ESAL), or HMA (High ESAL). If approved by the Engineer, the aggregate from a maximum 3.0 in. (75 mm) single combined pass of surface/binder milling will be classified as B quality. All millings from this application will be processed into FRAP as described previously.

(3) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I, HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in this RAP shall be crushed aggregate and may represent more than one aggregate type and/or quality, but shall be at least C quality. This RAP may have an inconsistent gradation and/or asphalt binder content prior to processing. All conglomerate RAP shall be processed (FRAP) prior to testing. Conglomerate RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.

(4) Conglomerate "D" Quality (DQ). Conglomerate DQ RAP stockpiles shall consist of RAP from HMA shoulders, bituminous stabilized subbases or HMA (Low ESAL)/HMA (Low ESAL) IL-19.0L binder mixture. The coarse aggregate in this RAP may be crushed or round but shall be at least D quality. This RAP may have an inconsistent gradation and/or asphalt binder content. Conglomerate DQ RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.

(5) Non-Quality. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Non-Quality".

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

(b) RAS Stockpiles. Type 1 and Type 2 RAS shall be stockpiled separately and shall be sufficiently separated to prevent intermingling at the base. Each stockpile shall be signed indicating what type of RAS is present.

However, a RAS source may submit a written request to the Department for approval to blend mechanically a specified ratio of Type 1 RAS with Type 2 RAS. The source will not be permitted to change the ratio of the blend without the Department prior written

approval. The Engineer's written approval will be required, to mechanically blend RAS with any fine aggregate produced under the AGCS, up to an equal weight of RAS, to improve workability. The fine aggregate shall be "B Quality" or better from an approved Aggregate Gradation Control System source. The fine aggregate shall be one that is approved for use in the HMA mixture and accounted for in the mix design and during HMA production.

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

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

(a) FRAP Testing. When used in HMA, the FRAP shall be sampled and tested either during processing or after stockpiling. It shall also be sampled during HMA production.

(1) During Stockpiling. For testing during stockpiling, washed extraction samples shall be run at the minimum frequency of one sample per 500 tons (450 metric tons) for the first 2000 tons (1800 metric tons) and one sample per 2000 tons (1800 metric tons) thereafter. A minimum of five tests shall be required for stockpiles less than 4000 tons (3600 metric tons).

(2) Incoming Material. For testing as incoming material, washed extraction samples shall be run at a minimum frequency of one sample per 2000 tons (1800 metric tons) or once per week, whichever comes first.

(3) After Stockpiling. For testing after stockpiling, the Contractor shall submit a plan for approval to the District proposing a satisfactory method of sampling and testing the RAP/FRAP pile either in-situ or by restockpiling. The sampling plan shall meet the minimum frequency required above and detail the procedure used to obtain representative samples throughout the pile for testing.

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

(b) RAS Testing. RAS shall be sampled and tested during stockpiling according to Central Bureau of Materials Policy Memorandum, "Reclaimed Asphalt Shingle (RAS) Sources". The Contractor shall also sample as incoming material at the HMA plant.

(1) During Stockpiling. Washed extraction and testing for unacceptable materials shall be run at the minimum frequency of one sample per 200 tons (180 metric tons) for the first 1000 tons (900 metric tons) and one sample per 1000 tons (900 metric tons) thereafter. A minimum of five samples are required for stockpiles less than

1000 tons (900 metric tons). Once a ≤ 1000 ton (900 metric ton), five-sample/test stockpile has been established it shall be sealed. Additional incoming RAS shall be in a separate working pile as designated in the Quality Control plan and only added to the sealed stockpile when the test results of the working pile are complete and are found to meet the tolerances specified herein for the original sealed RAS stockpile.

(2) Incoming Material. For testing as incoming material at the HMA plant, washed extraction shall be run at the minimum frequency of one sample per 250 tons (227 metric tons). A minimum of five samples are required for stockpiles less than 1000 tons (900 metric tons). The incoming material test results shall meet the tolerances specified herein.

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

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

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

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

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

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

If any individual sieve and/or asphalt binder content tests are out of the above tolerances when compared to the average used for the mix design, the FRAP stockpile shall not be

used in Hot-Mix Asphalt unless the FRAP representing those tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

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

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

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

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

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

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

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

The Engineer will notify the Contractor of observed deficiencies.

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

Test Parameter	Acceptable Limits of Precision

% Passing:[1/]	FRAP	RAS
1/2 in.	5.0%	
No. 4	5.0%	
No. 8	3.0%	4.0%
No. 30	2.0%	4.0%
No. 200	2.2%	4.0%
Asphalt Binder Content	0.3%	3.0%
G_{mm}	0.030	

1/ Based on washed extraction.

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

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

1031.05 Quality Designation of Aggregate in RAP and FRAP.

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

(1) RAP from Class I, HMA (High ESAL), or (Low ESAL) IL-9.5L surface mixtures are designated as containing Class B quality coarse aggregate.

(2) RAP from HMA (Low ESAL) IL-19.0L binder mixture is designated as Class D quality coarse aggregate.

(3) RAP from Class I, HMA (High ESAL) binder mixtures, bituminous base course mixtures, and bituminous base course widening mixtures are designated as containing Class C quality coarse aggregate.

(4) RAP from bituminous stabilized subbase and BAM shoulders are designated as containing Class D quality coarse aggregate.

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

If the quality is not known, the quality shall be determined as follows. Fractionated RAP stockpiles containing plus #4 (4.75 mm) sieve coarse aggregate shall have a maximum tonnage of 5,000 tons (4,500 metric tons). The Contractor shall obtain a representative sample witnessed by the Engineer. The sample shall be a minimum of 50 lb (25 kg). The sample shall be extracted according to Illinois Modified AASHTO T 164 by a consultant laboratory prequalified by the Department for the specified testing. The consultant laboratory shall submit the test results along with the recovered aggregate to

the District Office. The cost for this testing shall be paid by the Contractor. The District will forward the sample to the Central Bureau of Materials Aggregate Lab for MicroDeval Testing, according to ITP 327. A maximum loss of 15.0 percent will be applied for all HMA applications. The fine aggregate portion of the fractionated RAP shall not be used in any HMA mixtures that require a minimum of "B" quality aggregate or better, until the coarse aggregate fraction has been determined to be acceptable thru a MicroDeval Testing.

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

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

(1) Coarse Aggregate Size (after extraction). The coarse aggregate in all FRAP shall be equal to or less than the nominal maximum size requirement for the HMA mixture to be produced.

(2) Steel Slag Stockpiles. FRAP stockpiles containing steel slag or other expansive material, as determined by the Department, shall be homogeneous and will be approved for use in HMA (High ESAL and Low ESAL) mixtures regardless of lift or mix type.

(3) Use in HMA Surface Mixtures (High and Low ESAL). FRAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall have coarse aggregate that is Class B quality or better. FRAP shall be considered equivalent to limestone for frictional considerations unless produced/screened to minus 3/8 inch.

(4) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. FRAP stockpiles for use in HMA binder mixtures (High and Low ESAL), HMA base course, and HMA base course widening shall be FRAP in which the coarse aggregate is Class C quality or better.

(5) Use in Shoulders and Subbase. FRAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be FRAP, Restricted FRAP, conglomerate, or conglomerate DQ.

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

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

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

Max Asphalt Binder Replacement for FRAP with RAS Combination

HMA Mixtures 1/ 2/ 4/	Maximum % ABR		
Ndesign	Binder/Leveling Binder	Surface	Polymer Modified 3/
30L	50	40	30
50	40	35	30
70	40	30	30
90	40	30	30
4.75 mm N-50			40
SMA N-80			30

1/ For Low ESAL HMA shoulder and stabilized subbase, the percent asphalt binder replacement shall not exceed 50 % of the total asphalt binder in the mixture.

2/ When the binder replacement exceeds 15 % for all mixes, except for SMA and IL-4.75, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 % binder replacement using a virgin asphalt binder grade of PG64-22 will be reduced to a PG58-28). When constructing full depth HMA and the ABR is less than 15 %, the required virgin asphalt binder grade shall be PG64-28.

3/ When the ABR for SMA or IL-4.75 is 15 % or less, the required virgin asphalt binder shall be SBS PG76-22 and the elastic recovery shall be a minimum of 80. When the ABR for SMA or IL-4.75 exceeds 15%, the virgin asphalt binder grade shall be SBS PG70-28 and the elastic recovery shall be a minimum of 80.

4/ When FRAP or RAS is used alone, the maximum percent asphalt binder replacement designated on the table shall be reduced by 10 %.

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

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

(b) RAS. Type 1 and Type 2 RAS are not interchangeable in a mix design.

The RAP, FRAP and RAS stone specific gravities (G_{sb}) shall be according to the "Determination of Aggregate Bulk (Dry) Specific Gravity (G_{sb}) or Reclaimed Asphalt Pavement (RAP) and

Reclaimed Asphalt Shingles (RAS)" procedure in the Department's Manual of Test Procedures for Materials.

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

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

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

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

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

(1) Dryer Drum Plants.

a. Date, month, year, and time to the nearest minute for each print.

b. HMA mix number assigned by the Department.

c. Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).

d. Accumulated dry weight of RAS and FRAP in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).

e. Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.

f. Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.

g. Residual asphalt binder in the RAS and FRAP material as a percent of the total mix to the nearest 0.1 percent.

h. Aggregate RAS and FRAP moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAS and FRAP are printed in wet condition.)

i. When producing mixtures with FRAP and/or RAS, a positive dust control system shall be utilized.

j. Accumulated mixture tonnage.

k. Dust Removed (accumulated to the nearest 0.1 ton (0.1 metric ton))

(2) Batch Plants.

a. Date, month, year, and time to the nearest minute for each print.

b. HMA mix number assigned by the Department.

c. Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram).

d. Mineral filler weight to the nearest pound (kilogram).

f. RAS and FRAP weight to the nearest pound (kilogram).

g. Virgin asphalt binder weight to the nearest pound (kilogram).

h. Residual asphalt binder in the RAS and FRAP material as a percent of the total mix to the nearest 0.1 percent.

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

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

(a) Stockpiles and Testing. RAP stockpiles may be any of those listed in Article 1031.02, except "Non-Quality" and "FRAP". The testing requirements of Article 1031.03 shall not apply. RAP used shall be according to the current Central Bureau of Materials Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications".

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

FRICTION AGGREGATE (D-1)

Effective: January 1, 2011
Revised: April 29, 2016

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

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

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

Use	Mixture	Aggregates Allowed
Class A	Seal or Cover	Allowed Alone or in Combination [5/]: Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Crushed Concrete
HMA Low ESAL	Stabilized Subbase or Shoulders	Allowed Alone or in Combination [5/]: Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag[1/] Crushed Concrete
HMA High ESAL Low ESAL	Binder IL-19.0 or IL-19.0L SMA Binder	Allowed Alone or in Combination [5/ 6/]: Crushed Gravel Carbonate Crushed Stone[2/] Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Concrete[3/]

Use	Mixture	Aggregates Allowed
HMA High ESAL Low ESAL	C Surface and Leveling Binder IL-9.5 or IL-9.5L SMA Ndesign 50 Surface	Allowed Alone or in Combination [5/]: Crushed Gravel Carbonate Crushed Stone[2/] Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag[4/] Crushed Concrete[3/]
HMA High ESAL	D Surface and Leveling Binder IL-9.5 SMA Ndesign 50 Surface	Allowed Alone or in Combination [5/]: Crushed Gravel Carbonate Crushed Stone (other than Limestone)[2/] Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag[4/] Crushed Concrete[3/]
		Other Combinations Allowed: *Up to...* / *With...* 25% Limestone / Dolomite 50% Limestone / Any Mixture D aggregate other than Dolomite 75% Limestone / Crushed Slag (ACBF) or Crushed Sandstone
HMA High ESAL	E Surface IL-9.5 SMA Ndesign 80 Surface	Allowed Alone or in Combination [5/ 6/]: Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag No Limestone.
		Other Combinations Allowed: *Up to...* / *With...*

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

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

HMA MIXTURE DESIGN REQUIREMENTS (D-1)

Effective: January 1, 2013
Revised: January 1, 2018

1) Design Composition and Volumetric Requirements

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

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

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

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

1/ CA 16 or CA 13 may be blended with the gradations listed.
2/ The coarse aggregates used shall be capable of being combined with stone sand, slag sand, or steel slag sand meeting the FA/FM 20 gradation and mineral filler to meet the approved mix design and the mix requirements noted herein.
3/ CA 13 shall be 100 percent passing the 1/2 in. (12.5mm) sieve.

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

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

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

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

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

"High ESAL	IL-19.0 binder; IL-9.5 surface; IL-4.75; SMA-12.5, SMA-9.5
Low ESAL	IL-19.0L binder; IL-9.5L surface; Stabilized Subbase (HMA)[1/]; HMA Shoulders[2/]

1/ Uses 19.0L binder mix.

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

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

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

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

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

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

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

produces either Type I or Type 2. Material shall meet requirements noted herein and the actual dosage rate will be determined by the Engineer.

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

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

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

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

1/ Based on percent of total aggregate weight.

2/ The mixture composition shall not exceed 44 percent passing the #8 (2.36 mm) sieve for surface courses with Ndesign = 90.

3/ Additional minus No. 200 (0.075 mm) material required by the mix design shall be mineral filler, unless otherwise approved by the Engineer.

4/ The maximum percent passing the #635 (20 µm) sieve shall be ≤ 3 percent.

5/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted above the percentage stated on the table.

6/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted below 34 percent.

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

"(1) High ESAL Mixtures. The target value for the air voids of the HMA shall be 4.0 percent and for IL-4.75 it shall be 3.5 percent at the design number of gyrations. The VMA and VFA of the HMA design shall be based on the nominal maximum size of the aggregate in the mix, and shall conform to the following requirements.

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

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

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

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

"(3) SMA Mixtures.

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

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

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

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

4/ Blending of different types of aggregate will not be permitted. For surface course, the coarse aggregate can be crushed steel slag, crystalline crushed stone or crushed sandstone. For binder course, coarse aggregate shall be crushed stone (dolomite), crushed gravel, crystalline crushed stone, or crushed sandstone.

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

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

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

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

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

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

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

2) Design Verification and Production

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

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

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

(1)Hamburg Wheel Test criteria. The maximum allowable rut depth shall be 0.5 in. (12.5 mm). The minimum number of wheel passes at the 0.5 in. (12.5 mm) rut depth criteria shall be based on the high temperature binder grade of the mix as specified in the mix requirements table of the plans.

Illinois Modified AASHTO T 324 Requirements [1/]

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

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

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

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

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

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

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

"The Hamburg Wheel test shall also be conducted on all HMA mixtures from a sample taken within the first 500 tons (450 metric tons) on the first day of production or during start up with a split reserved for the Department. The mix sample shall be tested according to the Illinois Modified AASHTO T 324 and shall meet the requirements specified herein. Mix production shall not exceed 1500 tons (1350 metric tons) or one day's production, whichever comes first, until the testing is completed and the mixture is found to be in conformance. The requirement to cease mix production may be waived if the plant produced mixture demonstrates conformance prior to start of mix production for a contract.
If the mixture fails to meet the Hamburg Wheel criteria, no further mixture will be accepted until the Contractor takes such action as is necessary to furnish a mixture meeting the criteria"

Method of Measurement:

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

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

Basis of Payment.

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

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

GROUND TIRE RUBBER (GTR) MODIFIED ASPHALT BINDER (D-1)
Effective: June 26, 2006
Revised: April 1, 2016

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

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

Test	Asphalt Grade GTR 70-28	Asphalt Grade GTR 64-28
Flash Point (C.O.C.), AASHTO T 48, °F (°C), min.	450 (232)	450 (232)
Rotational Viscosity, AASHTO T 316 @ 275 °F (135 °C), Poises, Pa·s, max.	30 (3)	30 (3)
Softening Point, AASHTO T 53, °F (°C), min.	135 (57)	130 (54)
Elastic Recovery, ASTM D 6084, Procedure A (sieve waived) @ 77 °F, (25 °C), aged, ss, 100 mm elongation, 5 cm/min., cut immediately, %, min.	65	65

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

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

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

"A dedicated storage tank for the Ground Tire Rubber (GTR) modified asphalt binder shall be provided. This tank must be capable of providing continuous mechanical mixing throughout by continuous agitation and recirculation of the asphalt binder to provide a uniform mixture. The tank shall be heated and capable of maintaining the temperature

of the asphalt binder at 300 °F to 350 °F (149 °C to 177 °C). The asphalt binder metering systems of dryer drum plants shall be calibrated with the actual GTR modified asphalt binder material with an accuracy of ± 0.40 percent."

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

"(c) RAP Materials (Note 5) .....1031"

Add the following note to 1030.02 of the Standard Specifications:

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

TEMPORARY INFORMATION SIGNING
Effective: November 13, 1996
Revised: January 2, 2007

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

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

	Item	Article/Section
a.)	Sign Base (Notes 1 & 2)	1090
b.)	Sign Face (Note 3)	1091
c.)	Sign Legends	1092
d.)	Sign Supports	1093
e.)	Overlay Panels (Note 4)	1090.02

Note 1. The Contractor may use 5/8 inch (16 mm) instead of 3/4 inch (19 mm) thick plywood.
Note 2. Type A sheeting can be used on the plywood base.
Note 3. All sign faces shall be Type A except all orange signs shall meet the requirements of Article 1106.01.
Note 4. The overlay panels shall be 0.08 inch (2 mm) thick.

GENERAL CONSTRUCTION REQUIRMENTS

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

Signs which are placed along the roadway and/or within the construction zone shall be installed according to the requirements of Article 701.14 and Article 720.04. The signs shall be 7 ft (2.1 m) above the near edge of the pavement and shall be a minimum of 2 ft (600 mm) beyond the edge of the paved shoulder. A minimum of two (2) posts shall be used.

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

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

Method of Measurement.

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

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

Basis Of Payment.
This work shall be paid for at the contract unit price per square foot (square meter) for TEMPORARY INFORMATION SIGNING.

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

BUTT JOINTS (BDE)

Effective: July 1, 2016

Add the following to Article 406.08 of the Standard Specifications.

"(c) Temporary Plastic Ramps. Temporary plastic ramps shall be made of high density polyethylene meeting the properties listed below. Temporary plastic ramps shall only be used on roadways with permanent posted speeds of 55 mph or less. The ramps shall have a minimum taper rate of 1:30 (V:H). The leading edge of the plastic ramp shall have a maximum thickness of 1/4 in. (6 mm) and the trailing edge shall match the height of the adjacent pavement ± 1/4 in. (± 6 mm).

The ramp will be accepted by certification. The Contractor shall furnish a certification from the manufacturer stating the temporary plastic ramp meets the following requirements.

Physical Property	Test Method	Requirement
Melt Index	ASTM D 1238	8.2 g/10 minutes
Density	ASTM D 1505	0.965 g/cc
Tensile Strength @ Break	ASTM D 638	2223 psi (15 MPa)
Tensile Strength @ Yield	ASTM D 638	4110 psi (28 MPa)
Elongation @ Yield [1/], percent	ASTM D 638	7.3 min.
Durometer Hardness, Shore D	ASTM D 2240	65
Heat Deflection Temperature, 66 psi	ASTM D 648	176 °F (80 °C)
Low Temperature Brittleness, F_{50}	ASTM D 746	<-105 °F (<-76 °C)

1/ Crosshead speed -2 in./minute

The temporary plastic ramps shall be installed according to the manufacturer's specifications and fastened with anchors meeting the manufacturer's recommendations. Temporary plastic ramps that fail to stay in place or create a traffic hazard shall be replaced immediately with temporary HMA ramps at the Contractor's expense."

80366

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

Illinois Department of Transportation

Memorandum

To:	Regional Engineers
From:	Maureen M. Addis
Subject:	Special Provision for Grooving for Recessed Pavement Markings
Date:	August 4, 2017

This special provision was developed by the Bureau of Operations to create a statewide specification for installing a pavement groove for recessed pavement markings that provides for improved durability of pavement marking materials. It has been revised to reduce the offset of the groove from longitudinal joints and to reduce the waiting time for new HMA pavements from 14 to ten days.

This special provision should be inserted into contracts where the grooving of pavement marking materials has been specified.

The districts should include the BDE Check Sheet marked with the applicable special provisions for the November 17, 2017 and subsequent lettings. The Project Development and Implementation Section will include a copy in the contract.

This special provision will be available on the transfer directory August 4, 2017.

80304m

GROOVING FOR RECESSED PAVEMENT MARKINGS (BDE)

Effective: November 1, 2012
Revised: November 1, 2017

Description. This work shall consist of grooving the pavement surface in preparation for the application of recessed pavement markings.

Equipment. Equipment shall be according to the following.

(a) Preformed Plastic Pavement Marking Installations. The grooving equipment shall have a free-floating saw blade cutting head equipped with gang-stacked diamond saw blades. The diamond saw blades shall be of uniform wear and shall produce a smooth textured surface. Any ridges in the groove shall have a maximum height of 15 mils (0.38 mm).

(b) Liquid and Thermoplastic Pavement Marking Installations. The grooving equipment shall be equipped with either a free-floating saw blade cutting head or a free-floating grinder cutting head configuration with diamond or carbide tipped cutters and shall produce an irregular textured surface.

CONSTRUCTION REQUIREMENTS

General. The Contractor shall supply the Engineer with a copy of the pavement marking material manufacturer's recommendations for constructing a groove.

Pavement Grooving Methods. The grooves for recessed pavement markings shall be constructed using the following methods.

(a) Wet Cutting Head Operation. When water is required or used to cool the cutting head, the groove shall be flushed with high pressure water immediately following the cut to avoid build up and hardening of slurry in the groove. The pavement surface shall be allowed to dry for a minimum of 24 hours prior to the final cleaning of the groove and application of the pavement marking material.

(b) Dry Cutting Head Operation. When used on HMA pavements, the groove shall be vacuumed or cleaned by blasting with high-pressure air to remove loose aggregate, debris, and dust generated during the cutting operation. When used on PCC pavements, the groove shall be flushed with high pressure water or shot blasted to remove any PCC particles that may have become destabilized during the grooving process. If high pressure water is used, the pavement surface shall be allowed to dry for a minimum of 24 hours prior to the final cleaning of the groove and application of the pavement marking material.

Pavement Grooving. Grooving shall not cause ravels, aggregate fractures, spalling or disturbance of the joints to the underlying surface of the pavement. Grooves shall be cut into

the pavement prior to the application of the pavement marking material. Grooves shall be cut such that the width is 1 in. (25 mm) greater than the width of the pavement marking line as specified on the plans. Grooves for letters and symbols shall be cut in a square or rectangular shape so that the entire marking will fit within the limits of the grooved area. The position of the edge of the grooves shall be a minimum of 2 in. (50 mm) from the edge of all longitudinal joints. The depth of the groove shall not be less than the manufacturer's recommendations for the pavement marking material specified, but shall be installed to a minimum depth of 110 mils (2.79 mm) and a maximum depth of 200 mils (5.08 mm) for pavement marking tapes thermoplastic markings and a minimum depth of 40 mils (1.02 mm) and a maximum depth of 80 mils (2.03 mm) for liquid markings. The cutting head shall be operated at the appropriate speed in order to prevent undulation of the cutting head and grooving at an inconsistent depth.

At the start of grooving operations, a 50 ft (16.7 m) test section shall be installed and depth measurements shall be made at 10 ft (3.3 m) intervals within the test section. The individual depth measurements shall be within the allowable ranges according to this Article. If it is determined the test section has not been grooved at the appropriate depth or texture, adjustments shall be made to the cutting head and another 50 ft (16.7 m) test section shall be installed and checked. This process shall continue until the test section meets the requirements of this Article.

For new HMA pavements, grooves shall not be installed within 10 days of the placement of the final course of pavement.

Final Cleaning. Immediately prior to the application of the pavement marking material or primer sealer, the groove shall be cleaned with high-pressure air blast.

Method of Measurement. This work will be measured for payment in place, in feet (meter) for the groove width specified.

Grooving for letter, numbers and symbols will be measured in square feet (square meters).

Basis of Payment. This work will be paid for at the contract unit price per foot (meter) for GROOVING FOR RECESSED PAVEMENT MARKING of the groove width specified, and per square foot (square meter) for GROOVING FOR RECESSED PAVEMENT MARKING, LETTERS AND SYMBOLS.

The following shall only apply when preformed plastic pavement markings are to be recessed:

Add the following paragraph after the first paragraph of Article 780.07 of the Standard Specifications.

"The markings shall be capable of being applied in a grooved slot on new and existing portland cement concrete and HMA surfaces, by means of a pressure-sensitive, precoated adhesive, or liquid contact cement which shall be applied at the time of installation. A primer sealer shall be applied with a roller and shall cover and seal the entire bottom of the groove.

The primer sealer shall be recommended by the manufacturer of the pavement marking material and shall be compatible with the material being used. The Contractor shall install the markings in the groove as soon as possible after the primer sealer cures according to the manufacturer's recommendations. The markings placed in the groove shall be rolled and tamped into the groove with a roller or tamper cart cut to fit the groove and loaded with or weighing at least 200 lb (90kg). Vehicle tires shall not be used for tamping. The Contractor shall roll and tamp the material with a minimum of 6 passes to prevent easy removal or peeling."

80304

HOT-MIX ASPHALT - DENSITY TESTING OF LONGITUDINAL JOINTS (BDE)

Effective: January 1, 2010
Revised: August 1, 2018

Description. This work shall consist of testing the density of longitudinal joints as part of the quality control/quality assurance (QC/QA) of hot-mix asphalt (HMA). Work shall be according to Section 1030 of the Standard Specifications except as follows.

Quality Control/Quality Assurance (QC/QA). Delete the second and third sentence of the third paragraph of Article 1030.05(d)(3) of the Standard Specifications.

Add the following paragraphs to the end of Article 1030.05(d)(3) of the Standard Specifications:

"Longitudinal joint density testing shall be performed at each random density test location. Longitudinal joint testing shall be located at a distance equal to the lift thickness or a minimum of 4 in. (100 mm), from each pavement edge. (i.e. for a 5 in. (125 mm) lift the near edge of the density gauge or core barrel shall be within 5 in. (125 mm) from the edge of pavement.) Longitudinal joint density testing shall be performed using either a correlated nuclear gauge or cores.

a. Confined Edge. Each confined edge density shall be represented by a one-minute nuclear density reading or a core density and shall be included in the average of density readings or core densities taken across the mat which represents the Individual Test.

b. Unconfined Edge. Each unconfined edge joint density shall be represented by an average of three one-minute density readings or a single core density at the given density test location and shall meet the density requirements specified herein. The three one-minute readings shall be spaced 10 ft (3 m) apart longitudinally along the unconfined pavement edge and centered at the random density test location.

When a longitudinal joint sealant (LJS) is applied, longitudinal joint density testing will not be required on the joint(s) sealed."

Revise the Density Control Limits table in Article 1030.05(d)(4) of the Standard Specifications to read:

"Mixture Composition	Parameter	Individual Test (includes confined edges)	Unconfined Edge Joint Density Minimum
IL-4.75	Ndesign = 50	93.0 – 97.4% [1/]	91.0%
IL-9.5	Ndesign = 90	92.0 – 96.0%	90.0%
IL-9.5,IL-9.5L	Ndesign < 90	92.5 – 97.4%	90.0%
IL-19.0	Ndesign = 90	93.0 – 96.0%	90.0%
IL-19.0, IL-19.0L	Ndesign < 90	93.0 [2/]– 97.4%	90.0%

SMA	Ndesign = 50 & 80	93.5 – 97.4%	91.0%"

80246

HOT-MIX ASPHALT – TACK COAT (BDE)

Effective: November 1, 2016

Revise Article 1032.06(a) of the Standard Specifications to read:

"(a) Anionic Emulsified Asphalt. Anionic emulsified asphalts shall be according to AASHTO M 140. SS-1h emulsions used as a tack coat shall have the cement mixing test waived."

80376

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

TEMPORARY PAVEMENT MARKING (BDE)

Effective: April 1, 2012
Revised: April 1, 2017

Revise Article 703.02 of the Standard Specifications to read:

"**703.02 Materials.** Materials shall be according to the following.

(a) Pavement Marking Tape, Type I and Type III 1095.06
(b) Paint Pavement Markings 1095.02
(c) Pavement Marking Tape, Type IV ..... 1095.11"

Revise the second paragraph of Article 703.05 of the Standard Specifications to read:

"Type I marking tape or paint shall be used at the option of the Contractor, except paint shall not be applied to the final wearing surface unless authorized by the Engineer for late season applications where tape adhesion would be a problem. Type III or Type IV marking tape shall be used on the final wearing surface when the temporary pavement marking will conflict with the permanent pavement marking such as on tapers, crossovers and lane shifts."

Revise Article 703.07 of the Standard Specifications to read:

"**703.07 Basis of Payment.** This work will be paid for as follows.

a) Short Term Pavement Marking. Short term pavement marking will be paid for at the contract unit price per foot (meter) for SHORT TERM PAVEMENT MARKING. Removal of short term pavement markings will be paid for at the contract unit price per square foot (square meter) for SHORT TERM PAVEMENT MARKING REMOVAL.

b) Temporary Pavement Marking. Where the Contractor has the option of material type, temporary pavement marking will be paid for at the contract unit price per foot (meter) for TEMPORARY PAVEMENT MARKING of the line width specified, and at the contract unit price per square foot (square meter) for TEMPORARY PAVEMENT MARKING LETTERS AND SYMBOLS.

Where the Department specifies the use of pavement marking tape, the Type III or Type IV temporary pavement marking will be paid for at the contract unit price per foot (meter) for PAVEMENT MARKING TAPE, TYPE III or PAVEMENT MARKING TAPE, TYPE IV of the line width specified and at the contract unit price per square feet (square meter) for PAVEMENT MARKING TAPE, TYPE III - LETTERS AND SYMBOLS or PAVEMENT MARKING TAPE, TYPE IV – LETTERS AND SYMBOLS.

Removal of temporary pavement markings will be paid for at the contract unit price per square foot (square meter) for TEMPORARY PAVEMENT MARKING REMOVAL.

When temporary pavement marking is shown on the Standard, the cost of the temporary pavement marking and its removal will be included in the cost of the Standard."

Add the following to Section 1095 of the Standard Specifications:

"**1095.11 Pavement Marking Tape, Type IV.** The temporary, preformed, patterned markings shall consist of a white or yellow tape with wet retroreflective media incorporated to provide immediate and continuing retroreflection during both wet and dry conditions. The tape shall be manufactured without the use of heavy metals including lead chromate pigments or other similar, lead-containing chemicals.

The white and yellow Type IV marking tape shall meet the Type III requirements of Article 1095.06 and the following.

(a) Composition. The retroreflective pliant polymer pavement markings shall consist of a mixture of high-quality polymeric materials, pigments and glass beads distributed throughout its base cross-sectional area, with a layer of wet retroreflective media bonded to a durable polyurethane topcoat surface. The patterned surface shall have approximately 40% ± 10% of the surface area raised and presenting a near vertical face to traffic from any direction. The channels between the raised areas shall be substantially free of exposed beads or particles.

(b) Retroreflectance. The white and yellow markings shall meet the following for initial dry and wet retroreflectance.

(1) Dry Retroreflectance. Dry retroreflectance shall be measured under dry conditions according to ASTM D 4061 and meet the values described in Article 1095.06 for Type III tape.

(2) Wet Retroreflectance. Wet retroreflectance shall be measured under wet conditions according to ASTM E 2177 and meet the values shown in the following table.

Wet Retroreflectance, Initial R_L

Color	R_L 1.05/88.76
White	300
Yellow	200

(c) Color. The material shall meet the following requirements for daylight reflectance and color, when tested, using a color spectrophotometer with 45 degrees circumferential/zero degree geometry, illuminant D65, and a two degree observer angle. The color instrument shall measure the visible spectrum from 380 to 720 nm with a wavelength measurement interval and spectral bandpass of 10 nm.

Color	Daylight Reflectance %Y
White	65 minimum
*Yellow	36-59

*Shall match Federal 595 Color No. 33538 and the chromaticity limits as follows.

x	0.490	0.475	0.485	0.530
y	0.470	0.438	0.425	0.456

(d) Skid Resistance. The surface of the markings shall provide an average minimum skid resistance of 50 BPN when tested according to ASTM E 303.

(e) Sampling, Testing, Acceptance, and Certification. Prior to approval and use of the wet reflective, temporary, removable pavement marking tape, the manufacturer shall submit a notarized certification from an independent laboratory, together with the results of all tests, stating that the material meets the requirements as set forth herein. The certification test report shall state the lot tested, manufacturer's name, and date of manufacture.

After approval by the Department, samples and certification by the manufacturer shall be submitted for each batch used. The manufacturer shall submit a certification stating that the material meets the requirements as set forth herein and is essentially identical to the material sent for qualification. The certification shall state the lot tested, manufacturer's name, and date of manufacture.

All costs of testing (other than tests conducted by the Department) shall be borne by the manufacturer."

80298

PREVAILING WAGES

Prevailing Wage rates
for Cook County
effective Sept. 1, 2017

Trade Title	Region	Type	Class	Base Wage	Fore-man Wage	M-F OT	OSA	OSH	H/W	Pension	Vacation	Training
ASBESTOS ABT-GEN	ALL	ALL		41.20	42.20	1.5	1.5	2	14.65	12.32	0.00	0.50
ASBESTOS ABT-MEC	ALL	BLD		37.46	39.96	1.5	1.5	2	11.62	11.06	0.00	0.72
BOILERMAKER	ALL	BLD		48.49	52.86	2	2	2	6.97	19.61	0.00	0.90
BRICK MASON	ALL	BLD		45.38	49.92	1.5	1.5	2	10.45	16.68	0.00	0.90
CARPENTER	ALL	ALL		46.35	48.35	1.5	1.5	2	11.79	18.87	0.00	0.63
CEMENT MASON	ALL	ALL		44.25	46.25	2	1.5	2	14.00	17.16	0.00	0.92
CERAMIC TILE FNSHER	ALL	BLD		38.56	38.56	1.5	1.5	2	10.65	11.18	0.00	0.68
COMM. ELECT.	ALL	BLD		43.10	45.90	1.5	1.5	2	8.88	13.22	1.00	0.85
ELECTRIC PWR EQMT OP	ALL	ALL		50.50	55.50	1.5	1.5	2	11.69	16.69	0.00	3.12
ELECTRIC PWR GRNDMAN	ALL	ALL		39.39	55.50	1.5	1.5	2	9.12	13.02	0.00	2.43
ELECTRIC PWR LINEMAN	ALL	ALL		50.50	55.50	1.5	1.5	2	11.69	16.69	0.00	3.12
ELECTRICIAN	ALL	ALL		47.40	50.40	1.5	1.5	2	14.33	16.10	1.00	1.18
ELEVATOR CONSTRUCTOR	ALL	BLD		51.94	58.43	2	2	2	14.43	14.96	4.16	0.90
FENCE ERECTOR	ALL	ALL		39.58	41.58	1.5	1.5	2	13.40	13.90	0.00	0.40
GLAZIER	ALL	BLD		42.45	43.95	1.5	1.5	2	14.04	20.14	0.00	0.94
HT/FROST INSULATOR	ALL	BLD		50.50	53.00	1.5	1.5	2	12.12	12.96	0.00	0.72
IRON WORKER	ALL	ALL		47.33	49.33	2	2	2	14.15	22.39	0.00	0.35
LABORER	ALL	ALL		41.20	41.95	1.5	1.5	2	14.65	12.32	0.00	0.50
LATHER	ALL	ALL		46.35	48.35	1.5	1.5	2	11.79	18.87	0.00	0.63
MACHINIST	ALL	BLD		46.35	48.85	1.5	1.5	2	7.05	8.95	1.85	1.32
MARBLE FINISHERS	ALL	ALL		33.95	33.95	1.5	1.5	2	10.45	15.52	0.00	0.47
MARBLE MASON	ALL	BLD		44.63	49.09	1.5	1.5	2	10.45	16.28	0.00	0.59
MATERIAL TESTER I	ALL	ALL		31.20	31.20	1.5	1.5	2	14.65	12.32	0.00	0.50
MATERIALS TESTER II	ALL	ALL		36.20	36.20	1.5	1.5	2	14.65	12.32	0.00	0.50
MILLWRIGHT	ALL	ALL		46.35	48.35	1.5	1.5	2	11.79	18.87	0.00	0.63

OPERATING ENGINEER	ALL	BLD	1	50.10	54.10	2	2	2	18.80	14.35	2.00	1.30
OPERATING ENGINEER	ALL	BLD	2	48.80	54.10	2	2	2	18.80	14.35	2.00	1.30
OPERATING ENGINEER	ALL	BLD	3	46.25	54.10	2	2	2	18.80	14.35	2.00	1.30
OPERATING ENGINEER	ALL	BLD	4	44.50	54.10	2	2	2	18.80	14.35	2.00	1.30
OPERATING ENGINEER	ALL	BLD	5	53.85	54.10	2	2	2	18.80	14.35	2.00	1.30
OPERATING ENGINEER	ALL	BLD	6	51.10	54.10	2	2	2	18.80	14.35	2.00	1.30
OPERATING ENGINEER	ALL	BLD	7	53.10	54.10	2	2	2	18.80	14.35	2.00	1.30
OPERATING ENGINEER	ALL	FLT	1	55.90	55.90	1.5	1.5	2	18.05	13.60	1.90	1.30
OPERATING ENGINEER	ALL	FLT	2	54.40	55.90	1.5	1.5	2	18.05	13.60	1.90	1.30
OPERATING ENGINEER	ALL	FLT	3	48.40	55.90	1.5	1.5	2	18.05	13.60	1.90	1.30
OPERATING ENGINEER	ALL	FLT	4	40.25	55.90	1.5	1.5	2	18.05	13.60	1.90	1.30
OPERATING ENGINEER	ALL	FLT	5	57.40	55.90	1.5	1.5	2	18.05	13.60	1.90	1.30
OPERATING ENGINEER	ALL	FLT	6	38.00	55.90	1.5	1.5	2	18.05	13.60	1.90	1.30
OPERATING ENGINEER	ALL	HWY	1	48.30	52.30	1.5	1.5	2	18.80	14.35	2.00	1.30
OPERATING ENGINEER	ALL	HWY	2	47.75	52.30	1.5	1.5	2	18.80	14.35	2.00	1.30
OPERATING ENGINEER	ALL	HWY	3	45.70	52.30	1.5	1.5	2	18.80	14.35	2.00	1.30
OPERATING ENGINEER	ALL	HWY	4	44.30	52.30	1.5	1.5	2	18.80	14.35	2.00	1.30
OPERATING ENGINEER	ALL	HWY	5	43.10	52.30	1.5	1.5	2	18.80	14.35	2.00	1.30
OPERATING ENGINEER	ALL	HWY	6	51.30	52.30	1.5	1.5	2	18.80	14.35	2.00	1.30
OPERATING ENGINEER	ALL	HWY	7	49.30	52.30	1.5	1.5	2	18.80	14.35	2.00	1.30
ORNAMNTL IRON WORKER	ALL	ALL		46.75	49.25	2	2	2	13.90	19.79	0.00	0.75
PAINTER	ALL	ALL		45.55	51.24	1.5	1.5	1.5	11.56	11.44	0.00	1.87
PAINTER SIGNS	ALL	BLD		37.45	42.05	1.5	1.5	2	2.60	3.18	0.00	0.00
PILEDRIVER	ALL	ALL		46.35	48.35	1.5	1.5	2	11.79	18.87	0.00	0.63
PIPEFITTER	ALL	BLD		47.50	50.50	1.5	1.5	2	10.05	17.85	0.00	[redacted]
PLASTERER	ALL	BLD		42.75	45.31	1.5	1.5	2	14.00	15.71	0.00	0.89
PLUMBER	ALL	BLD		49.25	52.20	1.5	1.5	2	14.34	13.35	0.00	1.28
ROOFER	ALL	BLD		42.30	45.30	1.5	1.5	2	9.08	12.14	0.00	0.58
SHEETMETAL WORKER	ALL	BLD		43.50	46.98	1.5	1.5	2	11.03	23.43	0.00	0.78
SIGN HANGER	ALL	BLD		31.31	33.81	1.5	1.5	2	4.85	3.28	0.00	0.00

SPRINKLER FITTER	ALL	BLD		47.20	49.20	1.5	1.5	2	12.25	11.55	0.00	0.55
STEEL ERECTOR	ALL	ALL		42.07	44.07	2	2	2	13.45	19.59	0.00	0.35
STONE MASON	ALL	BLD		45.38	49.92	1.5	1.5	2	10.45	16.68	0.00	0.90
TERRAZZO FINISHER	ALL	BLD		40.54	40.54	1.5	1.5	2	10.65	12.76	0.00	0.73
TERRAZZO MASON	ALL	BLD		44.38	47.88	1.5	1.5	2	10.65	14.15	0.00	0.82
TILE MASON	ALL	BLD		45.49	49.49	1.5	1.5	2	10.65	13.88	0.00	0.86
TRAFFIC SAFETY WRKR	ALL	HWY		33.50	35.85	1.5	1.5	2	6.00	7.25	0.00	0.50
TRUCK DRIVER	E	ALL	1	35.60	36.25	1.5	1.5	2	8.56	11.50	0.00	0.15
TRUCK DRIVER	E	ALL	2	35.85	36.25	1.5	1.5	2	8.56	11.50	0.00	0.15
TRUCK DRIVER	E	ALL	3	36.05	36.25	1.5	1.5	2	8.56	11.50	0.00	0.15
TRUCK DRIVER	E	ALL	4	36.25	36.25	1.5	1.5	2	8.56	11.50	0.00	0.15
TRUCK DRIVER	W	ALL	1	35.98	36.53	1.5	1.5	2	8.25	10.14	0.00	0.15
TRUCK DRIVER	W	ALL	2	36.13	36.53	1.5	1.5	2	8.25	10.14	0.00	0.15
TRUCK DRIVER	W	ALL	3	36.33	36.53	1.5	1.5	2	8.25	10.14	0.00	0.15
TRUCK DRIVER	W	ALL	4	36.53	36.53	1.5	1.5	2	8.25	10.14	0.00	0.15
TUCKPOINTER	ALL	BLD		45.42	46.42	1.5	1.5	2	8.32	15.42	0.00	0.80

Legend

M-F OT Unless otherwise noted, OT pay is required for any hour greater than 8 worked each day, Mon through Fri. The number listed is the multiple of the base wage.

OSA Overtime pay required for every hour worked on Saturdays

OSH Overtime pay required for every hour worked on Sundays and Holidays

H/W Health/Welfare benefit

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

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SUPPD 1197

DATE	REVISIONS
1-1-11	Updated abbreviations and symbols.
1-1-08	Updated abbreviations and symbols.

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 1 of 8)

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		

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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= e= T.R.= S.E. RUN= P.C. STA= P.T. STA=	CURVE P.I. STA= Δ= D= R= T= L= E= e= 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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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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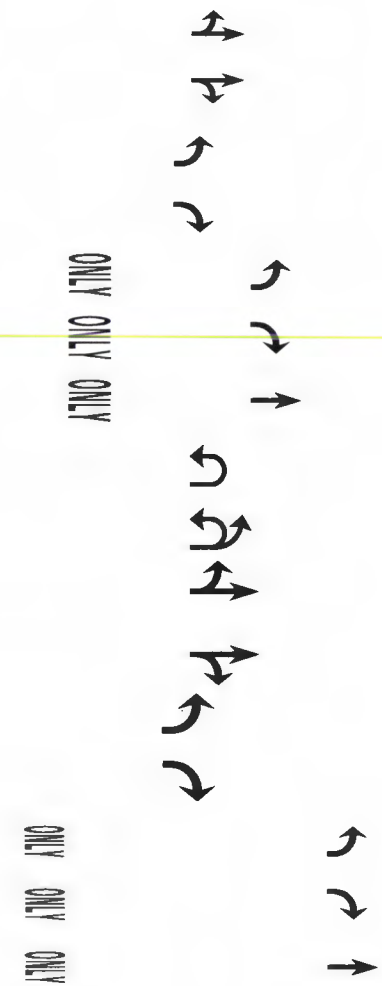
STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(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		

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STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 5 of 8)

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		

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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)		

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 R3-110L (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

(Sheet 7 of 8)

STANDARD 000101-06

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		

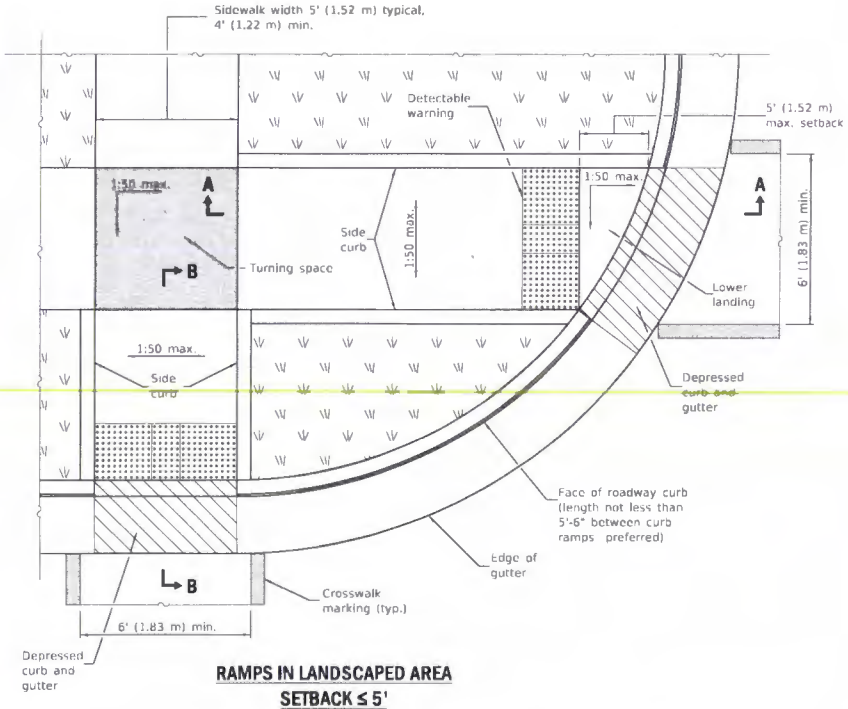
WATER FEATURE ITEMS

	EX	PR
Stream or Drainage Ditch		
Waters Edge		
Water Surface Indicator		
Water Point		
Disappearing Ditch		
Marsh		
Marsh/Swamp Boundary		

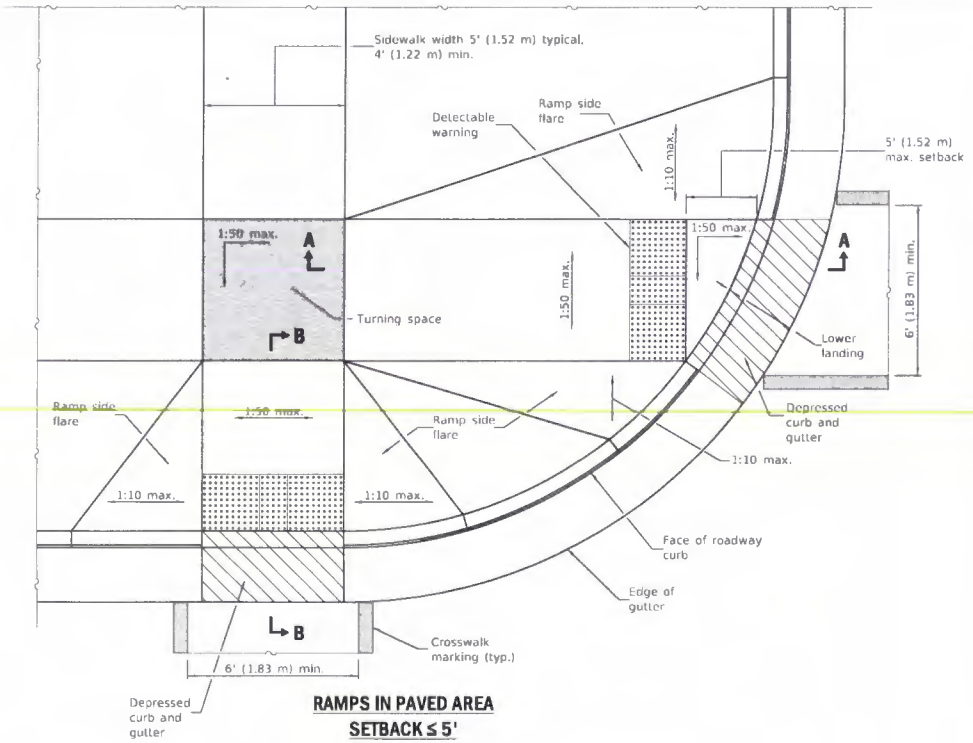
STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 8 of 8)

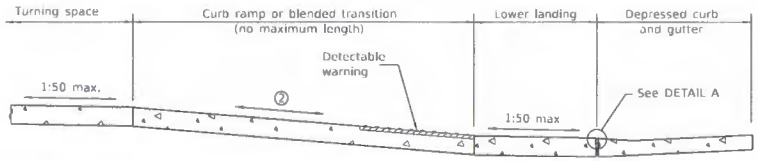
STANDARD 000001-06



RAMPS IN LANDSCAPED AREA
SETBACK ≤ 5'

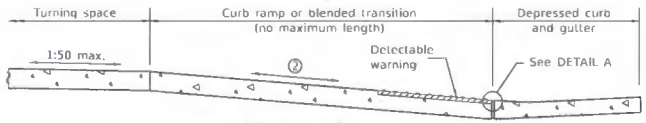


RAMPS IN PAVED AREA
SETBACK ≤ 5'



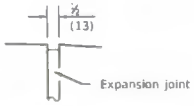
SECTION A-A

② The running slope of a curb ramp shall be 1:20 min. and 1:12 max. The running slope of a blended transition shall be 1:20 max.

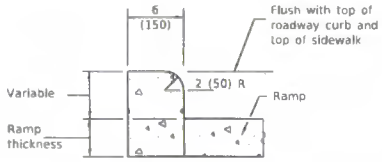


SECTION B-B

② The running slope of a curb ramp shall be 1:20 min. and 1:12 max. The running slope of a blended transition shall be 1:20 max.



DETAIL A



SIDE CURB DETAIL

See Sheet 2 for GENERAL NOTES.

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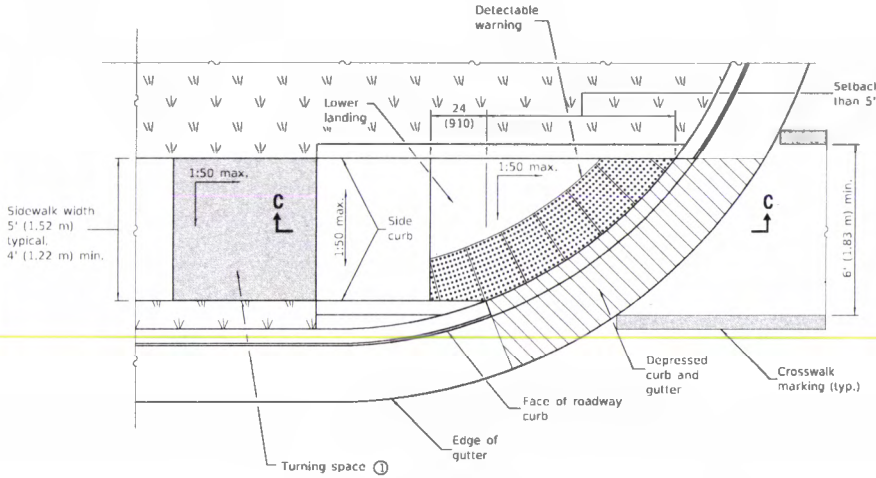
SSUPD 1-1-19

DATE	REVISIONS
1-1-19	Removed "15-foot rule", added "Blended transitions" and placement tolerances for detectable warnings.
1-1-18	Omitted diagonal slope at turning spaces and lower landings.

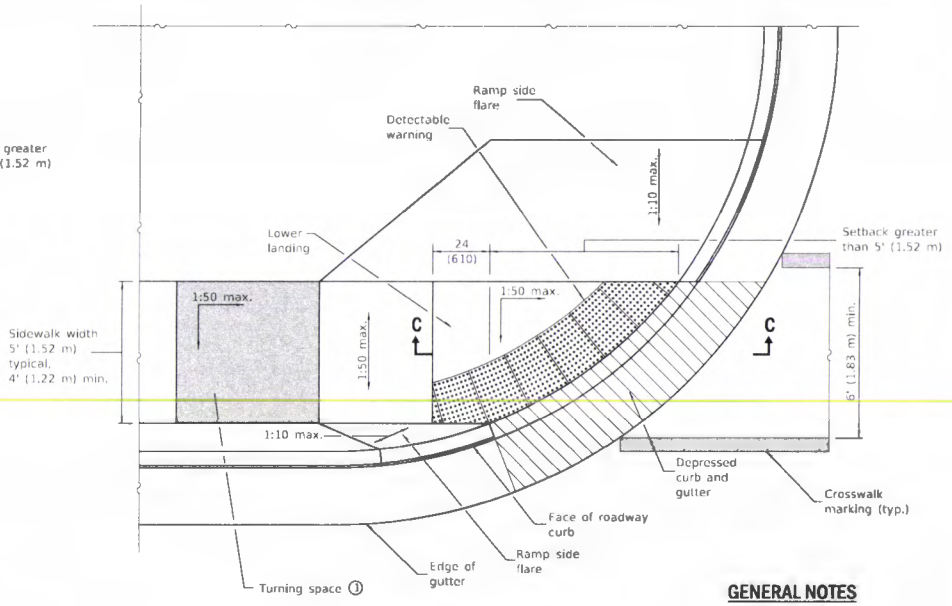
PERPENDICULAR CURB RAMPS FOR SIDEWALKS

(Sheet 1 of 2)

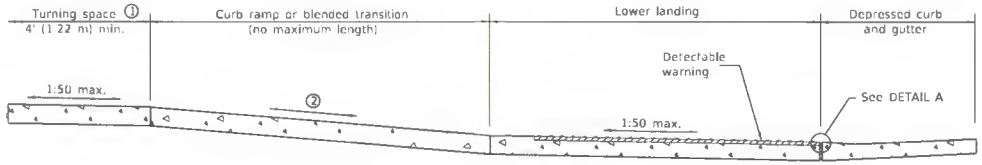
STANDARD 424001-11



RAMP IN LANDSCAPED AREA SETBACK > 5'



RAMP IN PAVED AREA SETBACK > 5'



SECTION C-C

① This turning space not required for blended transitions.

② The running slope of a curb ramp shall be 1:20 min. and 1:12 max. The running slope of a blended transition shall be 1:20 max.

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.

Detectable warnings are shown in their ideal locations but the following placement tolerances are allowed.

Side Border - Detectable warnings should extend the full width of the walking surface (excluding flared sides) but a border along each side up to 2 in. (50 mm) in width is allowed.

Curb Set-Back - Detectable warnings located at the back of curb should closely align with the curb but a gap up to 6 in. (150 mm) behind the curb is allowed.

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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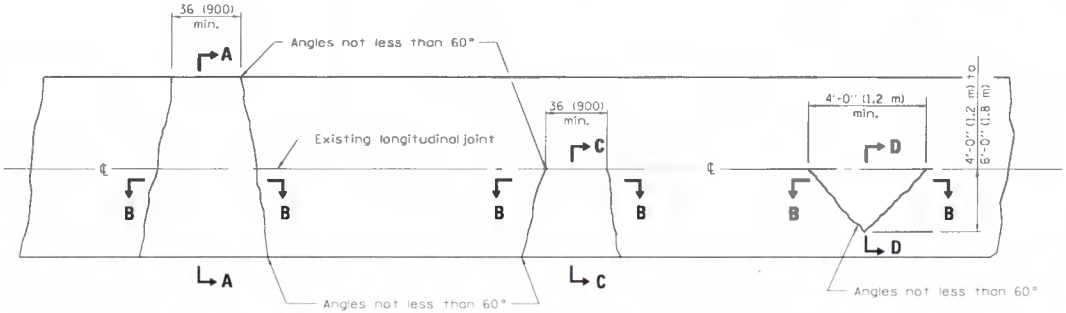
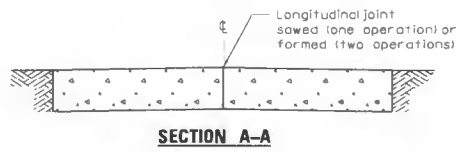
PERPENDICULAR CURB RAMPS FOR SIDEWALKS

(Sheet 2 of 2)

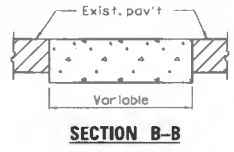
STANDARD 424001-11

CLASS C

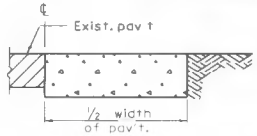




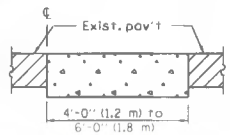
SECTION A–A



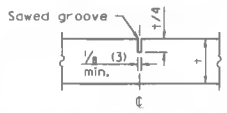
SECTION B–B



SECTION C–C



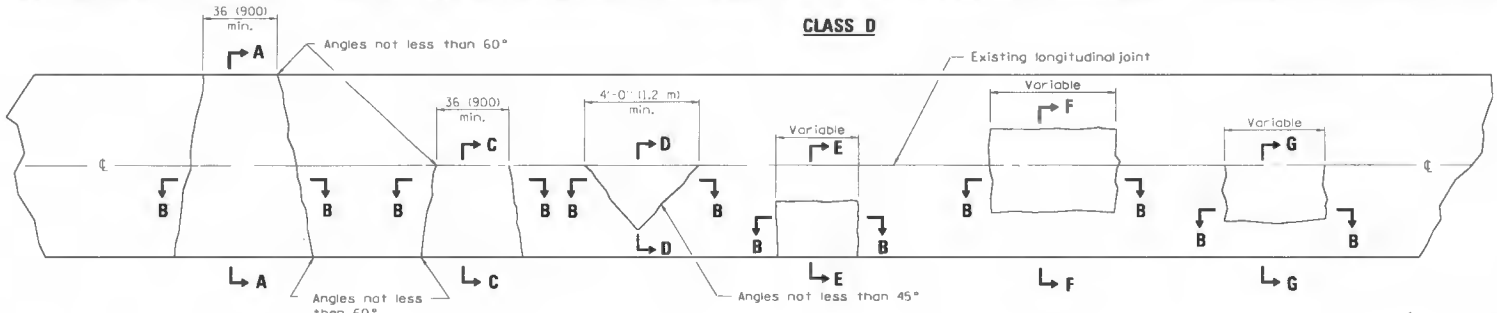
SECTION D–D

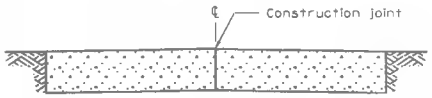


DETAIL OF SAWED CONTRACTION JOINT

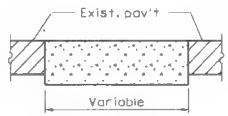
Note:
Longitudinal joints shall be as detailed on Standard 420001, except tie bars are not required for patches 20'-0" (6.0 m) or less in length.

CLASS D

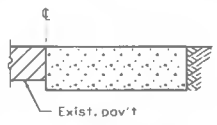




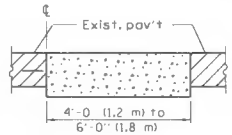
SECTION A–A
(Built in two operations)



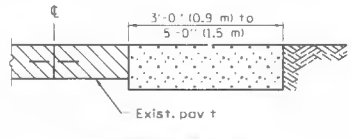
SECTION B–B



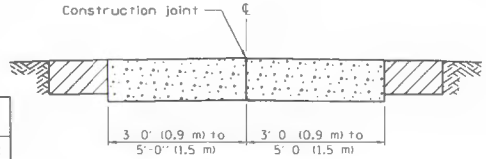
SECTION C–C



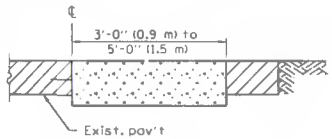
SECTION D–D



SECTION E–E



SECTION F–F
(Built in two operations)



SECTION G–G

GENERAL NOTES

Existing tie bars shall be either cut or removed. Marginal bars shall be cut.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2008
ENGINEER OF POLICY AND PROCEDURES

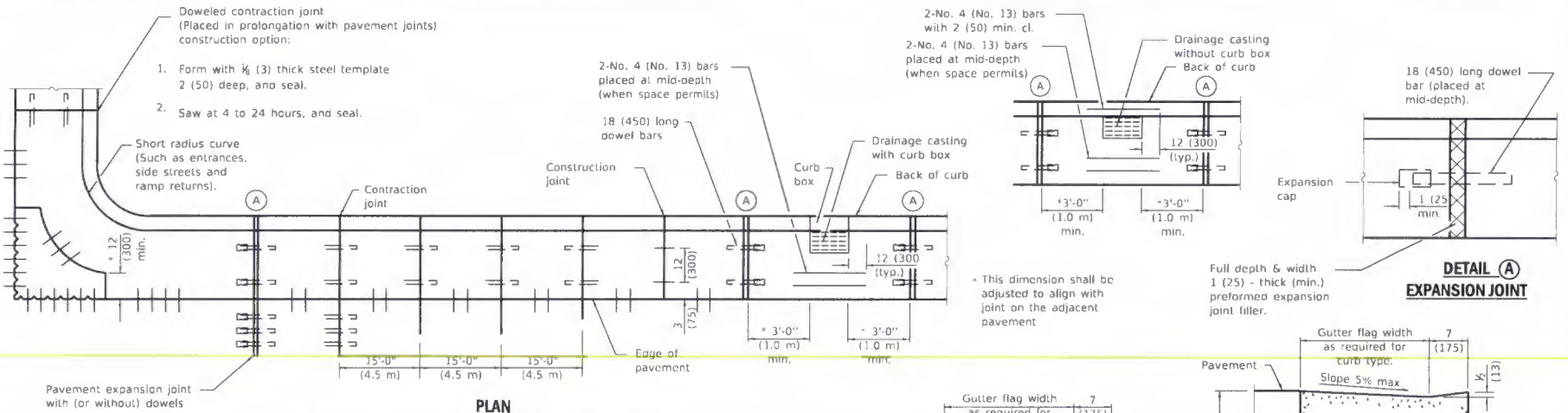
APPROVED January 1, 2008
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-07

DATE	REVISIONS
1 1 08	Switched units to
	English (metric).
1 1-07	Revised Note for
	Class C patches.

CLASS C and D PATCHES

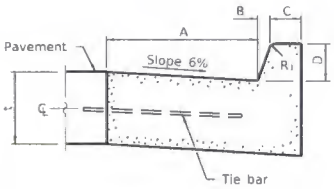
STANDARD 442201-03



* This dimension shall be adjusted to align with joint on the adjacent pavement

PLAN
ADJACENT TO PCC PAVEMENT OR PCC BASE COURSE

DETAIL (A)
EXPANSION JOINT

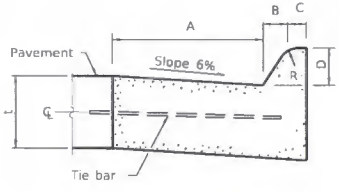


BARRIER CURB

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)

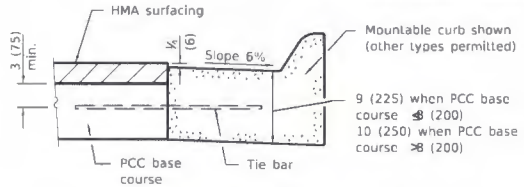
* For corner islands only.



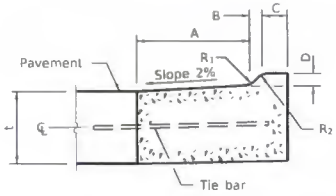
MOUNTABLE CURB

TABLE OF DIMENSIONS
MOUNTABLE CURB

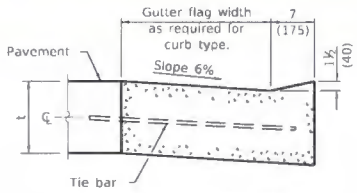
TYPE	A	B	C	D	R_1	R_2
M-2.06 (M-5.15)	6 (150)	2 (50)	4 (100)	2 (50)	3 (75)	2 (50)
M-2.12 (M-5.30)	12 (300)	2 (50)	4 (100)	2 (50)	3 (75)	2 (50)
M-4.06 (M-10.15)	6 (150)	4 (100)	3 (75)	4 (100)	3 (75)	NA
M-4.12 (M-10.30)	12 (300)	4 (100)	3 (75)	4 (100)	3 (75)	NA
M-4.18 (M-10.45)	18 (450)	4 (100)	3 (75)	4 (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



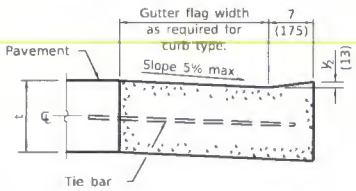
ADJACENT TO PCC BASE COURSE WITH HMA SURFACING



M-2.06 (M-5.15) and M-2.12 (M-5.30)



DEPRESSED CURB (TYPICAL)



DEPRESSED CURB ADJACENT TO CURB RAMP ACCESSIBLE TO THE DISABLED

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
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2018
ENGINEER OF DESIGN AND ENVIRONMENT

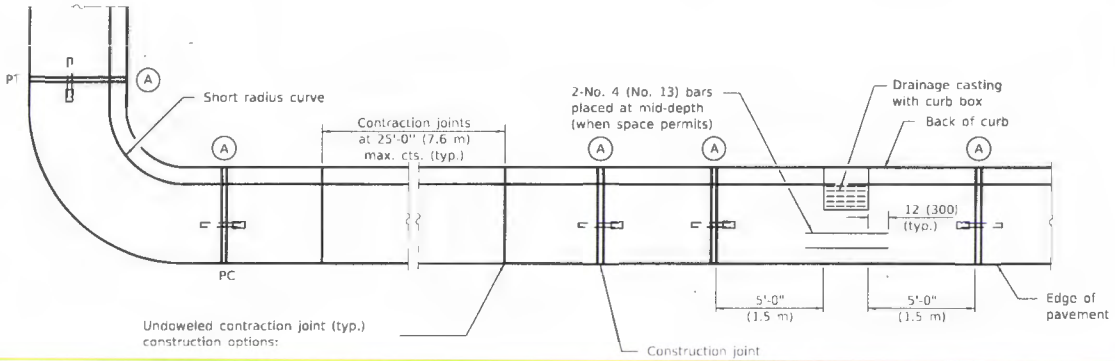
GUIDES 1-1-97

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).

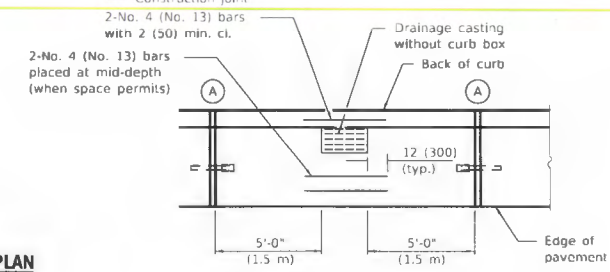
CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER

(Sheet 1 of 2)

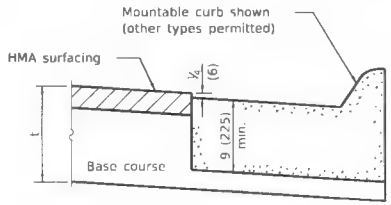
STANDARD 606001-07



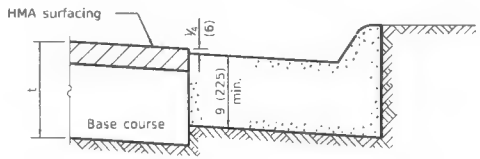
1. Form with ⅛ (3) thick steel template 2 (50) deep, and seal.
2. Saw 2 (50) deep at 4 to 24 hours, and seal.
3. Insert ¼ (20) thick preformed joint filler full depth and width.



PLAN

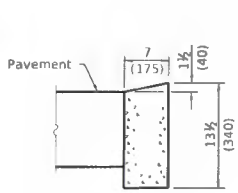


ON DISTURBED SUBGRADE

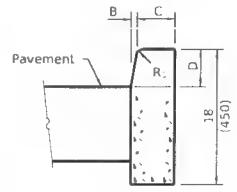


ON UNDISTURBED SUBGRADE

ADJACENT TO FLEXIBLE PAVEMENT

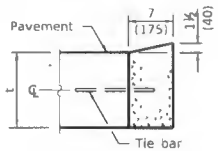


DEPRESSED CURB

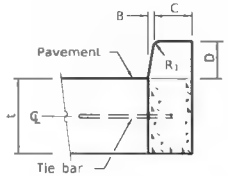


BARRIER CURB

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 20 18
Michael Brand
ENGINEER OF POLICY AND PROCEDURES

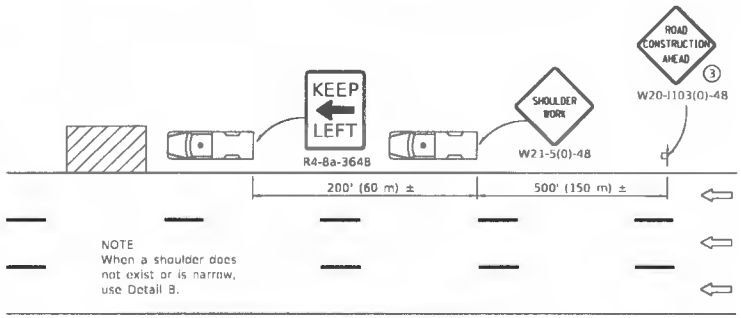
APPROVED January 1 2018
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

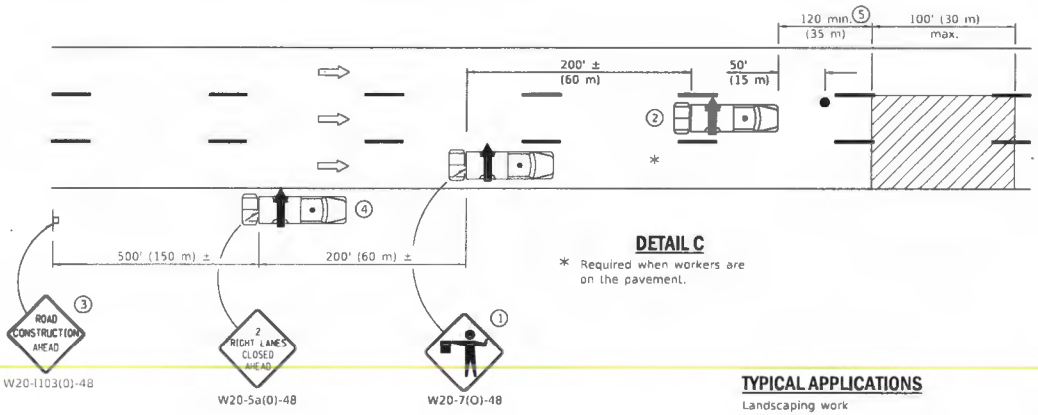
CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER

(Sheet 2 of 2)

STANDARD 606001-07

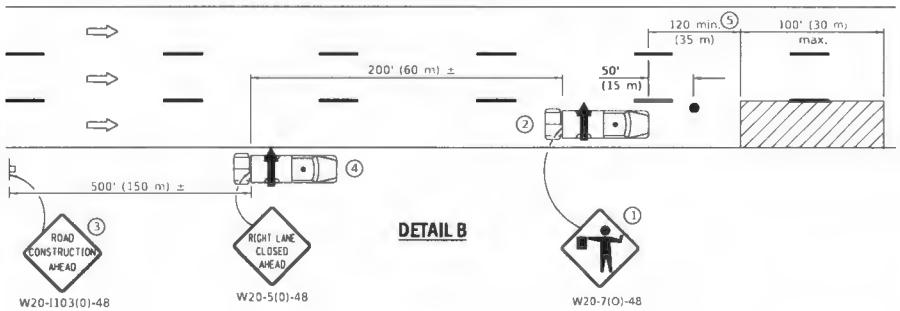


DETAIL A



DETAIL C

* Required when workers are on the pavement.



DETAIL B

TYPICAL APPLICATIONS

Landscaping work
Utility work
Pavement marking
Weed spraying
Roadometer measurements
Debris cleanup
Crack pouring

1. Flaggers are required when workers are on the pavement.
2. For striping operations only. See sign arrow detail on this standard.
3. For stationary operations which are on the roadway or shoulder, greater than 15 minutes and up to 1 hour.
4. Omit truck, attenuator and arrow board when no shoulder exists due to curb and gutter.
5. The distance between the work and the lead truck may vary according to terrain or paint/crack sealing time.

G20-I101-2430
(appropriate arrow)
2(when striping only)

GENERAL NOTES

This Standard is used where any vehicle, equipment, workers or their activities will require: 1) stationary operations up to 1 hour, or 2) a continuous or intermittent moving operation where the average speed of movement is greater than 1 mph (2 km/h).

This Standard is also applicable when work is being performed in the left lane(s) or on the median shoulder. Under these conditions, KEEP RIGHT signs shall be substituted for KEEP LEFT signs and arrow board indications shall be directed to the right.

All dimensions are in inches (millimeter) unless otherwise shown.

SYMBOLS

- Arrow board
- Work area
- Truck with flashing amber light
- Truck/Trailer mounted attenuator
- Flagger with traffic control sign
- Sign

Illinois Department of Transportation

PASSED January 1 2017
ENGINEER OF SAFETY, TRAFFIC ENGINEERING AND MAINTENANCE

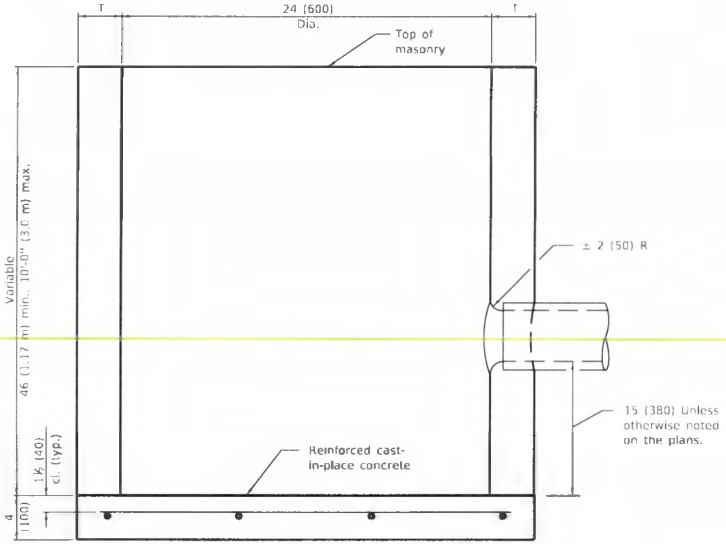
APPROVED January 1 2017
ENGINEER OF DESIGN AND ENVIRONMENT

SSGD 1111

DATE	REVISIONS
1-1-17	Revised 'NOTE' on DETAIL A
	to use DETAIL B in lieu of
	DETAIL C.
4-1-16	Rev. gen. notes. Added
	note (5). Rev. dist. between
	work and lead truck.

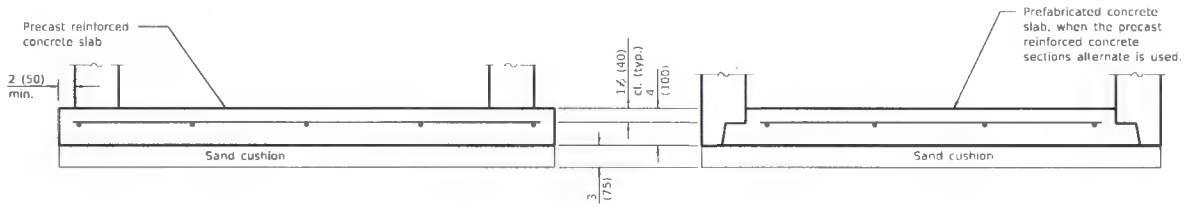
LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPER., FOR SPEEDS ≤ 40 MPH

STANDARD 701427-05



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
Michael Brand
ENGINEER OF POLICY AND PROCEDURES

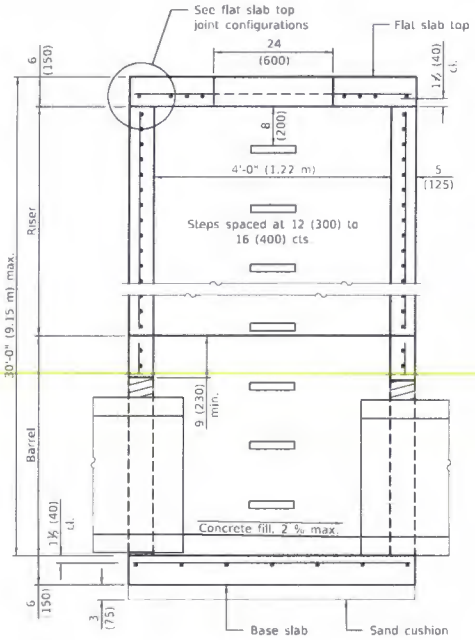
APPROVED January 1 2011
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 11-97

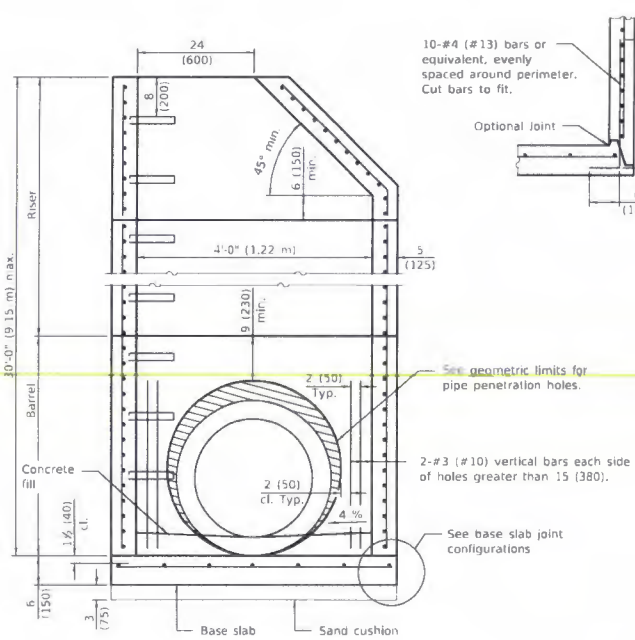
DATE	REVISIONS
1-1-11	Detailed rein. in slabs.
	Added max. limit to height.
	Added general notes.
1-1-09	Switched units to
	English (metric).

CATCH BASIN TYPE C

STANDARD 602011-02

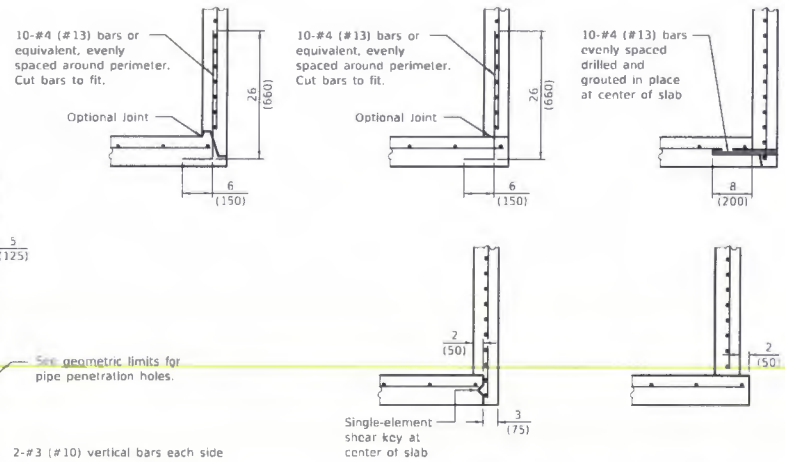


SECTION PARALLEL TO PIPE
(Without conical top riser)

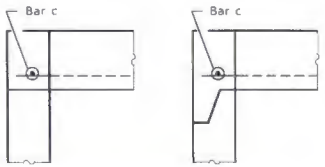


SECTION PERPENDICULAR TO PIPE
(With conical top riser)

* As an alternate, the barrel wall reinforcement may be reduced to riser wall reinforcement with #3 (#10) bars placed around the pipe penetration holes as shown. This option may be utilized when the pipe penetration holes are formed as opposed to cored.



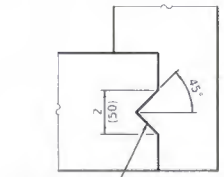
BASE SLAB JOINT CONFIGURATIONS



FLAT SLAB TOP JOINT CONFIGURATIONS
(Shown at access hole)

GEOMETRIC LIMITS FOR PIPE PENETRATION HOLES

1. A minimum of 9 (230) of monolithic reinforced concrete shall be maintained above pipe penetration holes > 24 (600).
2. A minimum 12 (300) inside arc length of reinforced concrete shall be maintained between pipe penetration holes > 15 (380).
3. A maximum of 60 percent of the inside perimeter of the reinforced concrete manhole walls may be removed.
4. Horizontal joints that intersect pipe penetration holes > 15 (380) shall have one joint splice for every location around the perimeter of the joint where the inside arc length between pipe penetration holes is < 24 (600). See joint splice detail.
5. The recommended pipe penetration hole is equal to the O.D. of the pipe plus 4 (100).
6. Only pipe penetration holes ≤ 15 (380) are allowed in riser sections.



SHEAR KEY GEOMETRY
(Reinforcement not shown for clarity)

GENERAL NOTES

The manufacturer shall ensure that all precast manhole sections are additionally reinforced where required to resist damage from handling, shipping and installation stresses.

Lifting holes shall be located in the sections as per the manufacturer's recommendations, except as noted.

See Standard 602701 for details of manhole steps.

All dimensions are in inches (millimeters) unless otherwise noted.

Illinois Department of Transportation

PASSED March 2019
ENGINEER OF POLICY AND PROCEDURES

APPROVED March 1 2019
ENGINEER OF DESIGN AND ENVIRONMENT

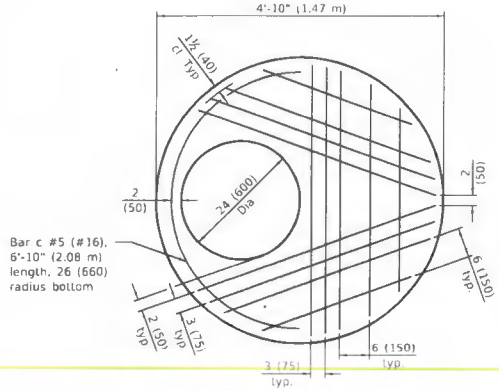
SUPPS 1.1-97

DATE	REVISIONS
3-1-19	Moved wall reinforcement from
	inside face to middle.
1-1-19	Expanded / refined reinforcement
	options. Increased manhole depths.

PRECAST MANHOLE TYPE A 4' (1.22 m) DIAMETER

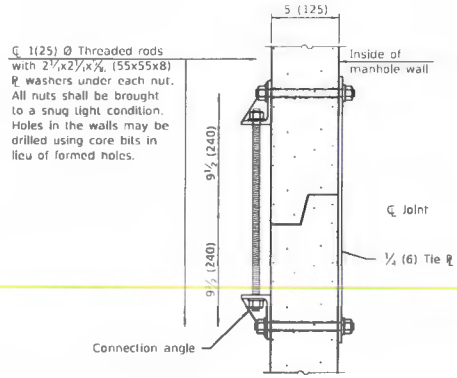
(Sheet 1 of 2)

STANDARD 602401-06

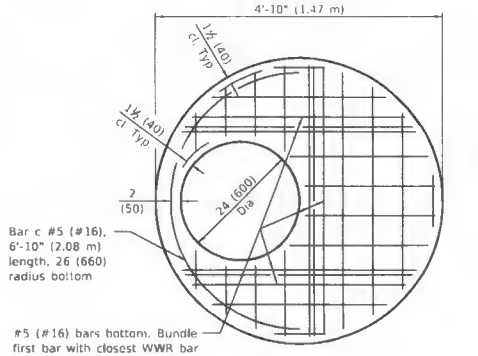


PLAN - FLAT SLAB TOP

(Showing layout of reinforcement bars and c bars)

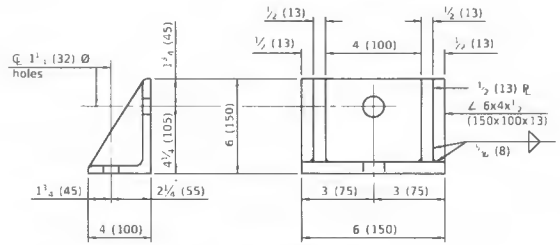


JOINT SPLICE

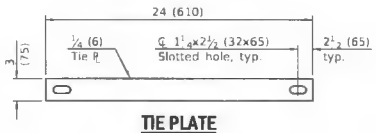


PLAN - FLAT SLAB TOP

(Showing layout of welded wire reinforcement and c bars)



CONNECTION ANGLE



TIE PLATE

FLAT SLAB TOP REINFORCEMENT

Location	WWR (each direction)		Rebar		
	A_s (min.)	Spacing (max.)	A_s (min.)	Spacing (max.)	Bar Size
Bottom Mat	** 0.62 sq. in./ft. (1312 sq. mm/m)	6 (150)	See plan view for rebar orientation and spacing and this table for bar size		#5 (#16)

** Only one layer of WWR permitted to avoid congestion.

WALL REINFORCEMENT

Location	Orientation	WWR or Rebar	
		A_s (min.)	Spacing (max.)
Riser	Circumferential	0.12 sq. in./ft. (254 sq. mm/m)	6 (150)
	Vertical	0.045 sq. in./ft. (95 sq. mm/m)	8 (200)
Barrel	Circumferential	0.12 sq. in./ft. (254 sq. mm/m)	6 (150)
	Vertical	0.16 sq. in./ft. (339 sq. mm/m)	4 (100)

BASE SLAB REINFORCEMENT

Location	Total Height	WWR or Rebar (each direction)	
		A_s (min.)	Spacing (max.)
Top Mat	≤ 20 ft. (6.10 m)	0.24 sq. in./ft. (508 sq. mm/m)	10 (250)
	> 20 ft. (6.10 m)	0.24 sq. in./ft. (508 sq. mm/m)	10 (250)

Illinois Department of Transportation

PASSED March 2019

ENGINEER OF POLICY AND PROCEDURES

APPROVED March 2019

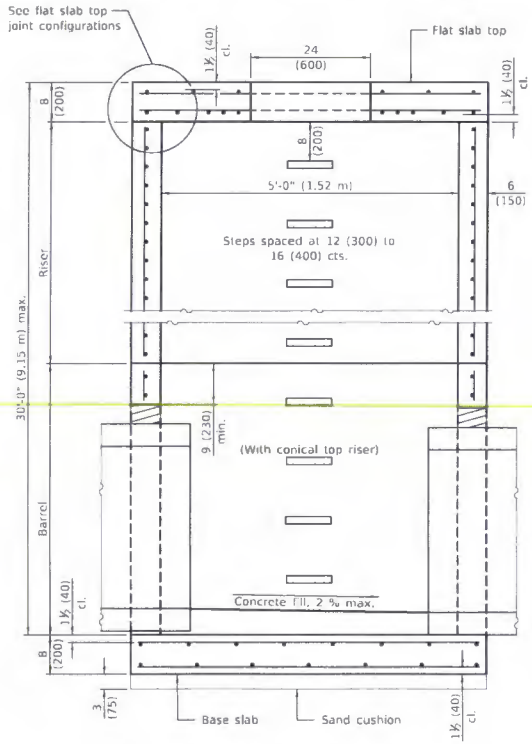
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

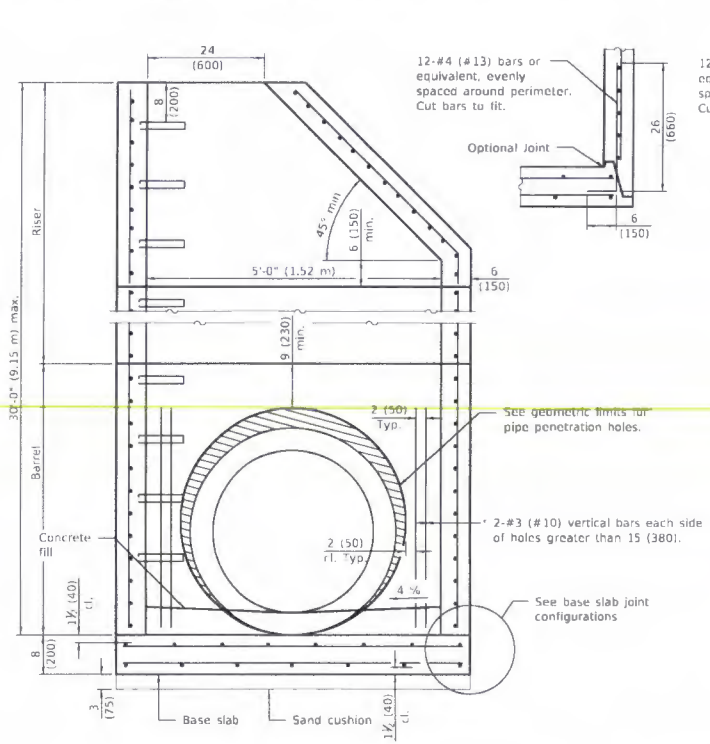
PRECAST MANHOLE TYPE A 4' (1.22 m) DIAMETER

(Sheet 2 of 2)

STANDARD 602401-06

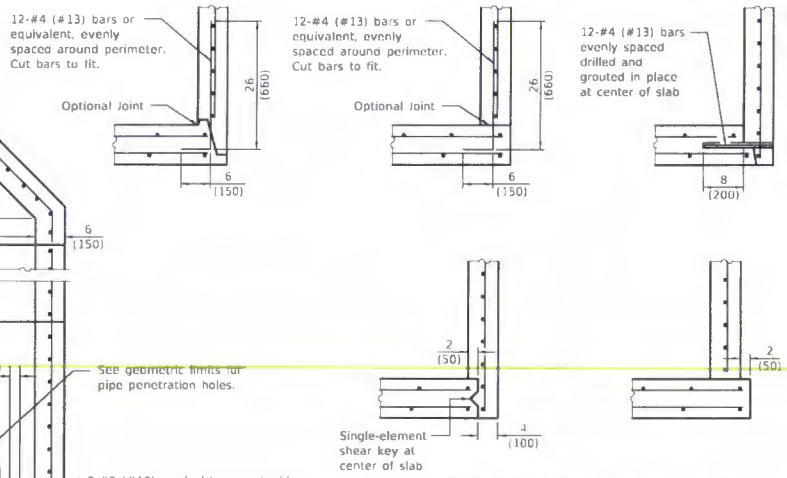


SECTION PARALLEL TO PIPE
(Without conical top riser)

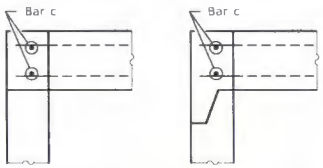


SECTION PERPENDICULAR TO PIPE
(With conical top riser)

* As an alternate, the barrel wall reinforcement may be reduced to riser wall reinforcement with #3 (#10) bars placed around the pipe penetration holes as shown. This option may be utilized when the pipe penetration holes are formed as opposed to cored.



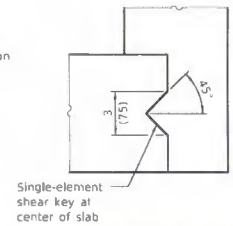
BASE SLAB JOINT CONFIGURATIONS



FLAT SLAB TOP JOINT CONFIGURATIONS
(Shown at access hole)

GEOMETRIC LIMITS FOR PIPE PENETRATION HOLES

1. A minimum of 9 (230) of monolithic reinforced concrete shall be maintained above pipe penetration holes > 32 (810).
2. A minimum 12 (300) inside arc length of reinforced concrete shall be maintained between pipe penetration holes > 15 (380).
3. A maximum of 60 percent of the inside perimeter of the reinforced concrete manhole walls may be removed.
4. Horizontal joints that intersect pipe penetration holes > 15 (380) shall have one joint splice for every location around the perimeter of the joint where the inside arc length between pipe penetration holes is < 24 (600) See joint splice detail.
5. The recommended pipe penetration hole is equal to the O.D. of the pipe plus 4 (100).
6. Only pipe penetration holes ≤ 15 (380) are allowed in riser sections.



SHEAR KEY GEOMETRY
(Reinforcement not shown for clarity)

GENERAL NOTES

The manufacturer shall ensure that all precast manhole sections are additionally reinforced where required to resist damage from handling, shipping and installation stresses.

Lifting holes shall be located in the sections as per the manufacturer's recommendations, except as noted.

See Standard 602701 for details of manhole steps.

All dimensions are in inches (millimeters) unless otherwise noted.

Illinois Department of Transportation

PASSED March 1 2019
ENGINEER OF POLICY AND PROCEDURES

APPROVED March 1 2019
ENGINEER OF DESIGN AND ENVIRONMENT

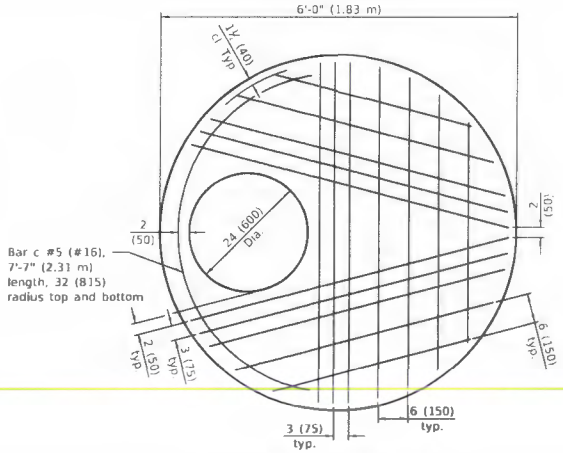
SHEET 1 OF 1 SHEETS

DATE	REVISIONS
3-1-19	Moved wall reinforcement from
	inside face to middle.
1-1-19	Expanded / refined reinforcement
	options. Increased manhole depths.

PRECAST MANHOLE TYPE A 5' (1.52 m) DIAMETER

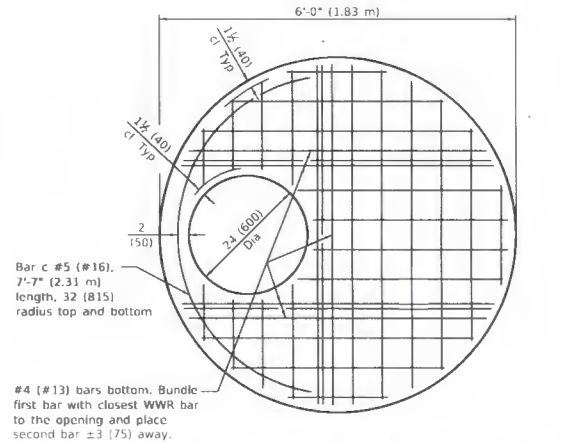
(Sheet 1 of 2)

STANDARD 602402-02



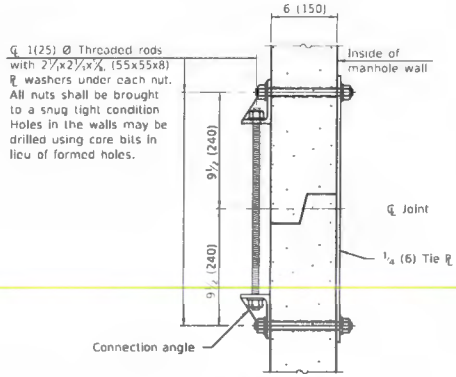
PLAN - FLAT SLAB TOP

(Showing layout of bottom reinforcement bars and c bars)

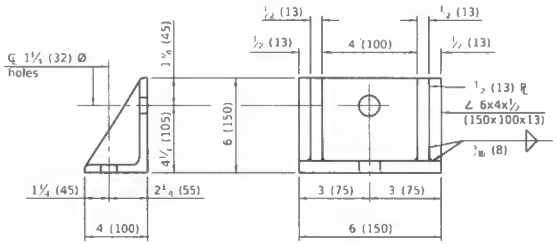


PLAN - FLAT SLAB TOP

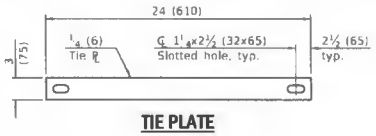
(Showing layout of welded wire reinforcement and c bars)



JOINT SPLICE



CONNECTION ANGLE



TIE PLATE

FLAT SLAB TOP REINFORCEMENT

Location	WWR (each direction)		Rebar (each direction except as noted)		
	A_s (min.)	Spacing (max.)	A_s (min.)	Spacing (max.)	Bar Size
Top Mat	0.11 sq. in./ft. (233 sq. mm/m)	18 (450)	0.11 sq. in./ft. (233 sq. mm/m)	18 (450)	#3 or #4 (#10) (#13)
Bottom Mat	** 0.40 sq. in./ft. (847 sq. mm/m)	6 (150)	See plan view for rebar orientation and spacing and this table for bar size		#4 (#13)

** Only one layer of WWR permitted to avoid congestion.

WALL REINFORCEMENT

Location	Orientation	WWR or Rebar	
		A_s (min)	Spacing (max.)
Riser	Circumferential	0.15 sq. in./ft. (318 sq. mm/m)	6 (150)
	Vertical	0.045 sq. in./ft. (95 sq. mm/m)	8 (200)
Barrel	Circumferential	0.15 sq. in./ft. (318 sq. mm/m)	6 (150)
	Vertical	0.16 sq. in./ft. (339 sq. mm/m)	4 (100)

BASE SLAB REINFORCEMENT

Location	Total Height	WWR or Rebar (each direction)	
		A_s (min.)	Spacing (max.)
Top Mat	≤ 20 ft. (6.10 m)	0.24 sq. in./ft. (508 sq. mm/m)	10 (250)
	> 20 ft (6.10 m)	0.28 sq. in./ft. (593 sq. mm/m)	8 (200)
Bottom Mat	All	0.11 sq. in./ft. (233 sq. mm/m)	18 (450)

Illinois Department of Transportation

PASSED March 1, 2019
ENGINEER OF POLICY AND PROCEDURES

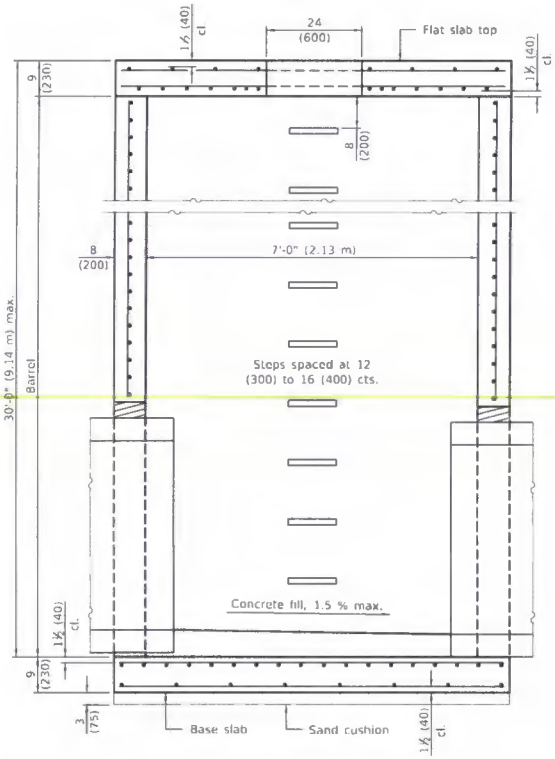
APPROVED March 1, 2019
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED: 11-1-19

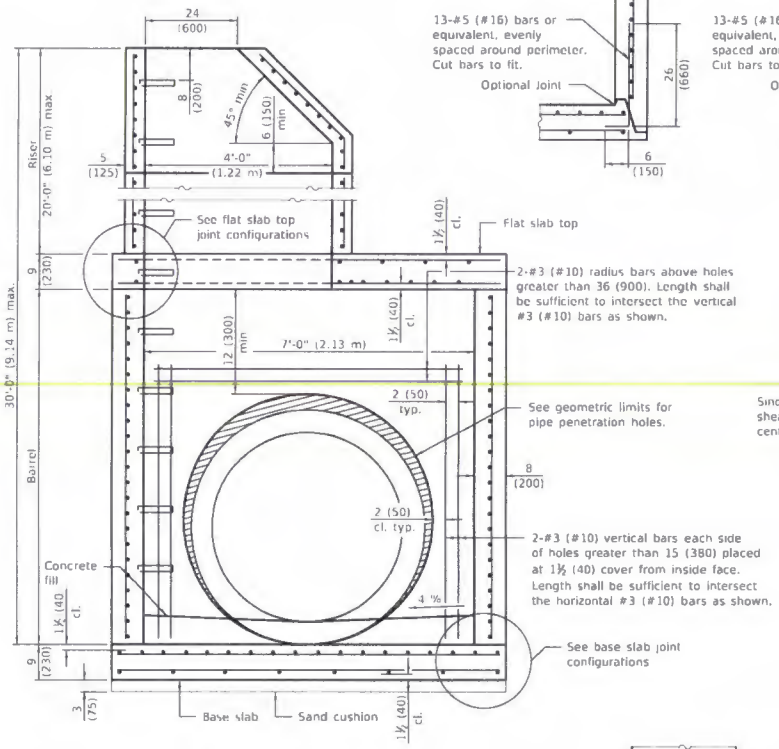
PRECAST MANHOLE TYPE A 5' (1.52 m) DIAMETER

(Sheet 2 of 2)

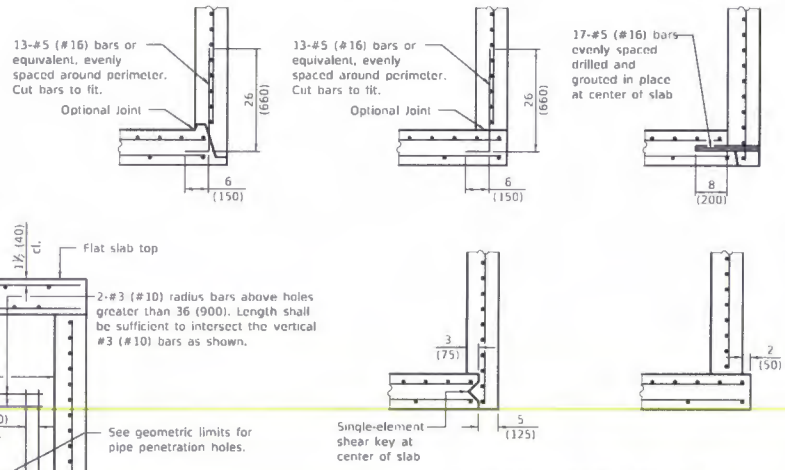
STANDARD 602402-02



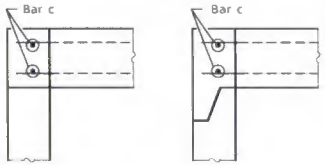
SECTION PARALLEL TO PIPE
(Without conical top riser)



SECTION PERPENDICULAR TO PIPE
(With conical top riser)



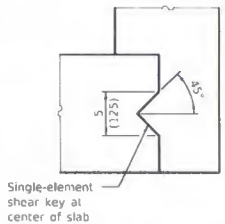
BASE SLAB JOINT CONFIGURATIONS



FLAT SLAB TOP JOINT CONFIGURATIONS
(Shown at access hole)

GEOMETRIC LIMITS FOR PIPE PENETRATION HOLES

1. A minimum of 12 (300) of monolithic reinforced concrete shall be maintained above pipe penetration holes > 36 (900).
2. A minimum 12 (300) inside arc length of reinforced concrete shall be maintained between pipe penetration holes > 15 (380).
3. A maximum of 60 percent of the inside perimeter of the reinforced concrete manhole walls may be removed.
4. Horizontal joints that intersect pipe penetration holes > 15 (380) shall have one joint splice for every location around the perimeter of the joint where the inside arc length between pipe penetration holes is < 24 (600) See joint splice detail.
5. The recommended pipe penetration hole is equal to the O.D of the pipe plus 4 (100)
6. Only pipe penetration holes ≤ 15 (380) are allowed in riser sections.



SHEAR KEY GEOMETRY
(Reinforcement not shown for clarity)

GENERAL NOTES

Pipe holes shall be formed to facilitate proper placement of hole reinforcement.

The manufacturer shall ensure that all precast manhole sections are additionally reinforced where required to resist damage from handling, shipping and installation stresses.

Lifting holes shall be located in the sections as per the manufacturer's recommendations, except as noted

See Standard 602701 for details of manhole steps.

All dimensions are in inches (millimeters) unless otherwise noted.

Illinois Department of Transportation

PASSED March 20 19
ENGINEER OF POLICY AND PROCEDURES

APPROVED March 1 2019
ENGINEER OF DESIGN AND ENVIRONMENT

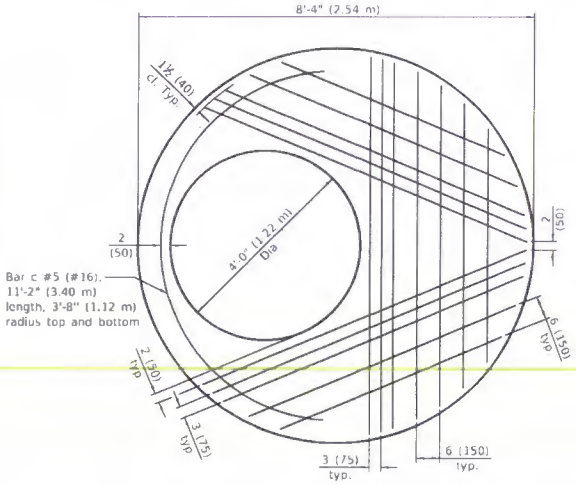
SUPERSEDES 01 16

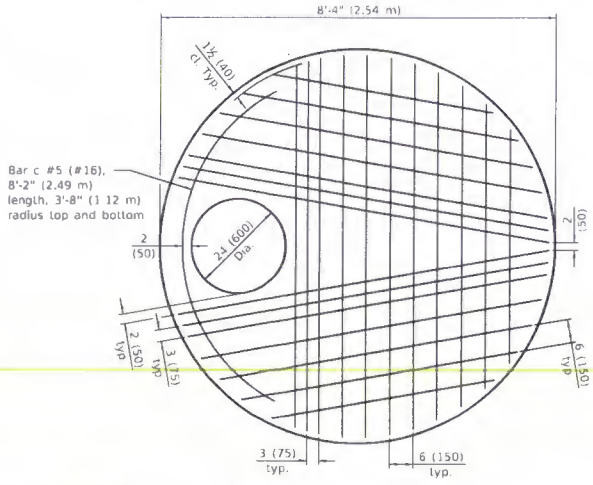
DATE	REVISIONS
3-1-19	Moved wall reinforcement from
	inside face to middle.
1 1 19	Expanded / refined reinforcement
	options. Increased manhole depths.

PRECAST MANHOLE TYPE A 7' (2.13 m) DIAMETER

(Sheet 1 of 3)

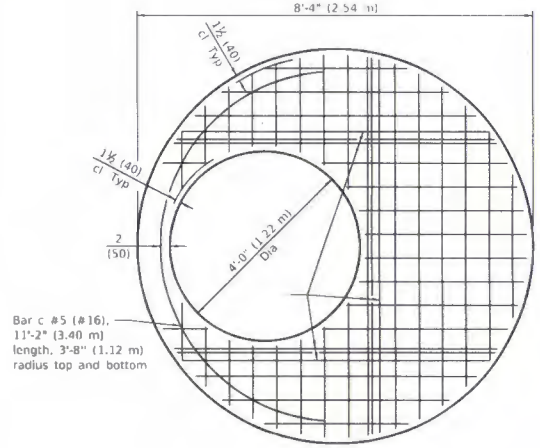
STANDARD 602411-08

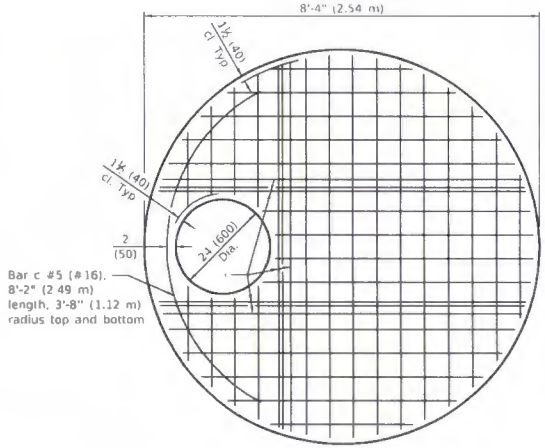




PLAN - FLAT SLAB TOP

(Showing layout of bottom reinforcement bars and c bars)





* #5 (#16) bars bottom. Bundle first bar with closest WWR bar to the opening and place second bar ±3 (75) away.

PLAN - FLAT SLAB TOP

(Showing layout of Welded Wire Reinforcement and c bars)
WWR not permitted for riser heights > 10' (3.05 m).

Illinois Department of Transportation

PASSED March 1 2019
ENGINEER OF POLICY AND PROCEDURES

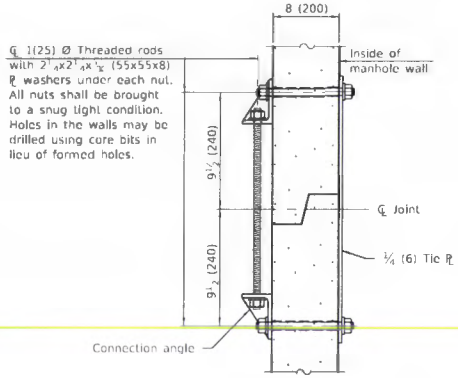
APPROVED March 1 2019
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 4-1-16

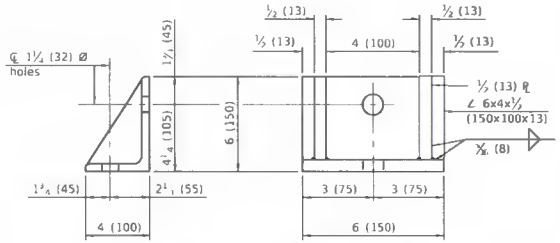
PRECAST MANHOLE TYPE A 7' (2.13 m) DIAMETER

(Sheet 2 of 3)

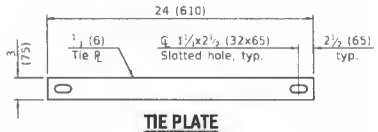
STANDARD 602411-08



JOINT SPLICE



CONNECTION ANGLE



TIE PLATE

FLAT SLAB TOP REINFORCEMENT

Location	Riser Height (RH)	WWR (each direction)		Rebar (each direction except as noted)		
		A_s (min.)	Spacing (max.)	A_s (min.)	Spacing (max.)	Bar Size
Top Mat	All	0.11 sq. in./ft. (233 sq. mm/m)	18 (450)	0.11 sq. in./ft. (233 sq. mm/m)	18 (450)	#3 or #4 (#10) (#13)
Bottom Mat	RH ≤ 10 ft. (3.05 m)	** 0.62 sq. in./ft. (312 sq. mm/m)	6 (150)	See plan view for rebar orientation and spacing and this table for bar size		#5 (#16)
	RH > 10 ft. (3.05 m)	WWR not permitted				#7 (#22)

** Only one layer of WWR permitted to avoid congestion.

WALL REINFORCEMENT

Location	Orientation	WWR or Rebar	
		A_s (min.)	Spacing (max.)
4 ft. (1.22 m) Ø Riser	Circumferential	0.12 sq. in./ft. (254 sq. mm/m)	6 (150)
	Vertical	0.045 sq. in./ft. (95 sq. mm/m)	8 (200)
7 ft. (2.13 m) Ø Barrel	Circumferential	0.21 sq. in./ft. (445 sq. mm/m)	6 (150)
	Vertical	0.045 sq. in./ft. (95 sq. mm/m)	8 (200)

BASE SLAB REINFORCEMENT

Location	Riser Height (RH)/ Total Height (TH)	WWR or Rebar (each direction)	
		A_s (min.)	Spacing (max.)
Top Mat	RH ≤ 10 ft. (3.05 m) & TH ≤ 20 ft. (6.10 m)	0.32 sq. in./ft. (677 sq. mm/m)	6 (150)
	RH > 10 ft. (3.05 m) or TH > 20 ft. (6.10 m)	0.52 sq. in./ft. (1101 sq. mm/m)	6 (150)
Bottom Mat	All	0.11 sq. in./ft. (233 sq. mm/m)	18 (450)

Illinois Department of Transportation

PASSED March 2019
ENGINEER OF POLICY AND PROCEDURES

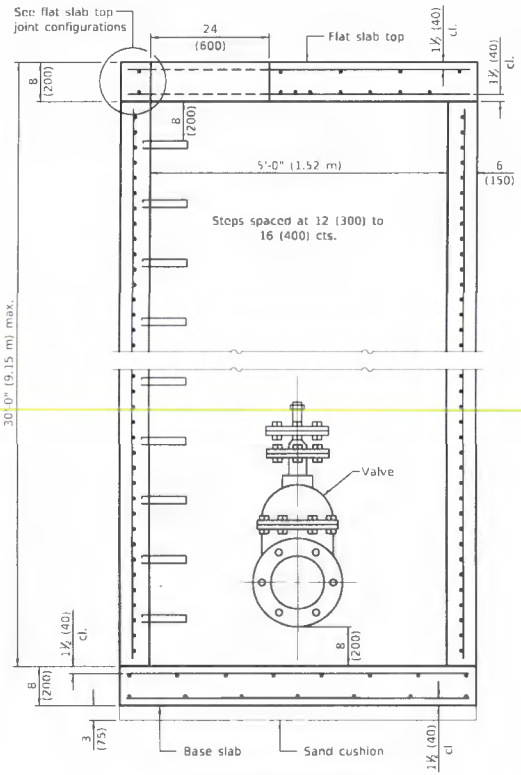
APPROVED March 1 2019
ENGINEER OF DESIGN AND ENVIRONMENT

SSGD 4.1.36

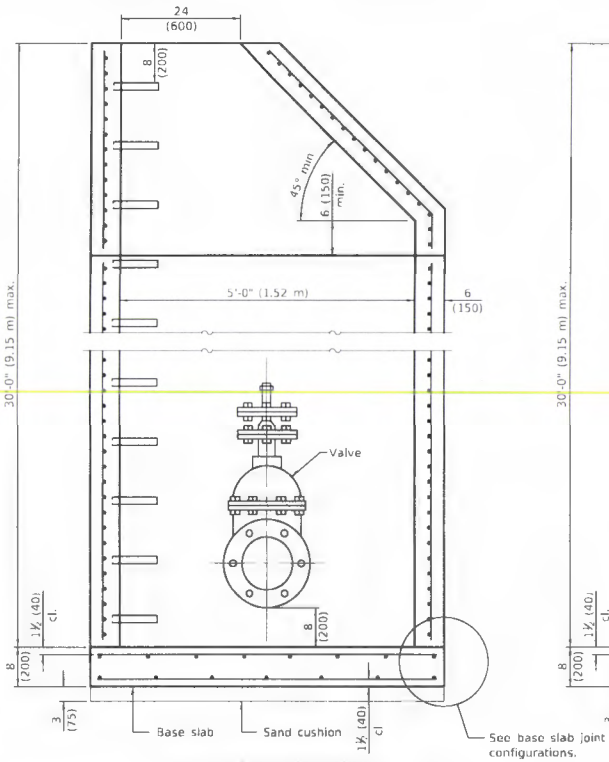
PRECAST MANHOLE TYPE A 7' (2.13 m) DIAMETER

(Sheet 3 of 3)

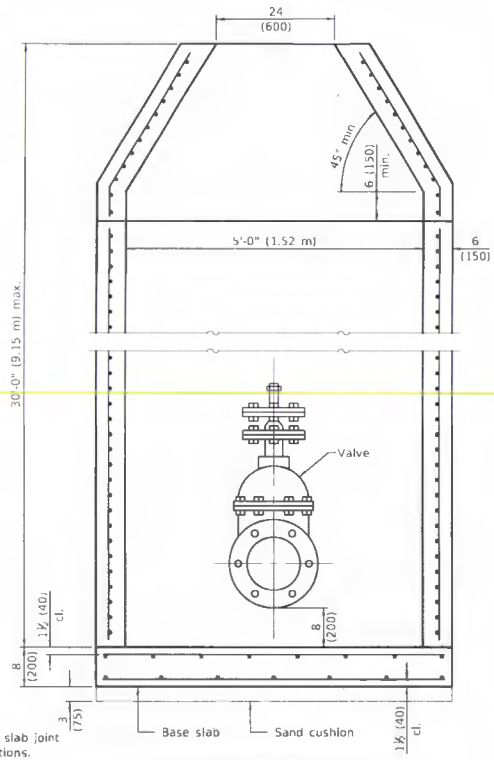
STANDARD 602411-08



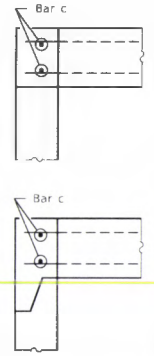
SECTION THRU VALVE VAULT
(Without conical top)



SECTION THRU VALVE VAULT
(With conical top)



SECTION THRU VALVE VAULT
(With concentric conical top)



FLAT SLAB TOP JOINT CONFIGURATIONS
(Shown at access hole)

GENERAL NOTES

Use this standard for water mains ≥ 10 (250).

The manufacturer shall ensure that all precast manhole sections are additionally reinforced where required to resist damage from handling, shipping and installation stresses.

Lifting holes shall be located in the sections as per the manufacturer's recommendations, except as noted.

See Standard 602701 for details of manhole steps.

All dimensions are in inches (millimeters) unless otherwise noted

Illinois Department of Transportation

PASSED March 1 2019
ENGINEER OF POLICY AND PROCEDURES

APPROVED March 1 2019
ENGINEER OF DESIGN AND ENVIRONMENT

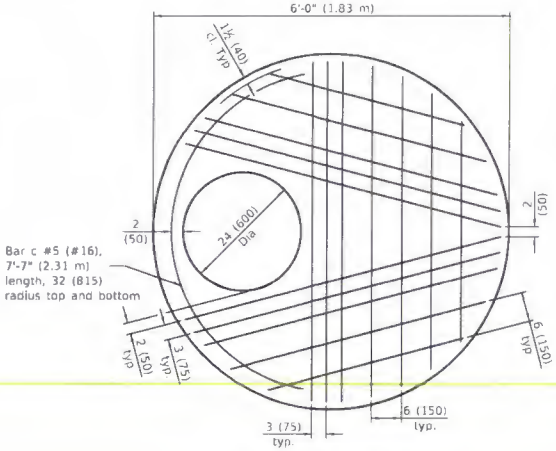
SUPS 1-1-18

DATE	REVISIONS
3-1-19	Moved wall reinforcement from
	inside face to middle.
1-1-19	Expanded / refined reinforcement
	options. Increased vault depths.

PRECAST VALVE VAULT TYPE A 5' (1.52 m) DIAMETER

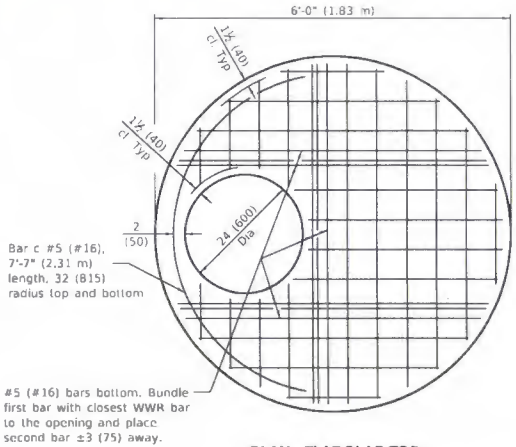
(Sheet 1 of 2)

STANDARD 602506-02



PLAN - FLAT SLAB TOP

(Showing layout of bottom reinforcement bars and c bars)



PLAN - FLAT SLAB TOP

(Showing layout of welded wire reinforcement and c bars)

FLAT SLAB TOP REINFORCEMENT

Location	WWR (each direction)		Rebar (each direction except as noted)		
	A_s (min.)	Spacing (max.)	A_s (min.)	Spacing (max.)	Bar Size
Top Mat	0.11 sq. in./ft. (233 sq. mm/m)	18 (450)	0.11 sq. in./ft. (233 sq. mm/m)	18 (450)	#3 or #4 (#10) (#13)
Bottom Mat	* 0.40 sq. in./ft. (847 sq. mm/m)	6 (150)	See plan view for rebar orientation and spacing and this table for bar size		#4 (#13)

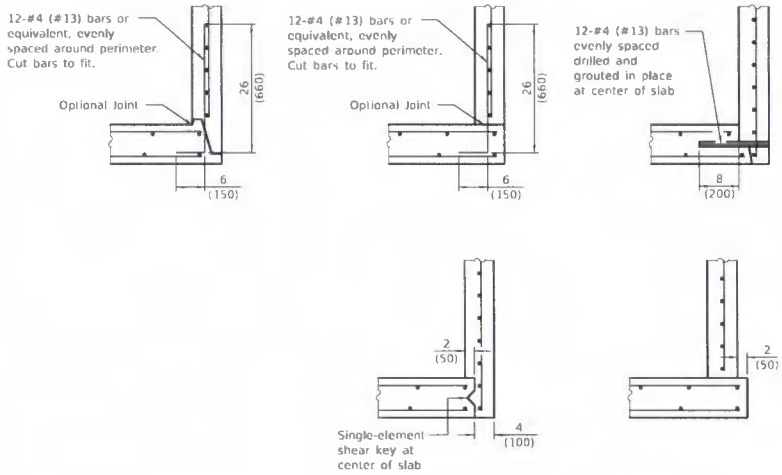
* Only one layer of WWR permitted to avoid congestion.

WALL REINFORCEMENT

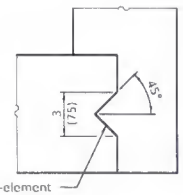
Orientation	WWR or Rebar	
	A_s (min.)	Spacing (max.)
Circumferential	0.15 sq. in./ft. (318 sq. mm/m)	6 (150)
Vertical	0.045 sq. in./ft. (95 sq. mm/m)	8 (200)

BASE SLAB REINFORCEMENT

Location	Total Height	~~WWR or Rebar (each direction)~~	
		A_s (min.)	Spacing (max.)
Top Mat	≤ 20 ft. (6.10 m)	0.24 sq. in./ft. (508 sq. mm/m)	10 (250)
	> 20 ft. (6.10 m)	0.28 sq. in./ft. (593 sq. mm/m)	8 (200)
Bottom Mat	All	0.11 sq. in./ft. (233 sq. mm/m)	18 (450)



BASE SLAB JOINT CONFIGURATIONS



SHEAR KEY GEOMETRY

(Reinforcement not shown for clarity)

Illinois Department of Transportation

PASSED March 2019
ENGINEER OF POLICY AND PROCEDURES

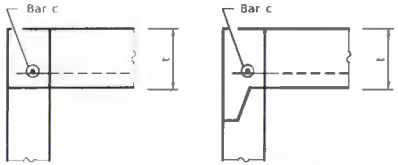
APPROVED March 2019
ENGINEER OF DESIGN AND ENVIRONMENT

SSGD 1-1-18

PRECAST VALVE VAULT TYPE A 5' (1.52 m) DIAMETER

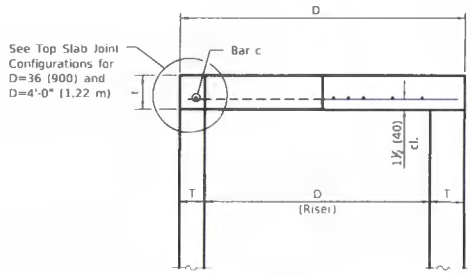
(Sheet 2 of 2)

STANDARD 602506-02

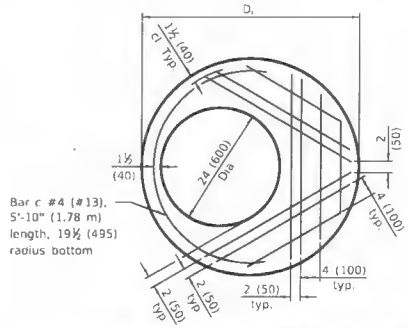


FLAT SLAB TOP JOINT CONFIGURATIONS FOR D = 36 (900) AND D = 4'-0" (1.22 m)

(Shown at access hole)

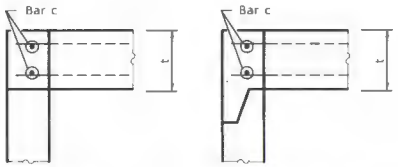


SECTION THRU FLAT SLAB TOP FOR D = 36 (900) AND D = 4'-0" (1.22 m)



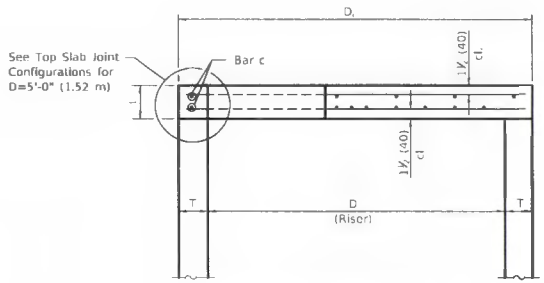
PLAN - FLAT SLAB TOP FOR D = 36 (900)

(Showing layout of reinforcement bars and c bars)

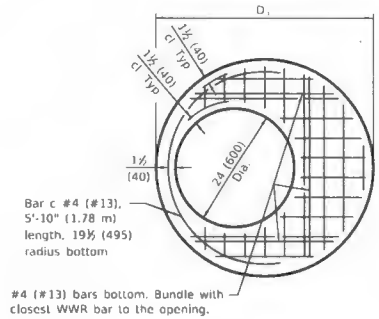


FLAT SLAB TOP JOINT CONFIGURATIONS D = 5'-0" (1.52 m)

(Shown at access hole)



SECTION THRU FLAT SLAB TOP FOR D = 5'-0" (1.52 m)



PLAN - FLAT SLAB TOP FOR D = 36 (900)

(Showing layout of welded wire reinforcement and c bars)

TABLE

D	T	D_a (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.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2019
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1 2019
ENGINEER OF DESIGN AND ENVIRONMENT

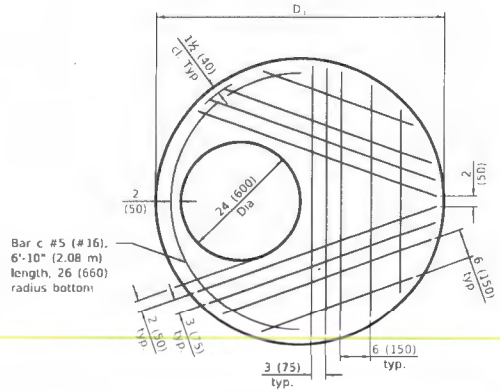
BDE 5555 (1-1-19)

DATE	REVISIONS
1-1-19	Expanded / refined reinforcement options.
1-1-18	Revised for compliance with LRFD.

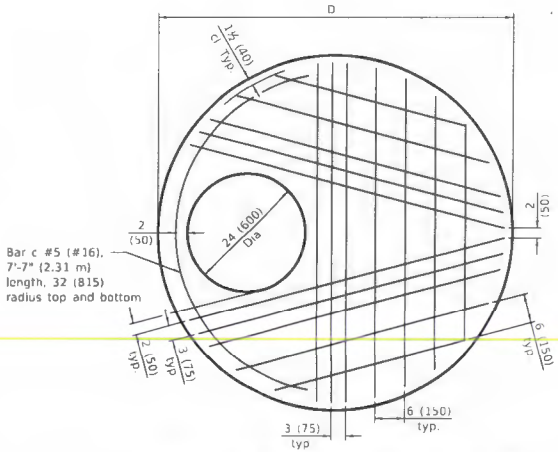
PRECAST REINFORCED CONCRETE FLAT SLAB TOP

(Sheet 1 of 2)

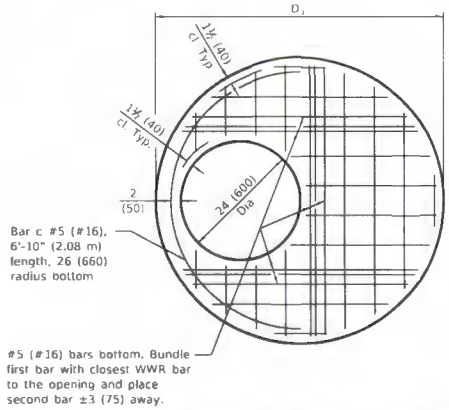
STANDARD 602601-06



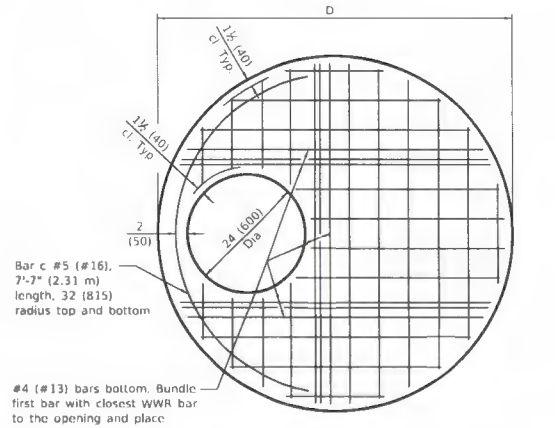
PLAN - FLAT SLAB TOP FOR D = 4'-0" (1.22 m)
(Showing layout of reinforcement bars and c bars)



PLAN - FLAT SLAB TOP FOR D = 5'-0" (1.52 m)
(Showing layout of bottom reinforcement bars and c bars)



PLAN - FLAT SLAB TOP FOR D = 4'-0" (1.22 m)
(Showing layout of welded wire reinforcement and c bars)



PLAN - FLAT SLAB TOP FOR D = 5'-0" (1.52 m)
(Showing layout of welded wire reinforcement and c bars)

FLAT SLAB TOP REINFORCEMENT FOR D = 36 (900)

Location	WWR (each direction)		Rebar		
	A_s (min.)	Spacing (max.)	A_s (min.)	Spacing (max.)	Bar Size
Bottom Mat	* 0.60 sq. in./ft. (1270 sq. mm/m)	6 (150)	See plan view for rebar orientation and spacing and this table for bar size		#4 (#13)

FLAT SLAB TOP REINFORCEMENT FOR D = 4'-0" (1.22 m)

Location	WWR (each direction)		Rebar		
	A_s (min.)	Spacing (max.)	A_s (min.)	Spacing (max.)	Bar Size
Bottom Mat	* 0.62 sq. in./ft. (1312 sq. mm/m)	6 (150)	See plan view for rebar orientation and spacing and this table for bar size		#5 (#16)

FLAT SLAB TOP REINFORCEMENT FOR D = 5'-0" (1.52 m)

Location	WWR (each direction)		Rebar (each direction except as noted)		
	A_s (min.)	Spacing (max.)	A_s (min.)	Spacing (max.)	Bar Size
Top Mat	0.11 sq. in./ft. (233 sq. mm/m)	18 (450)	0.11 sq. in./ft. (233 sq. mm/m)	18 (450)	#3 or #4 (#10) (#13)
Bottom Mat	* 0.40 sq. in./ft. (847 sq. mm/m)	6 (150)	See plan view for rebar orientation and spacing and this table for bar size		#4 (#13)

* Only one layer of WWR permitted to avoid congestion.

Illinois Department of Transportation

PASSED January 1, 2019
ENGINEER OF POLICY AND PROCEDURES

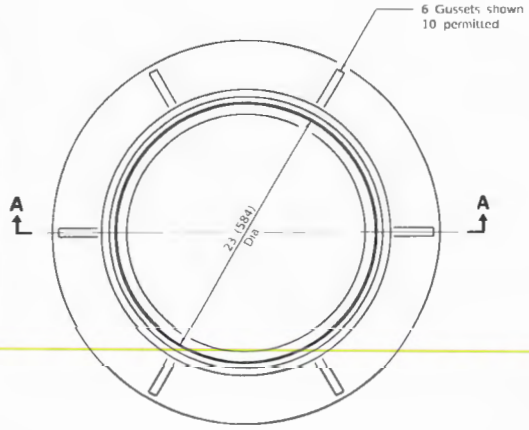
APPROVED January 1, 2019
ENGINEER OF DESIGN AND ENVIRONMENT

BDE 1-1-07 CHANGES

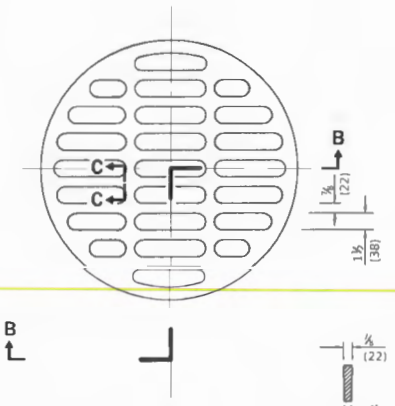
PRECAST REINFORCED CONCRETE FLAT SLAB TOP

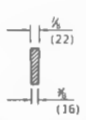
(Sheet 2 of 2)

STANDARD 602601-06

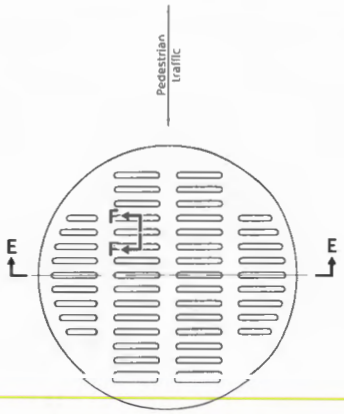


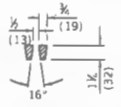
CAST FRAME



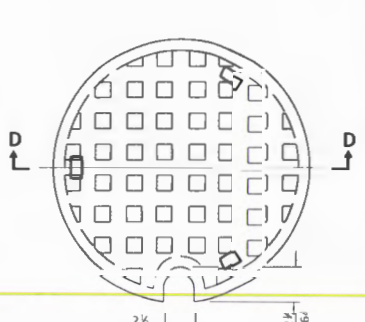


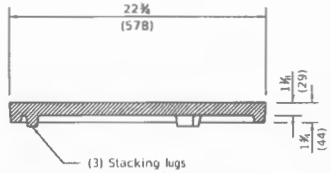
SECTION C-C





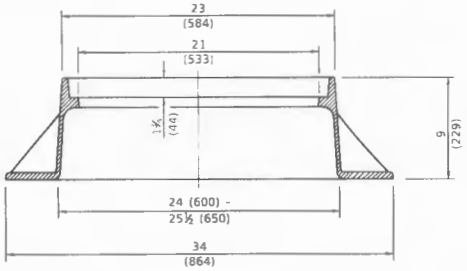
SECTION F-F



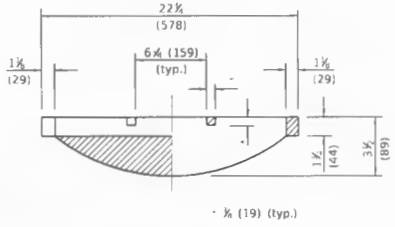


SECTION D-D

CAST CLOSED LID
Gray Iron Lid

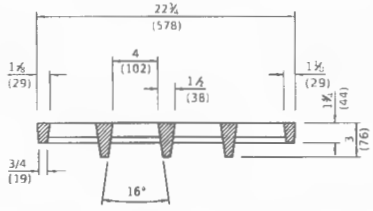


SECTION A-A
Gray Iron



SECTION B-B

CAST OPEN LID



SECTION E-E

ADA COMPLIANT
CAST OPEN LID

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

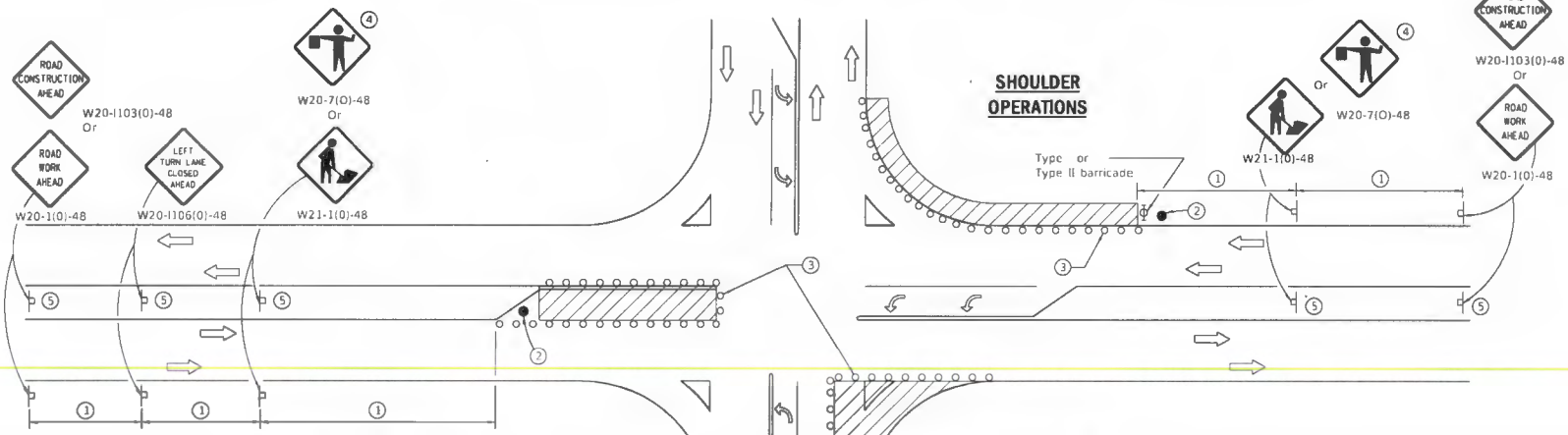
PASSED January 1, 2015
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

DATE	REVISIONS
1-1-15	Revised dimensioning of
	frame. Added ADA compliant
	open lid
1-1-09	Switched units to
	English (metric).

FRAME AND LIDS TYPE 1

STANDARD 604001-04



LEFT TURN LANE OR CENTER MEDIAN OPERATIONS

1. Refer to SIGN SPACING TABLE for distance.
2. Required for speed > 40 mph.
3. Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
4. Use flagger sign only when flagger is present.
5. Omit this sign when median is less than 10' (3 m) or for bi-directional turn lanes.
6. Cones, drums or barricades at 20' (6 m) centers in taper.
7. Advanced arrow board required for speeds > 45 mph.
8. Three Type II barricades, drums or vertical barricades at 50' (15 m) centers.

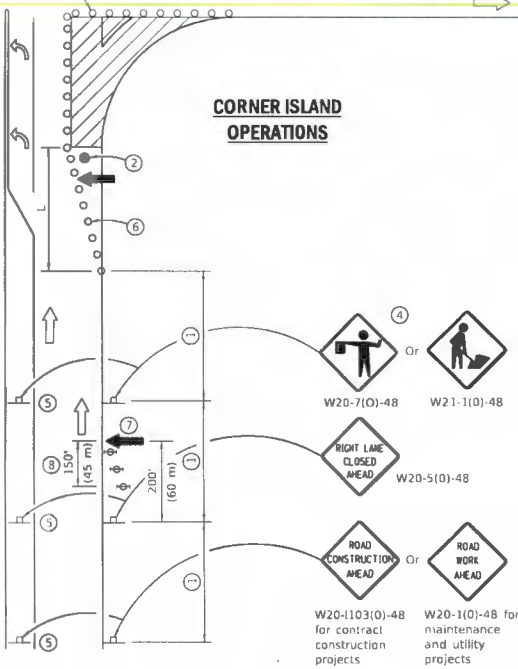
SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

SYMBOLS

- Work area
- Cone, drum or barricade
- Sign on portable or permanent support
- Arrow board
- Barricade or drum with flashing light
- Flagger with traffic control sign

SHOULDER OPERATIONS

CORNER ISLAND OPERATIONS



GENERAL NOTES

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement during shoulder operations or where construction requires lane closures in an urban area.

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

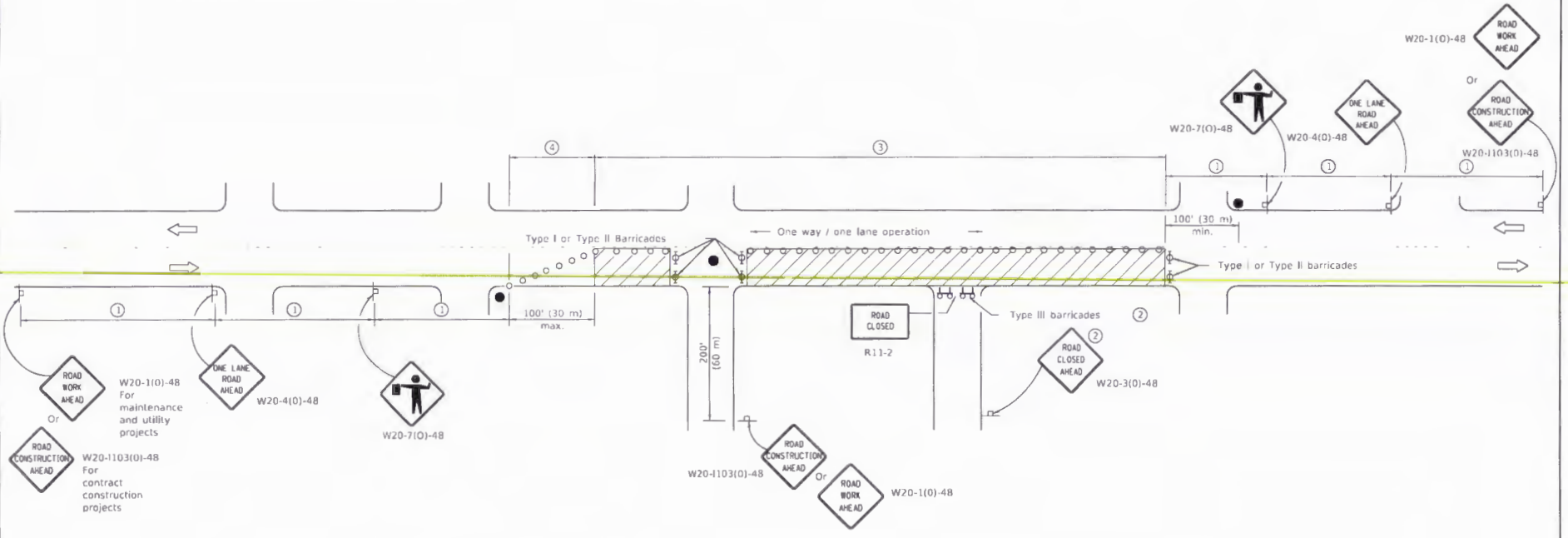
APPROVED April 1 2016
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
4-1-16	Corrected sign number for
	LEFT TURN LANE CLOSED
	AHEAD.
1-1-14	Added devices at arrow
	board upstream from taper.
	Rev. workers sign number.

URBAN LANE CLOSURE, MULTILANE INTERSECTION

STANDARD 701701-10



SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

SYMBOLS

- Work area
- Cone, drum or barricade (not required for moving operations)
- Sign on portable or permanent support
- Flagger with traffic control sign
- Barricade or drum with flashing light
- Type III barricade with flashing lights

(1) Refer to SIGN SPACING TABLE for distances.

(2) For approved sideroad closures.

(3) Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.

(4) Cones, drums or barricades at 20' (6 m) centers.

GENERAL NOTES

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement requiring the closure of one traffic lane in an urban area.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

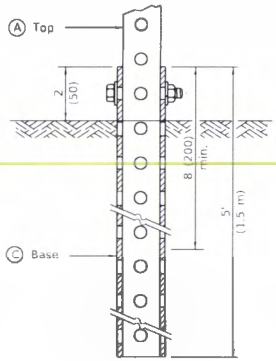
PASSED January 1, 20[illegible]
ENGINEER OF SAFETY ENGINEERING

APPROVED January 1, 20[illegible]
ENGINEER OF OPS ON AND ENVIRONMENT

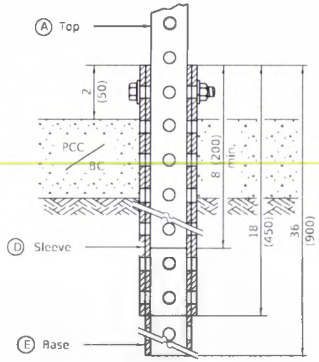
DATE	REVISIONS
1-1-11	Revised flagger sign.
1-1-09	Switched units to
	English (metric).
	Corrected sign No.'s

URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED

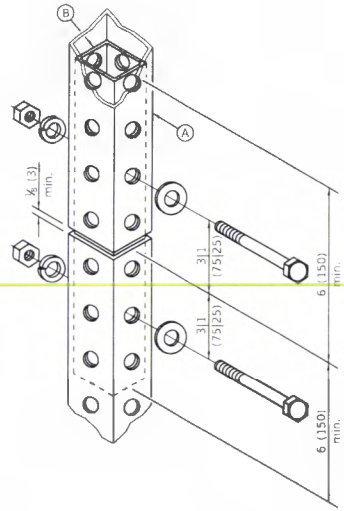
STANDARD 701501-06



GROUND MOUNT DETAIL



PAVEMENT MOUNT DETAIL



SPLICE DETAIL

A	2 x 2 x var. (51 x 51 var.)
B	1¾ x 1⅜ x 12 (44 x 44 x 300)
C	2¾ x 2½ x 60 (57 x 57 x 1500)
D	2½ x 2½ x 18 (64 x 64 x 450)
E	2¼ x 2¼ x 36) (57 x 57 x 900)

GENERAL NOTES

All bolts ⅜ (M10) hex head zinc or cadmium plated.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1 2009
ENGINEER OF OPERATIONS

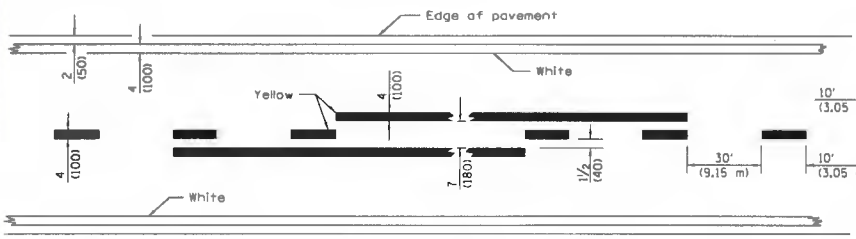
APPROVED January 1 2009
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-09

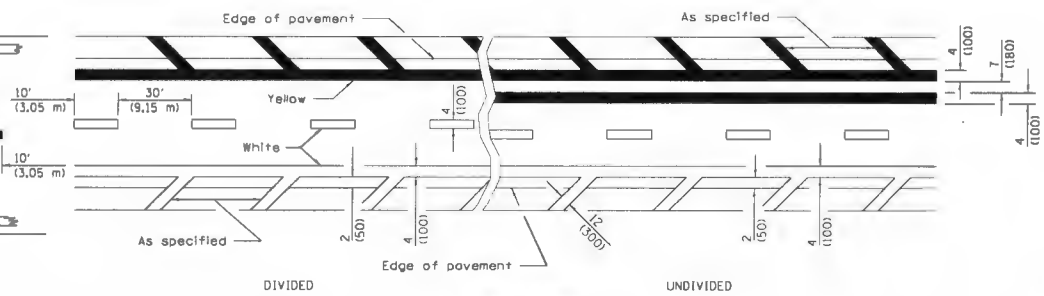
DATE	REVISIONS
1-1-09	Switched units to
	English (metric).
1-1-07	New Standard. Used to
	be part of Standard
	720006.

TELESCOPING STEEL SIGN SUPPORT

STANDARD 728001-01

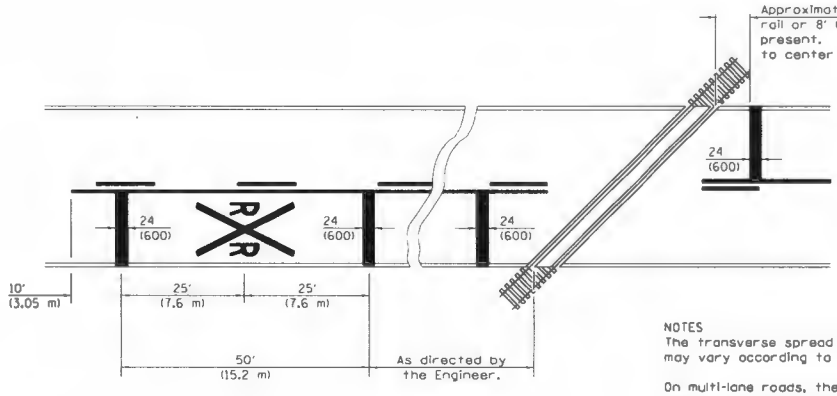


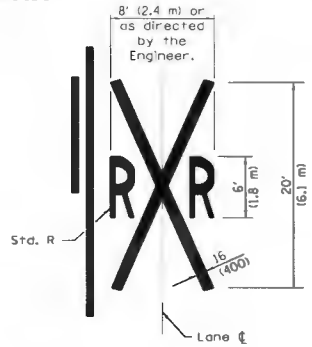
2 LANE



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.

Illinois Department of Transportation

APPROVED January 1, 2015
ENGINEER OF OPERATIONS
APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

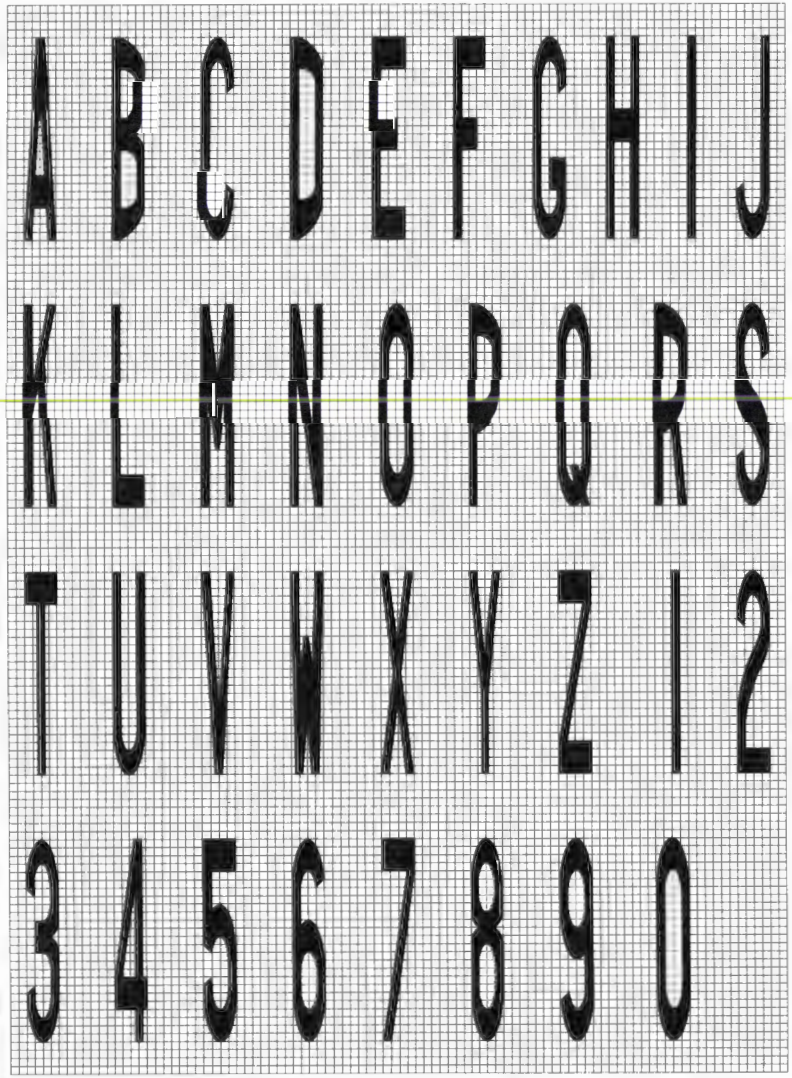
ISSUED 1-1-97

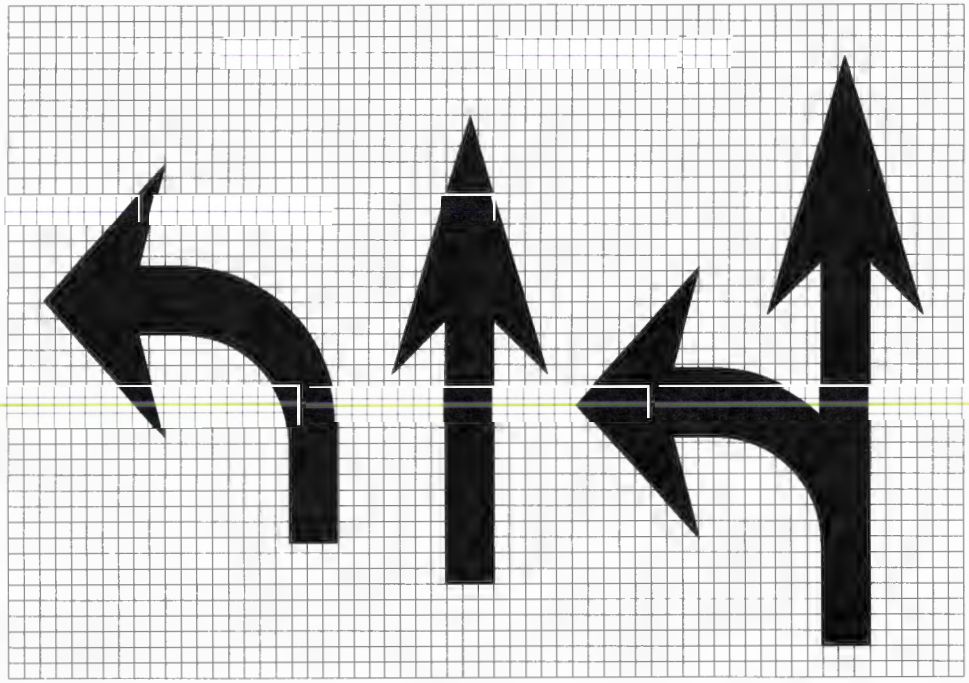
DATE	REVISIONS
1-1-15	Added symbols. Revised
	bike symbol. Revised note
	for stop line at RR crossing.
1-1-14	Added bike symbol. Renamed
	'LANE DROP ARROW' detail to
	'LANE REDUCTION ARROW'.

TYPICAL PAVEMENT MARKINGS

(Sheet 1 of 3)

STANDARD 780001–05





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

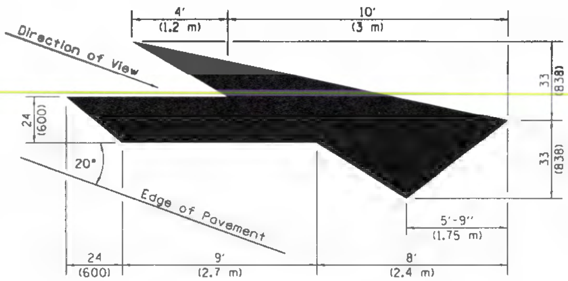
APPROVED January 1, 2015
ENGINEER OF OPERATIONS

APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

TYPICAL PAVEMENT MARKINGS

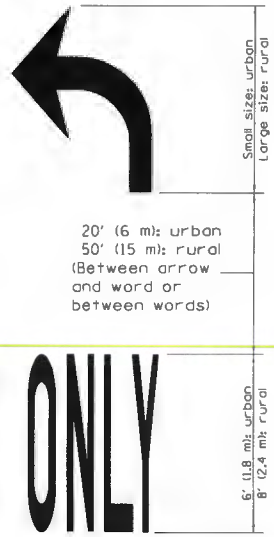
(Sheet 2 of 3)

STANDARD 780001-05



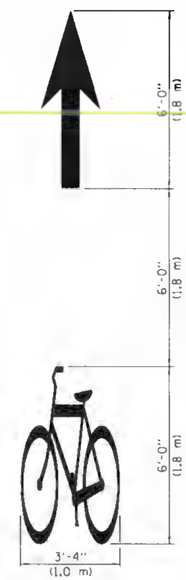
LANE-REDUCTION ARROW

Right lane-reduction arrow shown.
Use mirror image for left lane.



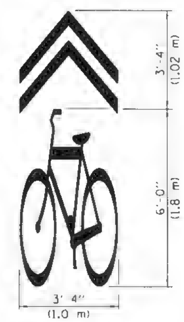
WORD AND ARROW LAYOUT

INTERNATIONAL SYMBOL OF ACCESSIBILITY

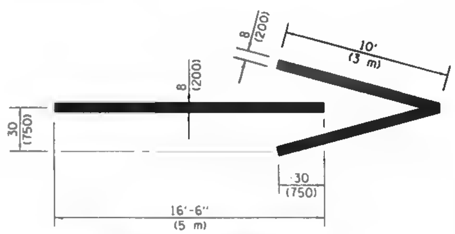


BIKE SYMBOL

(Arrow is optional.)



SHARED LANE SYMBOL



WRONG WAY ARROW

Illinois Department of Transportation

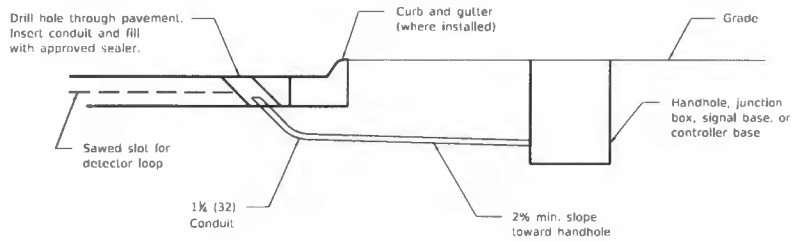
APPROVED January 1, 2015
ENGINEER OF OPERATIONS
APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

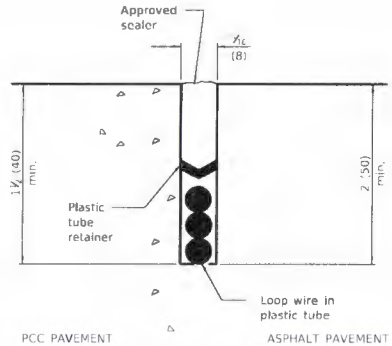
TYPICAL PAVEMENT MARKINGS

(Sheet 3 of 3)

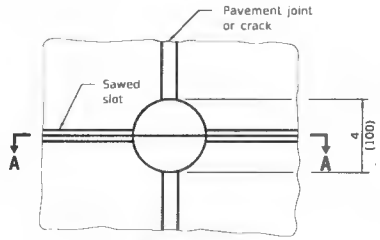
STANDARD 780001-05



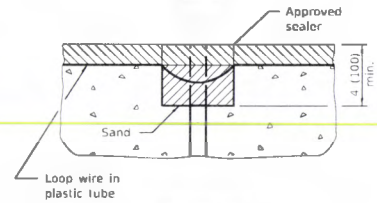
DETECTOR LOOP LEAD-IN



DETECTOR LOOP INSTALLATION



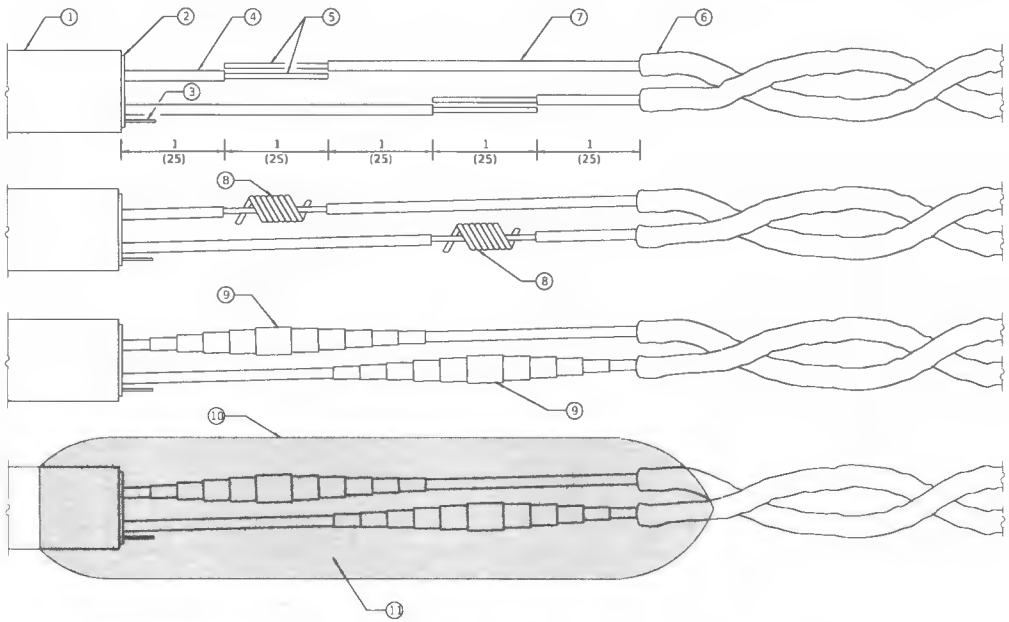
PLAN



SECTION A-A

NOTE
Loop wire shall follow saw cut to bottom, forming slack section at joint.

DETECTOR LOOP AT PAVEMENT JOINT OR PAVEMENT CRACK



LOOP WIRE AND LEAD-IN CABLE SPLICE

① = Lead-in cable (single pair or multipair)
② = Lead-in cable shield
③ = Lead-in cable shield drain-wire
④ = Lead-in cable insulated conductor
⑤ = Bare conductor
⑥ = Loop wire in tube
⑦ = Loop wire insulated conductor
⑧ = Twisted and resin soldered conductor
⑨ = Electrical tape insulated splice
⑩ = Rigid mold
⑪ = Waterproof and dielectric resin

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2009
ENGINEER OF OPERATIONS

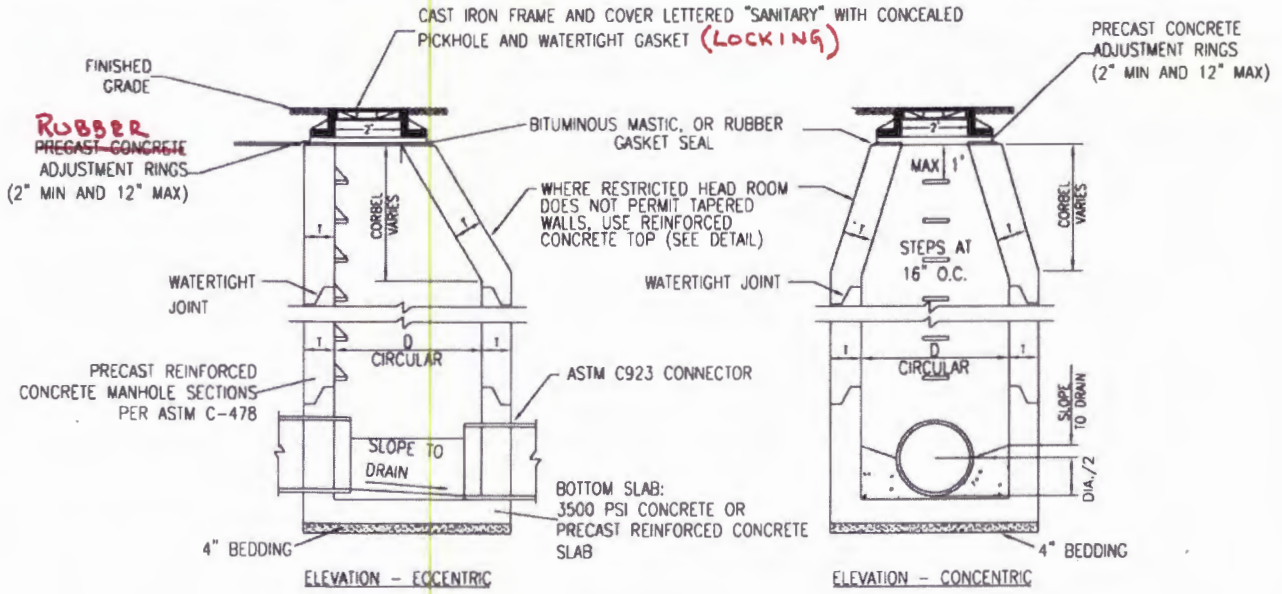
APPROVED January 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT

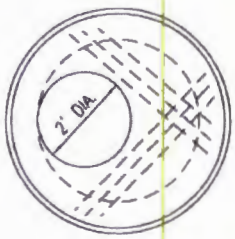
ISSUED 1-1-09

DATE	REVISIONS
1-1-09	Switched units to English (metric)
1-1-02	Renum. Standard 846001.

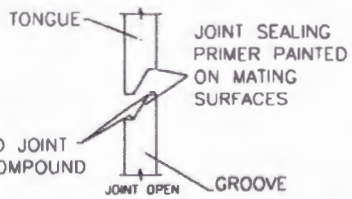
DETECTOR LOOP INSTALLATIONS

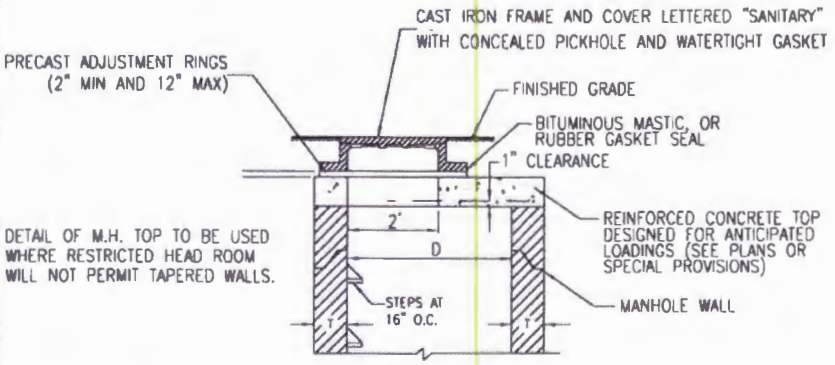
STANDARD 886001-01



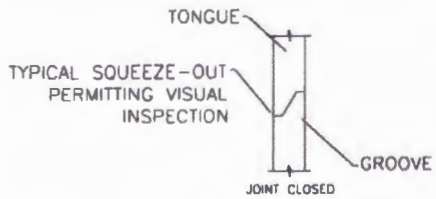


WATERPROOF FRAME AND BOLTED LID (SEE NOTES)





REINFORCED CONCRETE TOP



WATER TIGHT JOINT DETAIL

1. MANHOLES TO HAVE PRECAST "RUBBER BOOTS" CONFORMING TO ASTM C-923 AT ALL PIPE CONNECTIONS.
2. SANITARY MANHOLES SUBJECT TO SATURATION SOIL CONDITIONS OR SURFACE SUBMERGENCE SHALL BE EQUIPPED WITH CHIMNEY SEALS AND WATER TIGHT BOLTED DOWN MANHOLE COVERS.
3. MASTIC SEALANT OR RUBBER GASKET SEAL MUST BE APPLIED BETWEEN CONCRETE & FLANGE OF FRAME BEFORE LID BOLTS ARE TIGHTENED.
4. SAFETY LANDINGS REQUIRED FOR MANHOLES GREATER THAN 28 FEET DEPTH (RIM TO INVERT). MAXIMUM VERTICAL SPACING OF SAFETY LANDING IS 20 FEET.
5. FOR DROP CONNECTIONS, USE DROP CONNECTION MANHOLE DETAIL.
6. FOR ONLINE CONNECTIONS GREATER THAN 15 INCHES, USE DOGHOUSE MANHOLE DETAIL.

ALT MATERIALS FOR WALLS	D	T (MIN.)
PRECAST REINFORCED CONCRETE SECTION	4 FEET	4 IN
	5 FEET	5 IN
	6 FEET	6 IN
CAST-IN-PLACE CONCRETE	4 FEET	4 IN
	5 FEET	5 IN
	6 FEET	6 IN

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO	TECHNICAL GUIDANCE MANUAL	7/1/15
	TYPICAL SANITARY MANHOLE "A" AND "B" DETAIL	
		PAGE NO. 40

EXHIBIT 2

DISTRICT PURCHASING ACT

(70 ILCS 2605/11.1) (from Ch. 42, par. 331.1)

Sec. 11.1. Sections 11.1 through 11.24 of this amendatory Act of 1963 shall be known and may be cited as the "Purchasing Act for the Metropolitan Sanitary District of Greater Chicago."

(Source: P.A. 82-1046.)

(70 ILCS 2605/11.2) (from Ch. 42, par. 331.2)

Sec. 11.2. In addition to all the rights, powers, privileges, duties and obligations conferred thereon in "An Act to create sanitary districts and to remove obstructions in the Des Plaines and Illinois rivers", approved May 29, 1889, as amended, the Metropolitan Sanitary District of Greater Chicago shall have the rights, powers and privileges and shall be subject to the duties and obligations conferred thereon by this amendatory Act of 1963.

(Source: Laws 1963, p. 2498.)

(70 ILCS 2605/11.3) (from Ch. 42, par. 331.3)

Sec. 11.3. Except as provided in Sections 11.4 and 11.5, all purchase orders or contracts involving amounts in excess of the mandatory competitive bid threshold and made by or on behalf of the sanitary district for labor, services or work, the purchase, lease or sale of personal property, materials, equipment or supplies, or the granting of any concession, shall be let by free and open competitive bidding after advertisement, to the lowest responsible bidder or to the highest responsible bidder, as the case may be, depending upon whether the sanitary district is to expend or receive money.

All such purchase orders or contracts which shall involve amounts that will not exceed the mandatory competitive bid threshold, shall also be let in the manner prescribed above whenever practicable, except that after solicitation of bids, such purchase orders or contracts may be let in the open market, in a manner calculated to insure the best interests of the public. The provisions of this section are subject to any contrary provisions contained in "An Act concerning the use of Illinois mined coal in certain plants and institutions", filed July 13, 1937, as heretofore and hereafter amended. For purposes of this Section, the "mandatory competitive bid threshold" is a dollar amount equal to 0.1% of the total general fixed assets of the district as reported in the most recent required audit report. In no event, however, shall the mandatory competitive bid threshold dollar amount be less than $10,000 or more than $40,000.

Notwithstanding the provisions of this Section, the sanitary district is expressly authorized to establish such procedures as it deems appropriate to comply with state or federal regulations as to affirmative action and the utilization of small and minority businesses in construction

and procurement contracts.
(Source: P.A. 92-195, eff. 1-1-02.)

(70 ILCS 2605/11.4) (from Ch. 42, par. 331.4)

Sec. 11.4. Contracts which by their nature are not adapted to award by competitive bidding, such as, but not only, contracts for the services of individuals possessing a high degree of professional skill where the ability or fitness of the individual plays an important part, contracts for the purchase or sale of utilities and contracts for materials economically procurable only from a single source of supply and leases of real property where the sanitary district is the lessee shall not be subject to the competitive bidding requirements of this Act. The sanitary district is expressly authorized to procure from any federal, state or local governmental unit or agency such surplus materials, as may be made available without conforming to the competitive bidding requirements of this Act. Regular employment contracts, whether classified in civil service or not, shall not be subject to the competitive bidding requirements of this Act.
(Source: Laws 1963, p. 2498.)

(70 ILCS 2605/11.5) (from Ch. 42, par. 331.5)

Sec. 11.5. In the event of an emergency affecting the public health or safety, so declared by action of the board of trustees, which declaration shall describe the nature of the injurious effect upon the public health or safety, contracts may be let to the extent necessary to resolve such emergency without public advertisement. The declaration shall fix the date upon which such emergency shall terminate. The date may be extended or abridged by the board of trustees as in its judgment the circumstances require.

The executive director appointed in accordance with Section 4 of this Act shall authorize in writing and certify to the director of procurement and materials management those officials or employees of the several departments of the sanitary district who may purchase in the open market without filing a requisition or estimate therefor, and without advertisement, any supplies, materials, equipment or services, for immediate delivery to meet bona fide operating emergencies where the amount thereof is not in excess of $50,000; provided, that the director of procurement and materials management shall be notified of such emergency. A full written account of any such emergency together with a requisition for the materials, supplies, equipment or services required therefor shall be submitted immediately by the requisitioning agent to the executive director and such report and requisition shall be submitted to the director of procurement and materials management and shall be open to public inspection for a period of at least one year subsequent to the

date of such emergency purchase. The exercise of authority in respect to purchases for such bona fide operating emergencies shall not be dependent upon a declaration of emergency by the board of trustees under the first paragraph of this Section. (Source: P.A. 95-923, eff. 1-1-09; 96-165, eff. 8-10-09.)

(70 ILCS 2605/11.6) (from Ch. 42, par. 331.6)

Sec. 11.6. The head of each department shall notify the director of procurement and materials management of those officers and employees authorized to sign requests for purchases. Requests for purchases shall be void unless executed by an authorized officer or employee and approved by the director of procurement and materials management. Requests for purchases may be executed, approved and signed manually or electronically.

Officials and employees making requests for purchases shall not split or otherwise partition for the purpose of evading the competitive bidding requirements of this Act, any undertaking involving amounts in excess of the mandatory competitive bid threshold.
(Source: P.A. 95-923, eff. 1-1-09.)

(70 ILCS 2605/11.7) (from Ch. 42, par. 331.7)

Sec. 11.7. All proposals to award purchase orders or contracts involving amounts in excess of the mandatory competitive bid threshold shall be published at least 12 calendar days in advance of the date announced for the receiving of bids, in a secular English language newspaper of general circulation in said sanitary district and shall be posted simultaneously on readily accessible bulletin boards in the principal office of the sanitary district. Nothing contained in this section shall be construed to prohibit the placing of additional advertisements in recognized trade journals. Advertisements for bids shall describe the character of the proposed contract or agreement in sufficient detail either in the advertisement itself or by reference to plans, specifications or other detail on file at the time of publication of the first announcement, to enable the bidders to know what their obligation will be. The advertisement shall also state the date, time and place assigned for the opening of bids. No bids shall be received at any time subsequent to the time indicated in the announcement; however, an extension of time may be granted for the opening of such bids upon publication in the same newspaper of general circulation in said sanitary district stating the date to which bid opening has been extended. The time of the extended bid opening shall not be less than 5 days after publication, Sundays and legal holidays excluded.

Cash, cashier's check or a certified check payable to the clerk and drawn upon a bank, as a deposit of good faith, in a

reasonable amount not in excess of 10% of the contract amount, may be required of each bidder by the director of procurement and materials management on all bids involving amounts in excess of the mandatory competitive bid threshold. If a deposit is required, the advertisement for bids shall so specify. Instead of a deposit, the director of procurement and materials management may allow the use of a bid bond if the bond is issued by a surety company that is listed in the Federal Register and is authorized to do business in the State of Illinois.
(Source: P.A. 95-923, eff. 1-1-09.)

(70 ILCS 2605/11.8) (from Ch. 42, par. 331.8)
Sec. 11.8. Any agreement or collusion among bidders or prospective bidders in restraint of freedom of competition by agreement to bid a fixed price, or otherwise, shall render the bids of such bidder void. Each bidder shall accompany his bid with a sworn statement, or otherwise swear or affirm, that he has not been a party to any such agreement or collusion. Any disclosure in advance of the opening of bids, on the terms of the bids submitted in response to an advertisement, made or permitted by the director of procurement and materials management or any officer or employee of said sanitary district shall render the proceedings void and shall require re-advertisement and re-award.
(Source: P.A. 95-923, eff. 1-1-09.)

(70 ILCS 2605/11.9) (from Ch. 42, par. 331.9)
Sec. 11.9. All sealed bids shall be publicly opened by the director of procurement and materials management, or his designee, and such bids shall be open to public inspection for a period of at least 48 hours before award is made; provided, this provision shall not apply to the sale of bonds, tax anticipation warrants or other financial obligations of the sanitary district.
(Source: P.A. 95-923, eff. 1-1-09.)

(70 ILCS 2605/11.10) (from Ch. 42, par. 331.10)
Sec. 11.10. Every contract or purchase order involving amounts in excess of the mandatory competitive bid threshold shall be signed by the president or other duly authorized officer of the board of commissioners, by the executive director, by the clerk and by the director of procurement and materials management. Each bid with the name of the bidder shall be entered upon a record which shall be open to public inspection in the office of the director of procurement and

materials management. After the award is made, the bids shall be entered in the official records of the board of commissioners.

All purchase orders or contracts involving amounts that will not exceed the mandatory competitive bid threshold shall be let by the director of procurement and materials management. They shall be signed by the director of procurement and materials management and the clerk. All records pertaining to such awards shall be open to public inspection for a period of at least one year subsequent to the date of the award.

An official copy of each awarded purchase order or contract together with all necessary attachments thereto, including assignments and written consent of the director of procurement and materials management shall be retained by the director of procurement and materials management in an appropriate file open to the public for such period of time after termination of contract during which action against the municipality might ensue under applicable laws of limitation. Certified copies of all completed contracts and purchase orders shall be filed with the clerk. After the appropriate period, purchase orders, contracts and attachments in the clerk's possession may be destroyed by direction of the director of procurement and materials management.

The provisions of this Act are not applicable to joint purchases of personal property, supplies and services made by governmental units in accordance with Sections 1 through 5 of "An Act authorizing certain governmental units to purchase personal property, supplies and services jointly," approved August 15, 1961.
(Source: P.A. 95-923, eff. 1-1-09.)

(70 ILCS 2605/11.11) (from Ch. 42, par. 331.11)

Sec. 11.11. In determining the responsibility of any bidder, the director of procurement and materials management may take into account, in addition to financial responsibility, past records of transactions with the bidder, experience, adequacy of equipment, ability to complete performance within a specific time and other pertinent factors, including but not limited to whether the equipment or material is manufactured in North America.
(Source: P.A. 95-923, eff. 1-1-09.)

(70 ILCS 2605/11.12) (from Ch. 42, par. 331.12)

Sec. 11.12. Any and all bids received in response to an advertisement may be rejected by the director of procurement and materials management if the bidders are not deemed responsible, or the character or quality of the services, supplies, materials, equipment or labor do not conform to requirements, or if the public interest may be better served

thereby.
(Source: P.A. 95-923, eff. 1-1-09.)

(70 ILCS 2605/11.13) (from Ch. 42, par. 331.13)

Sec. 11.13. Bond, with sufficient sureties, in such amount as shall be deemed adequate by the director of procurement and materials management not only to insure performance of the contract in the time and manner specified in said contract but also to save, indemnify and keep harmless the sanitary district against all liabilities, judgments, costs and expenses which may in anywise accrue against said sanitary district in consequence of the granting of the contract or execution thereof shall be required for all contracts relative to construction, rehabilitation or repair of any of the works of the sanitary district and may be required of each bidder upon all other contracts in excess of the mandatory competitive bid threshold when, in the opinion of the director of procurement and materials management, the public interest will be better served thereby.

In accordance with the provisions of "An Act in relation to bonds of contractors entering into contracts for public construction", approved June 20, 1931, as amended, all contracts for construction work, to which the sanitary district is a party, shall require that the contractor furnish bond guaranteeing payment for materials and labor utilized in the contract.
(Source: P.A. 95-923, eff. 1-1-09.)

(70 ILCS 2605/11.14) (from Ch. 42, par. 331.14)

Sec. 11.14. No contract to which the sanitary district is a party shall be assigned by the successful bidder without the written consent of the director of procurement and materials management. In no event shall a contract or any part thereof be assigned to a bidder who has been declared not to be a responsible bidder in the consideration of bids submitted upon the particular contract.
(Source: P.A. 95-923, eff. 1-1-09.)

(70 ILCS 2605/11.15) (from Ch. 42, par. 331.15)

Sec. 11.15. No person shall be employed upon contracts for work to be done by any such sanitary district unless he or she is a citizen of the United States, a national of the United States under Section 1401 of Title 8 of the United States Code, an alien lawfully admitted for permanent residence under Section 1101 of Title 8 of the United States Code, an individual who has been granted asylum under Section 1158 of

Title 8 of the United States Code, or an individual who is otherwise legally authorized to work in the United States.
(Source: P.A. 98-280, eff. 8-9-13; 99-231, eff. 8-3-15.)

(70 ILCS 2605/11.16) (from Ch. 42, par. 331.16)

Sec. 11.16. The executive director, with the advice and consent of the board of trustees, shall appoint the director of procurement and materials management. Any person appointed as the director of procurement and materials management must have served at least 5 years in a responsible executive capacity requiring knowledge and experience in large scale purchasing activities.

In making the appointment, the president shall appoint an advisory committee consisting of 5 persons, one of whom shall be the executive director, which advisory board shall submit not fewer than 3 names to the general superintendent for the appointment. The executive director shall make the appointment from nominees submitted by the Advisory Committee after giving due consideration to each nominee's executive experience and his ability to properly and effectively discharge the duties of the director of procurement and materials management.

The director of procurement and materials management may be removed for cause by the executive director. He is entitled to a public hearing before the executive director prior to such anticipated removal. The director of procurement and materials management is entitled to counsel of his own choice. The executive director shall notify the board of trustees of the date, time, place and nature of each hearing and he shall invite the board to appear at each hearing.
(Source: P.A. 95-923, eff. 1-1-09.)

(70 ILCS 2605/11.17) (from Ch. 42, par. 331.17)

Sec. 11.17. Powers of director of procurement and materials management. The director of procurement and materials management shall: (a) adopt, promulgate and from time to time revise rules and regulations for the proper conduct of his office; (b) constitute the agent of the sanitary district in contracting for labor, materials, services, or work, the purchase, lease or sale of personal property, materials, equipment or supplies in conformity with this Act; (c) open all sealed bids; (d) determine the lowest or highest responsible bidder, as the case may be; (e) enforce written specifications describing standards established pursuant to this Act; (f) operate or require such physical, chemical or other tests as may be necessary to insure conformity to such specifications with respect to quality of materials; (g) exercise or require such control as may be necessary to insure conformity to contract provisions with respect to quantity; (h) distribute or cause to be distributed, to the various requisitioning agencies of such

sanitary district such supplies, materials or equipment, as may be purchased by him; (i) transfer materials, supplies, and equipment to or between the various requisitioning agencies and to trade in, sell, donate, or dispose of any materials, supplies, or equipment that may become surplus, obsolete, or unusable; except that materials, supplies, and equipment may be donated only to not-for-profit institutions; (j) control and maintain adequate inventories and inventory records of all stocks of materials, supplies and equipment of common usage contained in any central or principal storeroom, stockyard or warehouse of the sanitary district; (k) assume such related activities as may be assigned to him from time to time by the board of trustees; and (m) submit to the board of trustees an annual report describing the activities of his office. The report shall be placed upon the official records of the sanitary district or given comparable public distribution.
(Source: P.A. 95-923, eff. 1-1-09.)

(70 ILCS 2605/11.18) (from Ch. 42, par. 331.18)

Sec. 11.18. The board of trustees is expressly authorized to establish a revolving fund to enable the director of procurement and materials management to purchase items of common usage in advance of immediate need. The revolving fund shall be reimbursed from appropriations of the using agencies. No officer or employee of a sanitary district organized pursuant to this Act shall be financially interested, directly or indirectly, in any bid, purchase order, lease or contract to which such sanitary district is a party. For purposes of this Section an officer or employee of the sanitary district is deemed to have a direct financial interest in a bid, purchase order, lease or contract with the district, if the officer or employee is employed by the district and is simultaneously employed by a person or corporation that is a party to any bid, purchase order, lease or contract with the sanitary district.

Any officer or employee convicted of a violation of this section shall forfeit his office or employment and in addition shall be guilty of a Class 4 felony.
(Source: P.A. 95-923, eff. 1-1-09.)

(70 ILCS 2605/11.19) (from Ch. 42, par. 331.19)

Sec. 11.19. No department, office, agency or instrumentality, officer or employe of the sanitary district, shall be empowered to execute any purchase order or contract except as expressly authorized by this Act.
(Source: Laws 1963, p. 2498.)

(70 ILCS 2605/11.19a) (from Ch. 42, par. 331.19a)

Sec. 11.19a. Purchases made pursuant to this Act shall be made in compliance with the "Local Government Prompt Payment Act", approved by the Eighty-fourth General Assembly. (Source: P.A. 84-731.)

(70 ILCS 2605/11.20) (from Ch. 42, par. 331.20)

Sec. 11.20. There shall be a board of standardization, composed of the director of procurement and materials management of the sanitary district who shall be chairman, and 4 other members who shall be appointed by the president of the board of trustees of the sanitary district. The members shall be responsible heads of a major office or department of the sanitary district and shall receive no compensation for their services on the board. The board shall meet at least once each 3 calendar months upon notification by the chairman at least 5 days in advance of the date announced for such meeting. Official action of the board shall require the vote of a majority of all members of the board. The chairman shall cause to be prepared a report describing the proceedings of each meeting. The report shall be transmitted to each member and shall be made available to the president and board of trustees of such sanitary district within 5 days subsequent to the date of the meeting and all such reports shall be open to public inspection, excluding Sundays and legal holidays.

The board of standardization shall: (a) classify the requirements of the sanitary district, including the departments, offices and other boards thereof, with respect to supplies, materials and equipment; (b) adopt as standards, the smallest numbers of the various qualities, sizes and varieties of such supplies, materials and equipment as may be consistent with the efficient operation of the sanitary district; and (c) prepare, adopt, promulgate, and from time to time revise, written specifications describing such standards.

Specifications describing in detail the physical, chemical and other characteristics of supplies, material or equipment to be acquired by purchase order or contract shall be prepared by the board of standardization. However, all specifications pertaining to the construction, alteration, rehabilitation or repair of any real property of such sanitary district shall be prepared by the engineering agency engaged in the design of such construction, alteration, rehabilitation or repair, prior to approval by the director of procurement and materials management. The specification shall form a part of the purchase order or contract, and the performance of all such contracts shall be supervised by the engineering agency designated in the contracts.

In the preparation or revision of standard specifications the board of standardization shall solicit the advice, assistance and cooperation of the several requisitioning agencies and shall be empowered to consult such public or non-public laboratory or technical services as may be deemed expedient. After adoption, each standard specification shall,

until rescinded, apply alike in terms and effect to every purchase order or contract for the purchase of any commodity, material, supply or equipment. The specifications shall be made available to the public upon request.
(Source: P.A. 95-923, eff. 1-1-09.)

(70 ILCS 2605/11.21) (from Ch. 42, par. 331.21)
Sec. 11.21. Official ordinances authorized by this Act shall be adopted by formal action of the board of trustees of the sanitary district and shall be published for the information of the public.
(Source: Laws 1963, p. 2498.)

(70 ILCS 2605/11.22) (from Ch. 42, par. 331.22)
Sec. 11.22. Any purchase order or contract executed in violation of this Act shall be null and void. Public funds which have been expended thereon, may be recovered in the name of the sanitary district in any court of competent jurisdiction.
(Source: Laws 1963, p. 2498.)

(70 ILCS 2605/11.23) (from Ch. 42, par. 331.23)
Sec. 11.23. The comptroller of the sanitary district shall conduct audits of all expenditures incident to all purchase orders and contracts awarded by the director of procurement and materials management. The comptroller shall report the results of such audits to the president and board of trustees.
(Source: P.A. 95-923, eff. 1-1-09.)

(70 ILCS 2605/11.24) (from Ch. 42, par. 331.24)
Sec. 11.24. (a) A person or business entity shall be disqualified from doing business with The Metropolitan Sanitary District of Greater Chicago for a period of 5 years from the date of conviction or entry of a plea or admission of guilt, if that person or business entity:

1. has been convicted of an act of bribery or attempting to bribe an officer or employee of the federal government or of a unit of any state or local government or school district in that officer's or employee's official capacity; or

2. has been convicted of an act of bid-rigging or attempting to rig bids as defined in the Federal Sherman Anti-Trust Act and Clayton Act; or

3. has been convicted of bid-rigging or attempting to rig bids under the laws of the State of Illinois or any other state; or

4. has been convicted of an act of price-fixing or attempting to fix prices as defined by the Federal Sherman Anti-Trust Act and Clayton Act; or

5. has been convicted of price-fixing or attempting to fix prices under the laws of the State of Illinois or any other state; or

6. has been convicted of defrauding or attempting to defraud the Federal government or a unit of any state or local government or school district; or

7. has made an admission of guilt of such conduct as set forth in subsections 1 through 6 above, which admission is a matter of record, whether or not such person or business entity was subject to prosecution for the offense or offenses admitted to; or

8. has entered a plea of nolo contendere to charges of bribery, price-fixing, bid-rigging, or fraud as set forth in subsections 1 through 6 above.

(b) "Business entity" as used in this section means a corporation, partnership, trust, association, unincorporated business or individually owned business.

(c) A business entity shall be disqualified if the following persons are convicted of, have made an admission of guilt, or enter a plea of nolo contendere to a disqualifying act described in paragraph (a), subsections 1 through 6, regardless of whether or not the disqualifying act was committed on behalf or for the benefit of such business entity:

(1) a person owning or controlling, directly or indirectly, 20% or more of its outstanding shares; or

(2) a member of its board of directors; or

(3) an agent, officer or employee of such business entity.

(d) Disqualification Procedure. After bids are received, whether in response to a solicitation for bids or public advertising for bids, if it shall come to the attention of the director of procurement and materials management that a bidder has been convicted, made an admission of guilt, a plea of nolo contendere, or otherwise falls within one or more of the categories set forth in paragraphs (a), (b) or (c) of this Section, the director of procurement and materials management shall notify the bidder by certified mail, return receipt requested, that such bidder is disqualified from doing business with the Sanitary District. The notice shall specify the reasons for disqualification.

(e) Review Board. A review board consisting of 3 individuals shall be appointed by the Executive Director of the Sanitary District. The board shall select a chairman from its own members. A majority of the members shall constitute a quorum and all matters coming before the board shall be determined by a majority. All members of the review board shall serve without compensation, but shall be reimbursed actual expenses.

(f) Review. The director of procurement and materials management's determination of disqualification shall be final

as of the date of the notice of disqualification unless, within 10 calendar days thereafter, the disqualified bidder files with the director of procurement and materials management a notice of appeal. The notice of appeal shall specify the exceptions to the director of procurement and materials management's determination and shall include a request for a hearing, if one is desired. Upon receipt of the notice of appeal, the director of procurement and materials management shall provide a copy to each member of the review board. If the notice does not contain a request for a hearing, the director of procurement and materials management may request one within 5 days after receipt of the notice of appeal. If a hearing is not requested, the review board may, but need not, hold a hearing.

If a hearing is not requested, the review board, unless it decides to hold a hearing, shall review the notice of disqualification, the notice of appeal and any other supporting documents which may be filed by either party. Within 15 days after the notice of appeal is filed, the review board shall either affirm or reverse the director of procurement and materials management's determination of disqualification and shall transmit a copy to each party by certified mail, return receipt requested.

If there is a hearing, the hearing shall commence within 15 days after the filing of the notice of appeal. A notice of hearing shall be transmitted to the director of procurement and materials management and the disqualified bidder not later than 12 calendar days prior to the hearing date, by certified mail, return receipt requested.

Evidence shall be limited to the factual issues involved. Either party may present evidence and persons with relevant information may testify, under oath, before a certified reporter. Strict rules of evidence shall not apply to the proceedings, but the review board shall strive to elicit the facts fully and in credible form. The disqualified bidder may be represented by an attorney.

Within 10 calendar days after the conclusion of the hearing, the review board shall make a finding as to whether or not the reasons given in the director of procurement and materials management's notice of disqualification apply to the bidder, and an appropriate order shall be entered. A copy of the order shall be transmitted to the director of procurement and materials management and the bidder by certified mail, return receipt requested.

(g) All final decisions of the review board shall be subject to review under the Administrative Review Law.

(h) Notwithstanding any other provision of this section to the contrary, the Sanitary District may do business with any person or business entity when it is determined by the director of procurement and materials management to be in the best interest of the Sanitary District, such as, but not limited to contracts for materials or services economically procurable only from a single source.

(Source: P.A. 95-923, eff. 1-1-09.)

EXHIBIT 3

MULTI-PROJECT LABOR AGREEMENT (MPLA)

MULTI-PROJECT LABOR AGREEMENT (COOK COUNTY)

With

CERTIFICATE OF COMPLIANCE

CONTAINS:

1) **MPLA – EFFECTIVE OCTOBER 6, 2017**
2) **CERTIFICATE OF COMPLIANCE**

GENERAL REQUIREMENTS UNDER THE MULTI-PROJECT LABOR AGREEMENT

The following is a brief summary of a Bidder's responsibilities under the MPLA. Please refer to the terms of the MPLA for a full and complete statement of its requirements.

Your firm is required to complete the Certificate of Compliance indicating that your firm intends to comply with the Multi-Project Labor Agreement. The Certificate of Compliance must be signed by an authorized Officer of the firm. This may be submitted with the bid or prior to award of contract. To be eligible for award, your firm must comply with the Multi-Project Labor Agreement and sign the certificate. Failure of the Bidder to comply with the MPLA will result in a rejection of the bid, and possible retention of the bid deposit. Compliance with the MPLA, is as follows:

> If the Bidder or any other entity performing work under the contract is not already signatory to a current collective bargaining agreement with a union or labor organization affiliated with the AFL-CIO Building Trades Department and the Chicago and Cook County Building and Construction Trades Council, or their affiliates which have jurisdiction over the work to be performed pursuant to this Contract, (hereafter referred to as a "participating trade group") it must become a member.

Note: The MPLA is not applicable when the performance of work is outside Cook County, Illinois, or if repair and maintenance work on equipment is performed at a Bidder's facility.

Revised October 2017

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO
MULTI-PROJECT LABOR AGREEMENT FOR COOK COUNTY

This Multi-Project Labor Agreement ("Agreement") is entered into by and between the Metropolitan Water Reclamation District of Greater Chicago ("MWRD" or "District"), a public body, as Owner, in its proper capacity, on behalf of itself and each of its contractors and subcontractors of whatever tier ("Contractors") and shall be applicable to Construction Work on Covered Projects, both defined herein, to be performed by the District's Contractors along with each of the undersigned labor organizations signatory to the Chicago and Cook County Building and Construction Trades Council and, as appropriate, the Teamsters Joint Council No. 25, or their affiliates who become signatory hereto (collectively "Union(s)").

This Agreement is entered into in accordance with all applicable local state and federal laws. The District recognizes the public interest in timely construction and labor stability.

WHEREAS, MWRD is responsible for the actual construction, demolition, rehabilitation, deconstruction, and/or renovation work ("Construction Work") of projects overseen by MWRD in the geographical boundaries of Cook County. All of the District's Construction Work within those boundaries ("Covered Projects") will be recognized as covered under the terms of this Agreement regardless of the source of the Funds for the Project. Due to the size, scope, cost, timing, and duration of the multitude of Covered Projects traditionally performed by MWRD, the Parties to this Agreement have determined that it is in their interests to have these Covered Projects completed in the most productive, economical, and orderly manner possible and without labor disruptions of any kind that might interfere with, or delay, any of said Covered Projects; and

WHEREAS, the Parties have determined that it is desirable to eliminate the potential for friction and disruption of these Covered Projects by using their best efforts to ensure that all Construction Work is performed by the Unions that are signatory hereto and which have traditionally performed and have trade and geographic jurisdiction over such work regardless of the source of the Funds for the Project. Experience has proven the value of such cooperation and mutual undertakings; and

WHEREAS, the Parties acknowledge that the District is not to be considered an employer of any employee of any Contractor covered under this Agreement, and the District acknowledges that it has a serious and ongoing concern regarding labor relations associated with its Covered Projects, irrespective of the existence of a collective bargaining relationship with any of the signatory Unions.

NOW THEREFORE, in order to further these goals and objectives and to maintain a spirit of harmony, labor-management cooperation, and stability, the Parties agree as follows:

1. During the term of this Agreement, MWRD shall neither contract, nor permit any other person, firm, company, or entity to contract or subcontract for any Construction Work on any Covered Project under this Agreement, unless such work is performed by a person, firm, or company signatory, or willing to become signatory, to the current applicable area-wide collective bargaining agreement(s) with the appropriate trade/craft Union(s) affiliated with the Chicago & Cook County Building & Construction Trades Council or, as appropriate, the Teamsters' Joint Council No. 25. Copies of all applicable, current collective bargaining agreements constitute Appendix A of this Agreement, attached hereto and made an integral part hereof, and as may be modified from time to time during the term of this Agreement.

Said provisions of this Agreement shall be included in all advertised contracts, excluding non-Construction Work, and shall be explicitly included in all contracts or subcontracts of whatsoever tier by all Contractors on Covered Projects.

a. The Parties agree that the repair of heavy equipment, thermographic inspection, and landscaping shall be defined and/or designated as Construction Work on all Covered Projects.

b. The Unions acknowledge that some preassembled or prefabricated equipment and material will be used on Covered Projects. To the extent consistent with existing collective bargaining agreements and applicable law, there will be no refusal by the Unions to handle, transport, install, or connect such equipment or materials. Further, equipment and material procured from sources outside of the geographic boundaries of Cook County may be delivered by independent cargo, haulers, rail, ship and/or truck drivers and such delivery will be made without any disruption as the District will request its Contractors to request Union-affiliate employees to make deliveries to the Covered Project sites.

c. Notwithstanding anything to the contrary herein, the terms of this Agreement shall not apply to work performed at the Contractor's facility for repair and maintenance of equipment or where repair, maintenance, or inspection services are done by highly-skilled technicians trained in servicing equipment, unless otherwise provided by the relevant collective bargaining agreement.

d. Nothing herein shall prohibit or otherwise affect the District's right to cancel or otherwise terminate a contract.

e. A pre-construction meeting attended by representatives of the District, the Contractors, and Unions shall be scheduled for a date prior to commencement of a Covered Project. The nature of the project, the May 15, 2017 Covered Construction Work, the work assignments, and any other matters of mutual interest will be discussed. All parties participating in the pre-job conferences shall sign a pre-job-sign-in sheet. During the pre-job conference, or shortly thereafter, and before the commencement of the project, the contactor or subcontractor shall ensure that there has been submitted to the District a letter of good standing for the applicable trades explaining that the contractor or subcontractor is not delinquent with respect to any dues owed to the appropriate labor organization or with respect to any fringe contributions owed to the appropriate fringe benefit fund(s). If a union or fringe benefit fund does not produce a letter of good standing within seven (7) days after a request is made no such letter of good standing shall be required for that particular trade.

f. The Unions agree to reasonably cooperate with the MWRD and Contractors in order to assist them in achieving the Worker Percentage Participation goals as defined in subsection (1) and (2) below. The Worker Percentage Participation goals are governed by federal requirements regarding federal construction contracts. To the extent these federal worker percentage participation goals are modified in the future, such modifications will automatically apply:

(1) 19.6% of the total aggregate of construction hours worked by employees of contractors and their subcontractors will be performed by African-American, Hispanic, Native American, Asian-Pacific, and Subcontinent Asian American workers.

(2) 6.9% of the total aggregate of construction hours worked by employees of the contractors and their subcontractors will be performed by female workers.

2. A contractor or subcontractor which is a successful bidder with respect to Covered Projects, but which is not signatory to the applicable area-wide collective bargaining agreements incorporated herein, shall be required to execute such applicable area-wide collective bargaining agreements within seven (7) days of being designated a successful bidder. If such an agreement is not executed within that time period, said contractor or subcontractor will be disqualified. In no event shall a contractor or subcontractor be required to sign any of the applicable agreements constituting Appendix A if the contractor or subcontractor does not employ the trade covered by the applicable Appendix A contract.

3. During the term of this Agreement, no Union signatory hereto nor any of its members, officers, stewards, agents, representatives, nor any employee, shall instigate, authorize, support, sanction, maintain, or participate in any strike walkout, work stoppage, work slowdown, work curtailment, cessation, or interruption of production, or in any picketing of any Covered Project site covered by this Agreement for any reason whatsoever, including, but not limited to, the expiration of any collective bargaining agreement referred to in Appendix A, a dispute between the Parties and any Union or employee, or as a show of support or sympathy for any other Union employee or any other group. In the event of an economic strike or other job action upon the termination of an existing collective bargaining agreement, no adverse job action shall be directed against any Covered Project sites. All provisions of any subsequently negotiated collective bargaining agreement shall be retroactive for all employees working on the Covered Project.

4. Each Union signatory hereto agrees that it will use its best efforts to prevent any of the acts forbidden in Paragraph 4, and that in the event any such act takes place or is engaged in by any employee or group of employees, each Union signatory hereto further agrees that it will use its best efforts (including its full disciplinary power under its Constitution and/or By-Laws) to cause an immediate cessation thereof. Each union also agrees that if any union, individual or group of employees on covered projects engages in any handbilling, picketing, strike, walkout, work stoppage, work slowdown, work curtailment, cessation or interruption, the other unions will consider such picketing or other work action as unauthorized and will refuse to honor any picket line established and the unions further agree to instruct their members to cross such unauthorized lines. Failure of any union or groups of employees to cross such unauthorized picket lines on any covered project shall be a violation of this agreement.

5. Any Contractor signatory or otherwise bound, stipulated to, or required to abide by any provisions of this Agreement may implement reasonable project rules and regulations, and these rules and regulations shall be distributed to all employees on the Covered Project. Provided, however, that such rules and regulations shall not be inconsistent with the terms of this Agreement or any applicable area-wide collective bargaining agreement. Any Contractor shall have the right to discharge or discipline its Union employees who violate the provisions of this Agreement or any Covered Project's rules and regulations. Such discharge or discipline by a Contractor shall be subject to the Grievance/ Arbitration procedure of the applicable area-wide collective bargaining agreement only as to the fact of such employee's violation of this Agreement. If such fact is established, the penalty imposed shall not be subject to review or disturbed. Construction Work at any Covered Project site under this Agreement shall continue without disruption or hindrance of any kind during any Grievance/Arbitration procedure.

6. The Unions understand and acknowledge that the District's Contractors are responsible to perform Construction Work as required by the District. The Contractors have complete authority to do the following, subject to District approval, if required, and if consistent with the terms of the collective bargaining agreements attached hereto:

a. Plan, direct, and control the operations of all work;
b. Hire and lay off employees as the Contractor deems appropriate to meet work requirements;
c. Determine work methods and procedures;
d. Determine the need and number of foremen;
e. Require all employees to observe Contractor and/or District rules and regulations;
f. Require all employees to work safely and observe all safety regulations prescribed by the Contractor and/or the District; and
g. Discharge, suspend, or discipline employees for proper cause.
h. Abide by the rules set forth in each respective Trade Unions' Collectively Bargained Agreement pertaining to apprentice to journeymen ratios.

7. Nothing in the foregoing shall prohibit or restrict any Party from otherwise judicially enforcing any provision of its collective bargaining agreement between any Union and a Contractor with whom it has a collective bargaining relationship.

8. This Agreement shall be incorporated into all advertised contract documents after the Board of Commissioners adopts and ratifies this Agreement.

9. The term of this Agreement shall be five (5) years and shall be automatically extended from year to year unless the District or the Council issues a written notice to terminate prior to ninety (90) days in advance of any expiration. Any Covered Project commenced during and/or covered by the terms of this Agreement shall continue to be covered by its terms until the final completion and acceptance of the Covered Project by the District.

10. In the event a dispute shall arise between a contractor or subcontractor any signatory union and/or fringe benefit fund as to the obligation and/or payment of fringe benefits provided for under the appropriate Collective Bargaining Agreement, upon notice to the District by the appropriate union signatory hereto of a claim for such benefits, the District shall forward such notification to the surety upon the contract, and to the general contractor.

11. In the event of a jurisdictional dispute by and between any Unions, such Unions shall take all steps necessary to promptly resolve the dispute. In the event of a dispute relating to trade or work jurisdiction, Parties, including Contractors, consent to and agree that a final and binding resolution of the dispute shall be achieved in accordance with the terms of paragraph nine of the Joint Conference Board Standard Agreement between the Chicago & Cook County Building Trades Council and the Construction Employers' Association, attached hereto as Appendix B, and as may be modified from time to time during the term of this Agreement.

12. This Agreement shall be incorporated into and become a part of the collective bargaining agreements between the Unions signatory hereto and Contractors and their subcontractors. In the event of any inconsistency between this Agreement and any collective bargaining agreement, the terms of this Agreement shall supersede and prevail. In the event of any inconsistency between this Agreement and any collective bargaining agreement, the terms of this Agreement shall supersede and prevail except for all work performed under the NTP Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, all instruction calibration work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control systems Technicians, and the National Agreement of the International Union of Elevator Contractors with the exception of the content and subject matter of Article V, VI, and VII of the AFL-CIO's Building & Construction Trades Department model Project Labor Agreement.

13. The Parties agree that in the implementation and administration of this Agreement, it is vitally necessary to maintain effective and immediate communication so as to minimize the potential of labor relations disputes arising out of this Agreement. To that end, each Party hereto agrees to designate, in writing, a representative to whom problems which arise during the term of this Agreement may be directed. Within forty-eight (48) hours after notice of the existence of any problem, a representative of each Party shall meet to discuss and, where possible, resolve such problems. The representative of the Unions shall be President of the Chicago & Cook County Building & Construction Trades Council or his/her designee. The representative of MWRD shall be the District's Assistant Director of Engineering, Construction Division or his/her designee.

14. The District and the Contractors agree that the applicable substance abuse policy (i.e., drug, alcohol, etc.) on any Covered Project shall be that as contained or otherwise provided for in the relevant area-wide collective bargaining agreements attached as Appendix A to this Agreement. Nothing in the foregoing shall limit the District and/or Contractors from initiating their own substance abuse policy governing other employees performing work on a project not otherwise covered under this Agreement. In the event there is no substance abuse policy in the applicable collective bargaining agreements, the policy adopted by the District and/or Contractor may apply. The District is not responsible for administering any substance abuse policy for non-District employees.

15. The Parties recognize a desire to facilitate the entry into the building and construction trades of veterans who are interested in careers in the building and construction industry. The Contractors and Unions agree to utilize the services of the Center for Military Recruitment, Assessment and Veterans Employment ("Center"), the Center's Helmets to Hardhats program, and the Veteran's in Piping (V.I.P) program (this only pertains to the United Association PipeFitter's Local 597, Plumbers Local 130, and Sprinkler Fitter's Local 281), to serve as a resource for preliminary orientation, assessment of construction aptitude, and referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities, and other needs as identified by the Parties. The Contractors and Unions also agree to coordinate with the Center to create and maintain an integrated database of veterans interested in working on Covered Projects, including apprenticeship and employment opportunities on such projects. To the extent permitted by law, the Parties will give

appropriate credit to such veterans for bona fide, provable past experience in the building and construction industry.

16. The Parties agree that Contractors working under the terms of this Agreement shall be required to utilize the maximum number of apprentices on Covered Projects as permitted under the applicable area-wide collective bargaining agreements contained in Appendix A, where feasible and practical.

17. Neither the District, the Contractors, nor the Unions shall discriminate against any employees of a protected class, including but not limited to on the basis of race, creed, color, national origin, age, or sex, in accordance with all applicable state and federal laws and regulations.

18. If any provision or other portion of this Agreement shall be determined by any court of competent jurisdiction to be invalid, illegal, or unenforceable in whole or in part, and such determination shall become final, it shall be deemed to be severed or limited, but only to the extent required to render the remaining provisions and portions of this Agreement enforceable. This Agreement, as amended, shall be enforced so as to give effect to the intention of the Parties insofar as possible.

19. Under this Agreement, any liability of the Parties shall be several and not joint. The District shall not be liable for any violations of this Agreement by any Contractor or Union, and any Contractor or Union shall not be liable for any violations of this Agreement by the District, any other Contractor, or any other Union. In the event any provision of this Agreement is determined to be invalid, illegal, or unenforceable as specified in Paragraph 18, neither the District, nor any Contractor or Union, shall be liable for any action taken or not taken to comply with any court order.

20. The Parties are mutually committed to promoting a safe working environment for all personnel at the job site. It shall be the responsibility of each employer to which this Agreement applies to provide a work environment free of illegal drugs and any concealed weapons, to maintain safe working conditions for its employees, and to comply with all applicable federal, state, and local health and safety laws and regulations.

21. The use or furnishing of alcohol, weapons, or illegal drugs and the conduct of any other illegal activities at the job site is strictly prohibited. The Parties shall take every practical measure consistent with the terms of the applicable area-wide collective bargaining agreement to ensure that the job site is free of weapons, alcohol, and illegal drugs.

22. Each Union representing workers engaged in Construction Work on a Covered Project is bound to this Agreement with full authority to negotiate and sign this Agreement with the District.

23. All Parties represent that they have the full legal authority to enter into this Agreement.

24. This document, with the attached Appendices, constitutes the entire Agreement of the Parties and may not be modified or changed except by subsequent written agreement of the Parties.

25. Having been adopted by the Board of Commissioners on August 3, 2017, and ratified and effective as of the last date on the signature page, this agreement supersedes any other Multi-Project Labor Agreement previously entered into by the parties as of the date of ratification.

[Remainder of page intentionally left blank. Signature page follows.]

The undersigned, as a Party hereto, hereby agrees to all the terms and conditions of this Agreement.

Dated this 16TH day of OCTOBER, 2017 in Chicago, Cook County, Illinois.

On behalf of the Metropolitan Water Reclamation District of Greater Chicago

David St. Pierre
Executive Director
Management

Darlene A. LoCascio
Director of Procurement and Materials

Approved as to Form and Legality

Helen Shields-Wright
Head Assistant Attorney

Jacqueline Torres
Director of finance/Clerk

Susan T. Morakalis
Acting General Counsel

Frank Avila
Chairman of Finance

Mariyana T. Spyropoulos
Chairman, Committee on Labor and Industrial Relations

Approved

Mariyana T. Spyropoulos, President

MPLA-CC-10

MWRD RA

September 6, 2017

The undersigned, as a Party hereto, agrees to all the terms and conditions of this Agreement.

Dated this the 15th day of September, 2017 in Chicago, Cook County, Illinois.

On behalf of: Teamsters Local Union No. 731
Labor Organization

APPROVED:

Its Duly Authorized Officer Terrence J. Hancock, President

MWRD RA

September 6, 2017

The undersigned, as a Party hereto, agrees to all the terms and conditions of this Agreement.

Dated this the 13th day of September, 2017 in Chicago, Cook County, Illinois.

On behalf of: Sprinkler Fitters Union Local 281, U.A.
Labor Organization

APPROVED:

Its Duly Authorized Officer

Dennis J. Fleming, Business Manager

MWRD PLA

September 6, 2017

The undersigned, as a Party hereto, agrees to all the terms and conditions of this Agreement.

Dated this the 12 day of Sept., 2017 in Chicago, Cook County, Illinois.

On behalf of: SMART Local #73
Labor Organization

APPROVED:

Its Duly Authorized Officer

MWRD PLA
September 6, 2017

The undersigned, as a Party hereto, agrees to all the terms and conditions of this Agreement.

Dated this the 12 day of September, 2017 in Chicago, Cook County, Illinois.

On behalf of: Roofers + Waterproofers #11
Labor Organization

APPROVED:

Its Duly Authorized Officer

MWRD PLA

September 6, 2017

The undersigned, as a Party hereto, agrees to all the terms and conditions of this Agreement.

Dated this the 12 day of Sept., 2017 in Chicago, Cook County, Illinois.

On behalf of: Plumbers Local 130 UA
Labor Organization

APPROVED:

James F. Coyne
Its Duly Authorized Officer

The undersigned, as a Party hereto, agrees to all the terms and conditions of this Agreement.

Dated this the 12TH day of SEPTEMBER 2017 in Chicago, Cook County, Illinois.

On behalf of: PIPEFITTERS LOCAL 597
Labor Organization

APPROVED:

Its Duly Authorized Officer

MWRD PLA

September 6, 2017

The undersigned, as a Party hereto, agrees to all the terms and conditions of this Agreement.

Dated this the 8th day of September 2017 in Chicago, Cook County, Illinois.

On behalf of: Painters / Glaziers
Labor Organization

APPROVED:

Its Duly Authorized Officer

The undersigned, as a Party hereto, agrees to all the terms and conditions of this Agreement.

Dated this the 12 day of SEPT, 2017 in Chicago, Cook County, Illinois.

On behalf of: OPERATING ENGINEER 150
Labor Organization

APPROVED:

Its Duly Authorized Officer

MWRD PLA

September 6, 2017

The undersigned, as a Party hereto, agrees to all the terms and conditions of this Agreement.

Dated this the 12 day of September, 2017 in Chicago, Cook County, Illinois.

On behalf of: Machinists Local 126
Labor Organization

APPROVED:

Its Duly Authorized Officer

MWRD PLA

September 6, 2017

The undersigned, as a Party hereto, agrees to all the terms and conditions of this Agreement.

Dated this the 12 day of SEPTEMBER, 2017 in Chicago, Cook County, Illinois.

On behalf of: LABORERS' DISTRICT COUNCIL
Labor Organization

APPROVED:

Its Duly Authorized Officer

MWRD PLA

September 6, 2017

The undersigned, as a Party hereto, agrees to all the terms and conditions of this Agreement.

Dated this the 20th day of September 2017 in Chicago, Cook County, Illinois.

On behalf of: RIGGER LOCAL # 136
Labor Organization

APPROVED:

Its Duly Authorized Officer

MURD PLA

September 6, 2017

The undersigned, as a Party hereto, agrees to all the terms and conditions of this Agreement.

Dated this the 12 day of Sept. 2017 in Chicago, Cook County, Illinois.

On behalf of: Iron Workers #63
Labor Organization

APPROVED:

Its Duly Authorized Officer

MWRD PLA

September 6, 2017

The undersigned, as a Party hereto, agrees to all the terms and conditions of this Agreement.

Dated this the 12TH day of SEPTEMBER, 2017 in Chicago, Cook County, Illinois.

On behalf of: IRON WORKERS #1
Labor Organization

APPROVED:

Craig Sabatini
Its Duly Authorized Officer

The undersigned, as a Party hereto, agrees to all the terms and conditions of this Agreement.

Dated this the 12th day of September 2017 in Chicago, Cook County, Illinois.

On behalf of: Heat + Frost Insulators Local #17
Labor Organization

APPROVED:

Wm. J. Mayer
Its Duly Authorized Officer

MWRD PLA

September 6, 2017

The undersigned, as a Party hereto, agrees to all the terms and conditions of this Agreement.

Dated this the 12 day of SEPTEMBER, 2017 in Chicago, Cook County, Illinois.

On behalf of: IUEC Local 2
Labor Organization

APPROVED:

Its Duly Authorized Officer

MWRD PLA

September 6, 2017

The undersigned, as a Party hereto, agrees to all the terms and conditions of this Agreement.

Dated this the 12 day of Sept, 2017 in Chicago, Cook County, Illinois.

On behalf of: Local 134 IBEW
Labor Organization

APPROVED:

Its Duly Authorized Officer

MWRD PLA

September 6, 2017

The undersigned, as a Party hereto, agrees to all the terms and conditions of this Agreement.

Dated this the 12 day of SEPT, 2017 in Chicago, Cook County, Illinois.

On behalf of: GREAT MASON'S PLASTER'S
Labor Organization

APPROVED:

Its Duly Authorized Officer

MWRD PLA

September 6, 2017

The undersigned, as a Party hereto, agrees to all the terms and conditions of this Agreement.

Dated this the 12 day of September 2017 in Chicago, Cook County, Illinois.

On behalf of: CARPENTERS
Labor Organization

APPROVED:

Its Duly Authorized Officer

MWRD PLA

September 6, 2017

The undersigned, as a Party hereto, agrees to all the terms and conditions of this Agreement.

Dated this the 12 day of September, 2017 in Chicago, Cook County, Illinois.

On behalf of: BRICKLAYERS AND ALLIED CRAFTS
Labor Organization

APPROVED:

Its Duly Authorized Officer

MWRD PLA

September 6, 2017

The undersigned, as a Party hereto, agrees to all the terms and conditions of this Agreement.

Dated this the 12 day of September, 2017 in Chicago, Cook County, Illinois.

On behalf of: International Brotherhood of Boilermakers Local 007C
Labor Organization

APPROVED:

Its Duly Authorized Officer

APPENDIX A

For copies of Collective Bargaining Agreements, please go to the MWRD Website and click on:

Freedom of Information Act (FOIA)/Category of Records

APPENDIX B

JOINT CONFERENCE BOARD
STANDARD AGREEMENT
6/1/15 – 5/31/20

Construction Employers' Association
And
Chicago & Cook County Building & Construction Trades Council

MPLA-CC-33

The Standard Agreement
between
The Construction Employers' Association
and
The Chicago & Cook County
Building & Construction Trades Council
Establishing
The Joint Conference Board

MPLA-CC-34

CHRONOLOGY

ADOPTED NOVEMBER 18, 1926
AMENDED AND READOPTED JANUARY 11, 1929
AMENDED AND READOPTED JUNE 24, 1942
READOPTED APRIL 28, 1947
AMENDED AND READOPTED MARCH 19, 1952
READOPTED FEBRUARY 12, 1957
AMENDED AND READOPTED MAY 13, 1958
AMENDED AND READOPTED FEBRUARY 11, 1960
AMENDED AND READOPTED MAY 21, 1963
AMENDED NOVEMBER 16, 1965
AMENDED MARCH 14, 1967
AMENDED AND READOPTED MARCH 4, 1968
AMENDED AND READOPTED NOVEMBER 11, 1971
READOPTED NOVEMBER 20, 1973
READOPTED DECEMBER 12, 1978
READOPTED APRIL 12, 1983
READOPTED MARCH 31, 1988
AMENDED AND READOPTED APRIL 25, 1989
REFORMATTED, AMENDED AND READOPTED JUNE 1, 1994
AMENDED AND READOPTED JUNE 1, 1999
AMENDED APRIL 1, 2003
AMENDED AND READOPTED JUNE 1, 2004
AMENDED AND READOPTED JUNE 1, 2005
AMENDED AND READOPTED JUNE 25, 2008
AMENDED AND READOPTED FEBRUARY 15, 2010
AMENDED AND READOPTED MAY 28, 2015

Expiration Date: MAY 31, 2020

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PREAMBLE

This Agreement is entered into to prevent strikes and lockouts and to facilitate peaceful adjustment of jurisdictional disputes in the building and construction industry and to prevent waste and unnecessary avoidable delays and expense, and for the further purpose of at all times securing for the employer sufficient skilled workers and so far as possible to provide for labor continuous employment, such employment to be in accordance with the conditions and at the wages agreed upon, in the particular trade or craft, that stable conditions may prevail in the construction industry, that costs may be as low as possible consistent with fair wages and conditions and further to establish the necessary procedure by which these ends may be accomplished.

This Standard Agreement shall be considered and shall constitute a part of all agreements between Employers and Labor Unions, members of the Construction Employers' Association, herein call the Association, and the Chicago & Cook County Building & Construction Trades Council, herein called the Council, as containing within its terms the necessary protection of and assuring undisturbed conditions in the industry. In the event of any inconsistency between this Agreement and any collective bargaining agreement, the terms of this Agreement shall supersede and prevail except for all work performed under the NT Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, all instrument calibration work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for instrument and Control Systems Technicians, and the National Agreement of the International Union of Elevator Constructors with the exception of the content and subject matter of Articles V, VI and VII of the AFL-CIO's Building & Construction Trades Department model Project Labor Agreement.

DECLARATION OF PRINCIPLES

The Principles contained herein are fundamental, and no articles or section in this Agreement or in the collective bargaining agreement pertaining to a specific trade or craft shall be construed as being in conflict with these principles. In the event any conflict exists between this Agreement and any collective bargaining agreement subject to the Provisions of this Agreement and the dispute resolution provisions contained hereunder, and pertaining to a specific trade or craft concerning the resolution of jurisdictional disputes, the parties specifically agree that the terms of this Agreement are exclusive and supersede any other provisions or procedures relating to the settlement of jurisdictional disputes contained in such collective bargaining agreement.

I. There shall be no limitation as to the amount of work a worker shall perform during the work day.
II. There shall be no restriction on the use of machinery, tools or appliances.
III. There shall be no restriction on the use of any raw or manufactured material, except prison made.
IV. No person shall have the right to interfere with workers during working hours.
V. The use of apprentices shall not be prohibited.
VI. The foreman shall be the agent of the employer.
VII. The worker is at liberty to work for whomever he or she sees fit but such worker shall demand and receive the wages agreed upon in the collective bargaining agreement covering the particular trade or craft under any circumstances.
VIII. The employer is at liberty to employ and discharge for just cause whomsoever the employer sees fit.

ARTICLES OF AGREEMENT

ARTICLE I

Therefore, with the Preamble and Declaration of Principles as part of and fundamental to this Agreement, the parties hereto hereby agree that there shall be no lockout by any employer, or strikes, stoppages, or the abandonment of work either individually or collectively, by concerted or separate action by any union without arbitration of any jurisdictional dispute as hereinafter provided.

ARTICLE II

The parties hereto hereby agree that in the manner herein set forth, they and the parties whom they represent will submit to arbitration all jurisdictional disputes that may arise between them and any misunderstanding as to the meaning or intent of all, or any part, of this Agreement, and they further agree that work will go on undisturbed during such arbitration, and that the decision of the arbitrator shall be final and binding on the parties hereto as provided in Article VI.

ARTICLE III

Paragraph 1. Should a Union affiliated with the Council abandon its work without first submitting any jurisdictional dispute to arbitration as provided herein, or should any employees whom it represents individually or collectively, or by separate or concerted action, leave the work, the employer shall have the right to fill the places of such workers with workers who will agree to work for the employer, and the Union shall not have the right to strike, or abandon the work, because of the employment of such workers.

Paragraph 2. The Union shall have the right to take the employees whom it represents from the work for the purpose of collecting wages and fringe benefits due, but such matter shall immediately be referred to arbitration. Should there be a dispute as to the amount due, the matter slall be first referred to arbitration as herein set forth.

Paragraph 3. The parties recognize the importance of having all work performed in a satisfactory manner by competent craftsmen. Because the unions affiliated with the Council have through apprenticeship and other training programs consistently striven to create an adequate supply of such skilled workers, and because it is desirable that the unions continue to do so, the Association, for itself and for each employer whom it represents agrees, to the extent permitted by law, that it will contract or subcontract any work to be done at the site of the construction, alteration, painting, or repair of a building, structure, or other work, only with or to a contractor who is a party to a collective bargaining agreement with a union affiliated with the Council and, accordingly, is bound by all the terms and provisions of this Standard Agreement.

ARTICLE IV

The parties recognize the importance of having available and furnishing at all times during the life of this Agreement sufficient skilled workers, capable of performing the work of their trade, and to constantly endeavor to improve the ability of such workers and further to have in the making, through apprenticeship training, workers who can enter the trade properly equipped to perform the work, and to the extent possible, the parties agree to do everything within their power to cooperate in carrying out these purposes. Joint apprenticeship committees shall have the right to maintain schools for the training of apprentices registered under the terms of the particular collective bargaining agreement involved and such apprentices shall be considered skilled and qualified journeymen when adjudged competent by a committee composed of the members of the parties to the particular collective bargaining agreement involved. However, this article shall not be construed to disturb present systems wherein the labor organization which is a party to the particular collective bargaining agreement involved compels apprentices to attend trade school.

ARTICLE V

A Joint Conference Board is hereby created by agreement between the Association and the Council, which shall be binding upon the members and affiliates of each, and it is hereby agreed by the parties hereto, together with their members and affiliates, that they will recognize the authority of said Joint Conference Board and that its decisions shall be final and binding upon them as provided in Article VI. The administration of the Joint Conference Board shall be executed by the Secretary of the Board. All normal operating and all extraordinary expenses shall be borne equally.

ARTICLE VI

The Joint Conference Board shall be responsible for the administration of this Agreement. The primary concern of the Joint Conference Board shall be the adjustment of jurisdictional disputes by arbitrators selected by the Board. Decisions rendered by any arbitrator under this Agreement appointed by the Joint Conference Board relating to jurisdictional disputes shall be only for the specific job under consideration and shall become effective immediately and complied with by all parties. In rendering a decision, the Arbitrator shall determine:

a) First whether a previous Agreement of Record or applicable agreement, including a disclaimer agreement, between the National or International Unions to the dispute governs.

b) Only if the Arbitrator finds that the dispute is not covered by an appropriate or applicable Agreement of Record or agreement between the National or International Unions to the dispute, he shall then consider the established trade practice in the industry and prevailing practice in the locality. Where there is a

previous Decision of Record governing the case, the Arbitrator shall give equal weight to such Decision of Record, unless the prevailing practice in the locality in the past ten years favors one craft. In that case, the Arbitrator shall base his decision on the prevailing practice in the locality. Except, that if the Arbitrator finds that a craft has improperly obtained the prevailing practice in the locality through raiding, the undercutting of wages or by the use of vertical agreements, the Arbitrator shall rely on the Decision of Record and established trade practice in the industry rather than the prevailing practice in the locality.

c) In order to determine the established trade practice in the industry and prevailing practice in the locality, the Arbitrator may rely on applicable agreements between the Local Unions involved in the dispute, prior decisions of the Joint Conference Board for specific jobs, decisions of the National Plan and the National Labor Relations Board or other jurisdictional dispute decisions, along with any other relevant evidence or testimony presented by those participating in the hearing.

d) Only if none of the above criteria is found to exist, the Arbitrator shall then consider that because efficiency, cost or continuity and good management are essential to the well being of the industry, the interests of the consumer or the past practices of the employer shall not be ignored.

Agreements of Record are those agreements between National and International Unions that have been "attested" by the predecessor of the National Plan and approved by the AFL-CIO Building and Construction Trades Department and are contained in the Green Book. Such Agreements of Record are binding on employers stipulated to the Plan for the Settlement or Jurisdictional Disputes in the Construction Industry (the "National Plan"), the National Plan's predecessor joint boards or stipulated to the Joint Conference Board. Agreements of Record are applicable only to the crafts signatory to such agreements. Decisions of Record are decisions by the National Arbitration Panel or its predecessors and recognized under the provisions of the Constitution of the AFL-CIO Building and Construction Trades Department and the National Plan. Decisions of Record are applicable to all crafts.

The Arbitrator shall set forth the basis for his decision and shall explain his findings regarding the applicability of the above criteria. If lower-ranked criteria are relied upon, the Arbitrator shall explain why the higher-ranked criteria were not deemed applicable. The Arbitrator's decision shall only apply to the job in dispute. Such decisions of the Arbitrator shall be final and binding subject only to an appeal, if such an appeal is available under conditions determined by the Building and Construction Trades Department of the American Federation of Labor and Congress of Industrial Organizations under the National Plan or any successor plan for the settlement of jurisdictional disputes.

ARTICLE VII

This is an arbitration agreement and the intent of this agreement is that all unresolved jurisdictional disputes must be arbitrated under the authority of the Joint Conference Board and that the decisions, subject to the right of appeal provided in Article VI, shall be final and binding upon the parties hereto and upon their affiliates and the members of such affiliates, and that there shall be no abandonment of the work during such arbitration or in violation of the arbitration decision. The Joint Conference Board shall administer the neutral arbitration system of this agreement. Any party bound to this Agreement through a collective bargaining agreement with any Local Union affiliated with the Council shall be bound to this Agreement for all jurisdictional disputes that may arise between any Local Unions affiliated with the Council. Employers bound to this Agreement shall require that this Agreement be a part of all agreements with contractors or subcontractors covering work performed by any trade or craft affiliated with the Council. All parties to this Agreement release the Board from any liability arising from its action or inaction and covenant not to sue the Board. Any damages incurred by the Board for any breach of this covenant shall include, but are not limited to, the Board's costs, expenses and attorneys fees incurred as a result of said legal proceedings.

Paragraph 1 - The annual meeting of the Joint Conference Board shall be held in June, unless another date is agreed upon by the parties.

Paragraph 2 - The parties hereto shall designate an equal number of members who shall serve upon the Joint Conference Board. The members of the Board shall annually be certified by the Association and the Council in written communications addressed to the Board by the President and Secretary of the respective organizations. Each year the Joint Conference Board shall select a Chairman from among its members. The Joint Conference Board shall also select from among its members a Vice Chairman. The Board shall also select a Secretary. All members shall serve for one year or until their successors have been selected.

Paragraph 3 - At the annual meeting, the Association and Council shall each name at least five and up to ten impartial arbitrators.

Paragraph 4 - In the event the Chairman or Vice-Chairman is unable to serve by reason of resignation, death or otherwise, a successor may be selected for the remainder of the term by the party which made the original selection. Should a member of the Joint Conference Board be unable to serve, because of resignation, death or any other reason, the successor shall be selected by the Association or Council respectively in which such member holds membership.

Paragraph 5 - Should any member of the Board for any reason be unable to attend any meeting of the Board, the President of his respective organization shall be empowered to name a substitute for each absentee for that meeting.

Paragraph 6 - Meetings of the Board may be called at any time by the Chairman, Secretary or three members of the Board. Seventy-two hours written notice of such meeting must be given to each member of the Board.

Paragraph 7 - Twelve members of the Board, six from each of the parties, present at the executive session, shall be a quorum for the transaction of business. The Chairman, or Vice-Chairman, when presiding, shall not be counted for the purpose of determining a quorum. Whenever the number of members present from each party at the executive session are unequal, he party with the fewer members present shall be entitled to cast a total number of votes equal to the number of the present members of the other party with the additional votes of said party being cast in accordance with the vote of the majority of its members who are present.

Paragraph 8 - If it is brought to the attention of the Chairman that any member (other than the Chairman) is not impartial with respect to a particular matter before the Board, the Chairman may excuse such member from the executive session if the Chairman concludes that such member has a conflict of interest with respect to such matter.

Paragraph 9 - Should a jurisdictional dispute arise between the parties hereto, among or between any members or affiliates of the parties hereto, or among or between any members or affiliates of the parties hereto and some other body of employers or employees, the disposition of such dispute shall be as follows:

a) The crafts involved shall meet on the jobsite or a mutually agreed location to resolve the jurisdictional dispute.

b) If the said dispute is not settled it shall be submitted immediately in writing to the Secretary of the Joint Conference Board. Unless agreed to in writing (correspondence, email, etc.) by the trades involved in the dispute, the trades and contractors shall make themselves available to meet within 72 hours at a neutral site with representatives of the Chicago & Cook County Building & Construction Trades Council and the Construction Employers' Association to resolve this jurisdictional issue.

c) Failure to meet within seventy-two (72) hours of receiving written notice or e-mail to the meetings contemplated in "a" or "b" above will automatically advance the case to the next level of adjudication.

d) Should this jurisdictional issue be unresolved , the matter shall, within 72 hours not counting Saturday, Sunday and Holidays, hereafter, be referred to an Arbitrator for adjudication if requested in writing by any party. The Arbitrator shall hear the evidence and render a prompt decision within forty-eight (48 hours) of the conclusion of the hearing based on the criteria in Article VI. The arbitrator chosen shall be randomly selected based on availability from the list

submitted in Article VII Paragraph 3. The decision of the Arbitrator shall be subject to appeal only under the terms of Article VI. The written decision shall be final and binding upon all parties to the dispute and may be a short form decision. The fees and costs of the arbitrator shall be divided evenly between the contesting parties except that any party wishing a full opinion and decision beyond the short form decision shall bear the reasonable fees and costs of such full opinion.

c) Should said dispute not be so referred by either or both of the parties, the Joint Conference Board may, upon its own initiative, or at the request of others interested, take up and decide such dispute, and its decision shall be final and binding upon the parties hereto and upon their members and affiliates as provided for in Article VI.

In either circumstance all of the parties are committed to a case until it is finalized, even if there is an appeal. However, in cases of jurisdictional or other disputes between a union and another union, which is a member of the same International Union, the matter in dispute shall be settled in the manner set forth by their International Constitution, but there shall be no abandonment of the work pending such settlement.

Paragraph 10 - All interested parties shall be entitled to make presentations to the Arbitrator. Any interested party present at the hearing, whether making a presentation or not, by such presence shall be deemed to accept the jurisdiction of the arbitrator and to agree to be bound by its decision and further agrees to be bound by the Standard Agreement, for that case only if not otherwise so bound.

Paragraph 11 - Upon approval of the Arbitrator other parties not directly involved in the dispute may be invited to be present during the presentation and discussion portions of an arbitration hearing. Attorneys shall not be permitted to attend or participate in any portion of a hearing.

Paragraph 12 – At no time shall any party to a pending dispute unilaterally or independently contact the Arbitrator assigned to hear the case. All inquiries must be submitted to the Secretary of the Joint Conference Board.

Paragraph 13 - The Joint Conference Board may also serve as a board of arbitration in other disputes, including wages, but only when requested to do so by all parties involved in the particular dispute or controversy. It is not the intention of this Agreement that the Joint Conference Board shall take part in such disputes except by mutual consent of all parties involved.

ARTICLE VIII

Paragraph 1 - The duly authorized representatives of members of affiliates of either party hereto, if having in their possession proper credentials, shall be permitted to visit jobs

during working hours, to interview the contractor or the workers, but they shall in no way interfere with the progress of the work.

Paragraph 2 - The handling of tools, machinery and appliances necessary in the performance of the work covered by a particular collective bargaining agreement, shall be done by journeymen covered by such agreement and by helpers and apprentices in that trade, but similar tools, machinery and appliances used by other trades in the performance of their work shall be handled in accordance with the particular collective bargaining agreement of that trade.

Paragraph 3 - In the interest of the public economy and at the discretion of the employer or foreman, all small tasks covered by a particular collective bargaining agreement may be done by workers or laborers of other trades, if mechanics or laborers of this trade are not on the building or job, but same are not to be of longer duration than one-half hour in any one day. The Joint Conference Board may render a decision involving a composite crew.

Paragraph 4 - It is fundamental to the Standard Agreement that all members and affiliates of the parties to this Agreement be stipulated to the Standard Agreement and the Joint Conference Board. All current members of the Chicago and Cook County Building and Construction Trades Council, and their affiliates, by this Agreement are stipulated to the Standard Agreement and Joint Conference Board for the term of the current Standard Agreement. The area labor agreements of the members and affiliates of the parties setting forth language stipulating those parties to the Standard Agreement and Joint Conference Board shall be filed with the Secretary of the Joint Conference Board annually, at the time of the Joint Conference Board appointments. Current trade or craft agreements will prevail as interim agreements in the event labor negotiations are incomplete or in process at the time of the annual meeting.

Paragraph 5 - All members and affiliates of the parties with labor agreements containing language stipulating those parties to the Standard Agreement and Joint Conference Board shall remain stipulated for the term of the current Standard Agreement. Any members or affiliates of the parties who negotiate language stipulating the parties to the Standard Agreement and/or the Joint Conference Board in their area labor agreement shall remain stipulated for the term of the current Standard Agreement. Any Association that incorporates Standard Agreement and/or Joint Conference Board stipulation language into their collective bargaining agreement will automatically have representation on the Joint Conference Board.

Paragraph 6 - Only those crafts with stipulation language in their area labor agreements will be allowed to bring jurisdictional dispute cases to the Joint Conference Board. Those crafts without stipulation language in their area labor agreements will be allowed to participate if a jurisdictional dispute case is brought against their craft and will have the right to appeal any decision, if such an appeal is available, as provided in Article VI of this Agreement.

Paragraph 7 - This agreement applies only to work performed within Cook County, Illinois.

Paragraph 8 - As herein before provided in Article VII, decisions or awards as to jurisdictional claims and decisions determining whether or not said decisions or awards have been violated rendered by the Joint Conference Board shall be final, binding and conclusive on all the parties hereto, on all of their members and affiliates, and on all employers subject only to the right of appeal herein provided for in Article VI.

Paragraph 9 - To further implement the decision of the Joint Conference Board, it is agreed that any party hereto, any of their members or affiliates, and any employer may at any time file a Verified Complaint in writing with the Joint Conference Board alleging a violation of a decision or award previously made. The Board shall thereupon set a hearing, to be held within three days of receipt of the Verified Complaint with respect to the alleged violation, and shall notify all interested parties of the time and place thereof. An Arbitrator selected pursuant to Article VII, Paragraph 9(c) shall conduct a hearing at the time and place specified in its notice. All parties shall be given an opportunity to testify and to present documentary evidence relating to the subject matter of the hearing within forty-eight (48) hours after the conclusion thereof, the Arbitrator shall render a written decision in the matter and shall state whether or not there has been a violation of its prior decision or award. Copies of the decision shall be served, by certified mail or by personal service, upon all parties hereto.

Paragraph 10 - Should the Arbitrator determine that there has been a violation of the Board's prior decision or award, the Arbitrator shall order immediate compliance by the offending party or parties. The Arbitrator may take one or more of the following courses of action in order to enforce compliance with the Board's decision:

a) The Arbitrator may assess liquidated damages not to exceed $5,000 for each violation by individual members of, or employees represented by the parties hereto, and may assess liquidated damages not to exceed $10,000 for each violation by either party hereto, or any of its officers or representatives. If a fine is rendered by the Arbitrator, it should be commensurate with the seriousness of the violation having a relationship to lost hours for the Unions and lost efficiency for the employer. Each of the parties hereto hereby agrees for itself, and its members, to pay to the other party within thirty days any sum, or sums, so assessed because of violations of a decision or award by itself, its officers, or representatives, or its member or members. Should either party to this agreement, or any of its members fail to pay the amount so assessed within thirty days of its assessment, the party or member so failing to pay shall be deprived of all the benefits of this agreement until such time as the matter is adjusted to the satisfaction of the Arbitrator.

b) It may order cessation of all work by the employers and the employees on the job or project involved.

Paragraph 11 - All Notices under this Agreement shall be in writing and sent by the Administrator of the Joint Conference Board via facsimile or email. For all notifications to affiliates of the Chicago & Cook County Building and Construction Trades Council, the Administrator may rely up the facsimile numbers, addresses and email addresses in the current directory of the Council. For notifications to all contractors and subcontractors, the Administrator may rely on corporate information on the Illinois Secretary of State website or other appropriate databases. Original Notices of all Joint Conference Board decisions will be sent to each of the parties involved via certified mail. The notice provisions shall not include Saturday, Sunday or legal holidays.

Paragraph 12 - The following days shall be recognized as legal holidays: New Years Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

Paragraph 13 - The Board shall have no authority to undertake any action to enforce its decision after a hearing beyond informing the affected parties of its decision. Rather, it shall be the responsibility of the prevailing party to seek appropriate enforcement of a decision, including findings, orders or awards of the Board determining non-compliance with a prior award or decision. The prevailing party in any enforcement proceeding shall be entitled to recover its costs and attorneys fees from the non-prevailing party. In the event the Board is made a party to, or is otherwise required to participate in any such enforcement proceeding for whatever reason, the non-prevailing party shall bear all costs, attorneys fees, and any other expenses incurred by the Board in those proceedings.

Paragraph 14 - In establishing the jurisdiction of the Joint Conference Board over all parties to the dispute, the primary responsibility for the judicial determination of the arbitrability of a dispute and the jurisdiction of the Joint Conference Board shall be borne by the party requesting the Board to hear the underlying jurisdictional dispute. If all of the parties to the dispute do not attend the arbitration hearing or otherwise agree in writing that the parties are stipulated to the Joint Conference Board and Standard Agreement, the affected party or parties may proceed at the Joint Conference Board even in the absence of one or more parties to the dispute. In such instances, the issue of jurisdiction is an additional item that must be determined in the first instance by the Arbitrator who shall set forth basis of his determination in his decision. The Joint Conference Board may participate in any proceedings seeking a declaration or determination that the underlying dispute is subject to the jurisdiction and process of the Joint Conference Board. In any such proceedings, the non-prevailing party and/or the party challenging the jurisdiction of the Joint Conference Board shall bear all the costs, expenses and attorneys fees incurred by the Board in establishing its jurisdiction. The provision of Paragraph 13 regarding obtaining attorney fees shall apply.

Paragraph 15 - It is agreed by the parties hereto that this agreement shall remain in full force and effect until June 1, 2020 unless otherwise amended by agreement of parties.

IN WITNESS WHEREOF, the parties have caused this document to be executed at Chicago, Illinois this 28th day of May, 2015.

CONSTRUCTION EMPLOYERS' ASSOCIATION

DocuSigned by:
Charles Usher, Sr.

BY Charles M. Usher

CHICAGO & COOK COUNTY BUILDING & CONSTRUCTION TRADES COUNCIL

DocuSigned by:
Tom Villanova

BY Thomas Villanova

Contract No. _____

CERTIFICATE OF COMPLIANCE
WITH MULTI-PROJECT LABOR AGREEMENT (MPLA)

I/WE _____ hereby acknowledge that I/WE
(Name of company)
have read the Metropolitan Water Reclamation District of Greater Chicago's Multi-Project Labor Agreement. I/WE and all my/our subcontractors certify that we are in compliance with the Agreement in that I/WE and all my/our subcontractors have agreed to be bound by and operate under a current collective bargaining agreement with a union or labor organization affiliated with the AFL-CIO Building Trades Department and the Chicago and Cook County Building and Construction Trades Council, or their affiliates which have jurisdiction over the work to be performed pursuant to this Contract, (hereafter referred to as a "participating trade group").

State the name of the participating trade group(s) that your firm is currently signatory with in order to comply with the MPLA: (e.g.: Operating Engineers 150). _____

_____

(Identify all such participating unions or labor organizations. Attach a separate sheet if necessary);

If your firm is not currently signatory with a participating union or labor organization, complete the following:

I intend to comply with the MPLA by:

Entering into a collective bargaining agreement with the following participating trade group(s): _____

_____

(Identify all such participating unions or labor organizations. Attach a separate sheet if necessary);

_____
Name of Company or Corporation

By: _____
Signature of Authorized Officer

Attest: _____
Secretary

Dated: _____

Revised April 2018

MPLA CC 49

EXHIBIT 4

AFFIRMATIVE ACTION ORDINANCE, REVISED APPENDIX D

AFFIRMATIVE ACTION ORDINANCE

REVISED APPENDIX D

OF THE

METROPOLITAN WATER RECLAMATION DISTRICT

OF GREATER CHICAGO

AS REVISED
JUNE 4, 2015

AFFIRMATIVE ACTION ORDINANCE
REVISED APPENDIX D
OF THE
METROPOLITAN WATER RECLAMATION DISTRICT
OF GREATER CHICAGO

Section 1. **Declaration of Policy**

Whereas, it is the policy of the Metropolitan Water Reclamation District of Greater Chicago (the "District") to ensure competitive business opportunities for small, minority- and women-owned business enterprises in the award and performance of District contracts, to prohibit discrimination on the basis of race, sex, gender, color, racial group or perceived racial group, disability, age, religion, national origin or ethnicity, sexual orientation, veteran or military discharge status, association with anyone with these characteristics, or any other legally protected characteristic in the award of or participation in District contracts, and to abolish barriers to full participation in District contracts by all person, regardless of race, ethnicity or sex;

Whereas, the District pursuant to its authority under 70 ILCS 2605/11.3, is committed to establishing procedures to implement this policy as well as state and federal regulations to assure the utilization of minority-owned, women-owned and small business enterprises in a manner consistent with constitutional requirements;

Whereas, the District is committed to equal opportunity for minority-,women-owned and small businesses to participate in the award and performance of District contracts;

Whereas, the Supreme Court of the United States in *City of Richmond v. J.A. Croson Co.*, 488 U.S. 469 (1989), has enunciated certain standards that are necessary to maintain effective contracting affirmative action programs in compliance with constitutional requirements;

Whereas, the District is committed to implementing its affirmative action program in conformance with the United States Supreme Court's decision in *Croson* and its progeny;

Whereas, in furtherance of this commitment, the Board of Commissioners directed the District staff and its outside consultants in 1990 to conduct an investigation into the scope of any discrimination in the award of and participation in District construction contracts as well as in the construction industry in Metropolitan Chicago, the extent to which such discrimination or the effects thereof has denied and continues to deny minority and women's business enterprises equal opportunity to participate in District contracts and to recommend the appropriate affirmative action steps to be taken to eliminate any such discrimination and its continuing effects.

Whereas, on June 21, 2001, the District adopted its Revised Appendix D, Notice of Requirements for Affirmative Action Program to Ensure Minority, Small and Women's Business Participation ("Appendix D"); and

Whereas, in 2006 the Board of Commissioners undertook a review of Appendix D, the District's contracting policy and operation under Appendix D and an investigation into the existence of continued discrimination against minority and women-owned businesses in the Metropolitan Chicago construction industry to evaluate the continued need for Appendix D and

any necessary revisions thereto; Whereas, the Board of Commissioners undertook a review in 2012 of Appendix D, the District's contracting policy and operation under Appendix D and an investigation into the existence of continued discrimination against minority- and women-owned businesses in the Metropolitan Chicago construction industry to evaluate the continued need for Appendix D and any necessary revisions thereto;

Whereas, in 2014, the Board of Commissioners undertook another review of Appendix D, the District's contracting policy and operation under Appendix D and an investigation into the existence of continued discrimination against minority- and women-owned businesses in the District's geographic and procurement market areas to evaluate the continued need for Appendix D and any necessary revisions thereto. That review resulted in commissioning a comprehensive disparity study conducted by an outside consultant that was finalized in 2015.

Section 2. **Findings**

The Board of Commissioners, having reviewed the 2015 report of its outside consultant finds:

1. In 2003, the U.S. District Court in *Builders Association of Greater Chicago v. City of Chicago*, 298 F. Supp.2d 725 (N.D. III. 2003) held that the evidence introduced at trial demonstrated that past and current discriminatory practices continue to place MBE and WBE firms at a competitive disadvantage in the award of governmental contracts and such practices have and continue to impede the growth and success of MBEs and WBEs.

2. In 2004, a study of the Metropolitan Chicago Construction Industry by Timothy Bates, Distinguished Professor, Wayne State University, concluded that the evidence that African-American, Hispanic and women-owned businesses have been, and continue to be disadvantaged in the construction industry and small businesses is strong, has remained consistent and that compelling evidence indicates that African-American, Hispanic, and women-owned businesses face barriers in the Metropolitan Chicago construction industry greater than those faced by white males.

3. A November, 2005 study of the Metropolitan Chicago construction industry by David Blanchflower, Professor of Economics at Dartmouth College, has determined that discrimination against Asian-owned businesses existed in the business community in areas of business financing and construction wages and that this, together with evidence of individual discrimination against Asian-owned construction companies, leads to the conclusion that discrimination against Asian owned businesses continues to exist in the Metropolitan Chicago construction industry.

4. In 2005, the U.S. District Court held in *Northern Contracting, Inc. v. Illinois Department of Transportation*, 2005 U.S. Dist. LEXIS 19868 (N.D. Ill. Sept. 8, 2005) that there is strong evidence of the effects of past and current discrimination against MBEs and WBEs in the construction industry in the Chicago area.

5. The trial court's decision was affirmed in *Northern Contracting, Inc. v. Illinois Department of Transportation*, 473 F.3d 715 (7th Cir. 2007).

6. In 2006, Board of Commissioners of Cook County, Illinois accepted a report it had commissioned titled, "Review of Compelling Evidence of Discrimination Against Minority- and Women-Owned Business Enterprise in the Chicago Area Construction Industry and Recommendations for Narrowly Tailored Remedies for Cook County, Illinois" (Cook County

2006 Report), which concluded that there is extensive evidence of discrimination against MBEs and WBEs in the Chicago area construction marketplace, and the participation of MBEs and WBEs in the County's construction prime contracts and subcontracts is below the availability of such firms.

7. In 2006, the Illinois State Toll Highway Authority commissioned a study for the availability of Disadvantaged Business Enterprises ("DBEs") in its geographic and procurement markets, to ensure that its DBE program was narrowly tailored as required by constitutional standard, which found 19.56% DBE availability in construction, 19.36% DBE availability in construction-related professional services, and that DBE utilization had steadily increased from 2.40% in 2004 to 24.72% in 2010.8. The Board of Commissioners of Cook County commissioned a new report, entitled "The Status of Minority and Women-Owned Business Enterprises Relevant to Construction Activity In and Around Cook County, Illinois" (Cook County 2010 Study), which found that MBEs and WBEs were not utilized in all aspects in proportion to their availability.

9. In 2010 the U.S. Department of Justice produced a report to Congress, entitled "Compelling Interest for Race- and Gender-Conscious Federal Contracting Programs: An Update to the May 23, 1996 Review of Barriers to Minority- and Women-Owned Businesses," that updated the original basis for the U.S. Department of Transportation's DBE program and concluded that discriminatory barriers continue to impede the ability of MBEs and WBEs to compete with other firms on a fair and equal footing in government contracting markets, including in the construction industry.

10. In 2012, the District commissioned a report on barriers to construction opportunities in the Chicago area market and recommendations for District efforts to reduce such barriers, which found continuing disparities in the Chicago area construction market.

11. In 2014, The District commissioned its first comprehensive disparity study to investigate barriers to equal opportunities in the District's geographic and industry market areas and make recommendations for District efforts to reduce such barriers, which found continuing disparities in the District's market areas.

12. In 2015, the trial court in *Midwest Fence, Corp. v. U.S. Department of Transportation et al*, 2015 WL 139676 (N.D. Ill. March 24, 2015(Held that discrimination continues to impede full and fair opportunities for disadvantaged business enterprise in the Illinois construction industry).

13. The District has determined that it has a continuing compelling interest in preventing public funds in construction contracts from perpetuating the effects of past discrimination and current discrimination against minority- and women-owned firms in its market.

14. The Affirmative Action Program adopted by the District is hereby modified to further continue to ameliorate the effects of racial and gender discrimination in the construction market.

15. The remedies adopted herein by the District will not overly burden non-MBE and non-WBE firms in the award of District Contracts.

16. The Commissioners shall periodically review minority-owned and women-owned participation in contracts awarded by the District to ensure that the District continues to have a

compelling interest in remedying discrimination against minority and women-owned firms in the award of District contracts and that the measures adopted herein remain narrowly tailored to accomplish that objective.

Now, therefore, the District Board of Commissioners hereby adopts this Revised Appendix D:

Section 3. **Purpose and Intent**

The purpose and intent of this Ordinance is to mitigate the present effects of discrimination on the basis of race, ethnicity or sex in opportunities to participate on the District's prime contracts and associated subcontracts and to achieve equitable utilization of minority-owned, women-owned and small business enterprises in District construction contracts.

Section 4. **Coverage**

The following provisions, to be known as "Appendix D" together with relevant forms, shall apply and be appended to every construction contract awarded by the District where the estimated total expenditure is in excess of $100,000.00, except contracts let in the event of an emergency pursuant to 70 ILCS 2605/11.5.

Section 5. **Definitions**

The meaning of these terms in this Ordinance are as follows:

(a) "Administrator" means the District's Affirmative Action Program Administrator.

(b) "Affiliate" of a person or entity means a person or entity that directly or indirectly through one or more intermediaries, controls or is controlled by, or is under common control with, the person or entity. In determining Affiliation, the District shall consider all appropriate factors, including common ownership, common management, and contractual relationships.

(c) "Annual Participation Goals" mean the targeted levels established by the District for the annual aggregate participation of MBEs and WBEs in District construction contracts

(d) "Bidder" means an individual, a business enterprise, including a sole proprietorship, a partnership, a corporation, a not for profit corporation, a limited liability company or any other entity which has submitted a bid on a District contract.

(e) "Books and Records" include, but are not limited to, payroll records, bank statements, bank reconciliations, accounts payable documents, account receivable documents, ledgers, all financial software, and all employer business tax returns.

(f) "Contract Specific Goals" means the Goals established for a particular project or contract based upon the availability of MBEs or WBEs in the scope(s) of work of the Project.

(g) "Construction contract" means any District contract or amendment thereto, providing for a total expenditure in excess of One Hundred Thousand Dollars ($100,000.00) for the construction, demolition, replacement, major repair or renovation and maintenance of real property and improvement thereon or sludge hauling and any other related contract which the District deems appropriate to be subject to Appendix D consistent with the Ordinance.

(h) "Commercially Useful Function" means responsibility for the execution of a distinct element of the work of the contract, which is carried out by actually performing, managing, and supervising the work involved, or fulfilling responsibilities.

(i) "Contract Goals" means the numerical percentage goals for MBE, WBE or SBE participation to be applied to an eligible District construction contract subject to Appendix D for the participation of MBEs, WBEs and SBEs, based upon the scopes of work of the contract, the availability of MBEs, WBEs and SBEs to meet the goals, and the District's progress towards meeting its Annual MBE, WBE and SBE goals.

(j) "Director" means the District's Director of Procurement and Materials Management, formerly known as the Purchasing Agent.

(k) "Economically Disadvantaged" means an individual with a Personal Net Worth less than $2,000,000.00, indexed annually for the Chicago Metro Area Consumer Price Index, published by the U.S. Department of Labor, Bureau of Labor Standards, beginning January 2008.

(l) "Executive Director" means the chief administrative officer of the District, formerly known as the General Superintendent.

(m) "Expertise" means demonstrated skills, knowledge or ability to perform in the field of endeavor in which certification is sought by the firm as defined by normal industry practices, including licensure where required.

(n) "Good Faith Efforts" means those honest, fair and commercially reasonable actions undertaken by a contractor to meet the MBE or WBE goal, which by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the Program's goals.

(o) "Hearing Officer" is an attorney licensed to practice in the State of Illinois, appointed by the Board of Commissioners, to conduct hearings as provided in this Ordinance regarding a contractor's compliance or non-compliance with this Ordinance.

(p) "Joint Venture" means an association of two or more persons, or any combination of types of business enterprises and persons numbering two or more, proposing to perform a single for profit business enterprise, in which each Joint Venture partner contributes property, capital, efforts, skill and knowledge, and in which the certified firm is responsible for a distinct, clearly defined portion of the work of the contract and whose share in the capital contribution, control, management, risks, and profits of the Joint Venture are equal to its ownership interest. Joint Ventures must have an agreement in writing specifying the terms and conditions of the relationships between the partners and their relationship and responsibility to the contract.

(q) "Job Order Contract" or "JOC" means a firm, fixed price, indefinite quantity contract designed to complete a large number of construction projects quickly.

(r) "Local business" means a business located within the counties of Cook, DuPage, Kane Lake, McHenry or Will in the State of Illinois or Lake County in the State of Indiana which has the majority of its regular full-time work force located in this region or a business which has been placed on the District's vendor list or has bid on or sought District construction work.

(s) "Minority-owned business enterprise" or "MBE" means a Local Small business entity, including a sole proprietorship, partnership, corporation, limited liability company, Joint Venture or any other business or professional entity, which is at least fifty-one percent (51%) owned by one or more members of one or more minority groups, or, in the case of a publicly held

corporation, at least fifty-one percent (51%) of the stock of which is owned by one or more members of one or more minority groups, and whose management, policies, major decisions and daily business operations are controlled by one or more Minority Individuals.

(t) "Minority Individual" means a natural person who is a citizen of the United States or lawful permanent resident of the United States and one of the following:

(i) African-American - A person having origins in any of the Black racial groups of Africa and is regarded as such by the African American Community of which the person claims to be a part.

(iii) Asian-American – A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands or the Northern Marianas, and is regarded as such by the Asian American community of which the person claims to be a part.

(ii) Hispanic-American - A person having origins from Mexico, Puerto Rico, Cuba and South or Central America and is regarded as such by the Hispanic community of which the person claims to be a part, regardless of race.

(iv) Native-American – A person having origins in any of the original peoples of North America and who is recognized through tribal certification as a Native American by either a tribe or a tribal organization recognized by the Government of the United States of America.

(v) Individual members of other groups whose participation is required under state or federal regulations or by court order.

(vi) Individual members of other groups found by the District to be Socially Disadvantaged by having suffered racial or ethnic prejudice or cultural bias within American society, without regard to individual qualities, resulting in decreased opportunities to compete in the District's marketplace or to do business with the District.

(u) "Personal Net Worth" means the net value of the assets of an individual after total liabilities are deducted. An individual's personal net worth does not include the individual's ownership interest in an applicant or other certified MBE or WBE, provided that the other firm is certified by a governmental agency that meets the District's eligibility criteria or the individual's equity in his or her primary place or residence. As to assets held jointly with his or her spouse or recognized civil partner, an individual's personal net worth includes only that individual's share of such assets. An individual's net worth also includes the present value of the individual's interest in any vested pension plans, individual retirement accounts, or other retirement savings or investment programs less the tax and interest penalties that would be imposed if the asset were distributed at the present time.

(v) "Prime Contractor" means a Contractor that is awarded a District contract and is at risk for the completion of an entire District project, including purchasing all materials, hiring and paying subcontractors, and coordinating all the work.

(w) "Small Business Enterprise" or "SBE" means a small business as defined by the U.S. Small Business Administration (SBA), pursuant to the business size standards found in 13 CFR Part 121, relevant to the scope(s) of work the firm seeks to perform on District contracts, except that the size standard for specialty trade construction firms shall be 150 percent of the SBA size standard. A firm is not an eligible SBE in any calendar fiscal year in which its gross receipts, averaged over the firm's previous five fiscal years, exceed the size standards of 13 CFR Part 121.

(x) "Socially Disadvantaged" means a Minority Individual or Woman who has been subjected to racial, ethnic or gender prejudice or cultural bias within American society because of his or her identity as a member of a group and without regard to individual qualities. Social disadvantage must stem from circumstances beyond the individual's control. A Socially Disadvantaged individual must be a citizen or lawfully admitted permanent resident of the United States.

(y) "Subcontractor" means a party that enters into a subcontract agreement with a District Prime Contractor to perform work or provide materials on a District project.

(z) "Tier" refers to the relationship of a subcontractor to the prime contractor. A subcontractor having a contract with the prime contractor, including a material supplier to the prime contractor, is considered a "first-tier subcontractor," while a subcontractor's subcontractor is a "second-tier subcontractor" and the subcontractor's material supplier is a "third-tier subcontractor." The subcontractor is subject to the same duties, obligations and sanctions as the contractor under this Ordinance.

(aa) "Utilization Plan" means the plan, in the form specified by the District, which must be submitted by a Bidder listing the MBEs, WBEs and SBE that the Bidder intends to use in the performance of a contract, the scopes of the work and the dollar values or the percentages of the work to be performed.

(bb) "Vendor list" means the District's list of firms that are certified as minority-owned or women-owned by the City of Chicago, the County of Cook, the State of Illinois, the Women's Business Development Center, or the Chicago Minority Supplier Development Council, or as a Disadvantaged Business Enterprise by the Illinois Unified Certification Program, or as a Small Disadvantaged Business by the U.S. Small Business Administration.

(cc) "Women-owned business enterprise" or "WBE" means a Local and Small business entity which is at least fifty-one percent (51%) owned by one or more women, or, in the case of a publicly held corporation, fifty-one percent (51%) of the stock of which is owned by one or more women, and whose management and daily business operations are controlled by one or more women. Determination of whether a business is at least fifty-one percent (51%) owned by a woman or women shall be made without regard to community property laws.

Section 6. **Non-Discrimination and Affirmative Action Clause**

As a precondition to selection, a Contractor must include in its bid proposal for a covered contract the following commitments:

During the performance of this contract, the Contractor agrees:

(a) It shall not discriminate on the basis of race, sex, gender, color, racial group or perceived racial group, disability, age, religion, national origin or ethnicity, sexual orientation, veteran or military discharge status, association with anyone with these characteristics, or any other legally protected characteristic in the solicitation for or purchase of goods in the performance of this contract.

(b) It shall actively solicit bids for the purchase or subcontracting of goods or services from qualified MBEs, WBEs and SBEs.

(c) It shall undertake Good Faith Efforts in accordance with the criteria established in this Ordinance, to ensure that qualified MBEs, WBE, and SBEs are utilized in the performance of this contract and share in the total dollar value of the contract in accordance with each of the applicable utilization goals established by the District for the participation of qualified MBEs, WBEs and SBEs.

(d) It shall require its subcontractors to make similar good faith efforts to utilize qualified MBEs, WBEs and SBEs.

(e) It shall maintain records and furnish the District all information and reports required by the District for monitoring its compliance with this Ordinance.

(f) It shall designate a person to act as an Affirmative Action Coordinator to facilitate the review of all concerns related to the participation MBEs, WBEs and SBEs.

Section 7. **Race- and Gender- Neutral Measures to Ensure Equal Opportunities for All Contractors and Subcontractors**

The District shall develop and use measures to facilitate the participation of all firms in District construction contracting activities. These measures shall include, but are not limited to:

(a) Unbundling contracts to facilitate the participation of MBEs, WBEs and SBEs as Prime Contractors.

(b) Arranging solicitation times for the presentations of bids, specifications, and delivery schedules to facilitate the participation of interested contractors and subcontractors.

(c) Providing timely information on contracting procedures, bid preparation and specific contracting opportunities, including through an electronic system and social media.

(d) Assisting MBEs, WBEs and SBEs with training seminars on the technical aspects of preparing a bid for a District contract.

(e) Providing assistance to businesses in overcoming barriers such as difficulty in obtaining bonding and financing, and support for business development such as accounting, bid estimation, safety requirements, quality control.

(f) Prohibiting Prime Contractors from requiring bonding for subcontractors, where appropriate.

(g) Holding pre-bid conferences, where appropriate, to explain the contract and to encourage Bidders to use all available firms as subcontractors.

(h) Adopting prompt payment procedures, including, requiring by contract that Prime Contractors promptly pay subcontractors and investigating complaints or charges of excessive delay in payments.

(i) Developing Linked Deposit and other financing and bonding assistance programs to assist small firms.

(j) Reviewing retainage, bonding and insurance requirements and their application to bid calculations to eliminate unnecessary barriers to contracting with the District.

(k) Collecting information from Prime Contractors on District construction contracts detailing the bids received from all subcontractors for District on construction contracts and the expenditures to subcontractors utilized by Prime Contractors on District construction contracts.

(l) Limiting the self-performance of prime contractors, where appropriate.

(m) To the extent practicable, developing future policies to award contracts to SBEs.

(n) Maintaining information on all firms bidding on District prime contracts and subcontracts.

(o) At the discretion of the Board of Commissioners, awarding a representative sample of District construction contracts without goals, to determine MBE, WBE and SBE utilization in the absence of goals.

(p) Referring complaints of discrimination against MBEs, WBEs or SBEs to the appropriate authority for investigation and resolution.

Section 8. **Certification Eligibility**

(a) Only businesses that meet the criteria for certification as a MBE, WBE or SBE may be eligible for credit towards meeting Utilization Contract Goals. The applicant has the burden of production and persuasion by a preponderance of the evidence at all stages of the certification process.

(b) Only a firm owned by a Socially and Economically Disadvantaged person(s) may be certified as a MBE or WBE.

(i) The firm's ownership by a Socially and Economically Disadvantaged person(s) must be real, substantial, and continuing, going beyond *pro forma* ownership of the firm as reflected in ownership documents. The owner(s) must enjoy the customary incidents of ownership and share in the risks and profits commensurate with that ownership interest.

(ii) The contributions of capital or Expertise by the Socially and Economically Disadvantaged owner(s) to acquire the ownership interest must be real and substantial. If Expertise is relied upon as part of a Socially and Economically Disadvantaged owner's contribution to acquire ownership, the Expertise must be of the requisite quality generally recognized in a specialized field, in areas critical to the firm's operations, indispensable to the firm's potential success, specific to the type of work the firm performs and documented in the firm's records. The individual whose Expertise is relied upon must have a commensurate financial investment in the firm.

(c) Only a firm that is managed and controlled by a Socially and Economically Disadvantaged person(s) may be certified as a MBE or WBE.

(i) A firm must not be subject to any formal or informal restrictions that limit the customary discretion of the Socially and Economically Disadvantaged owner(s). There can be no restrictions through corporate charter provisions, by-law provisions, contracts or any other formal or informal devices that prevent the Socially and Economically Disadvantaged owner(s), without the cooperation or vote of any non-Socially and Economically Disadvantaged person, from making any business decision of the firm, including the making of obligations or the dispersing of funds.

(ii) The Socially and Economically Disadvantaged owner(s) must possess the power to direct or cause the direction of the management and policies of the firm and to make day-to-day as well as long term decisions on management, policy, operations and work.

(iii) The Socially and Economically Disadvantaged owner(s) may delegate various areas of the management or daily operations of the firm to persons who are not Socially and Economically Disadvantaged. Such delegations of authority must be revocable, and the Socially and Economically Disadvantaged owner(s) must retain the power to hire and fire any such person. The Socially and Economically Disadvantaged owner(s) must actually exercise control over the firm's operations, work, management and policy.

(iv) The Socially and Economically Disadvantaged owner(s) must have an overall understanding of, and managerial and technical competence, experience and Expertise, directly related to the firm's operations and work. The Socially and Economically Disadvantaged owner(s) must have the ability to intelligently and critically evaluate information presented by

other participants in the firm's activities and to make independent decisions concerning the firm's daily operations, work, management, and policymaking.

(v) If federal, state and/or local laws, regulations or statutes require the owner(s) to have a particular license or other credential to own and/or control a certain type of firm, then the Socially and Economically Disadvantaged owner(s) must possess the required license or credential. If state law, District ordinance or other law regulations or statute does not require that the owner posses the license or credential, that the owner(s) lacks such license or credential is a factor, but is not dispositive, in determining whether the Socially and Economically Disadvantaged owner(s) actually controls the firm.

(vi) A Socially and Economically Disadvantaged owner cannot engage in outside employment or other business interests that conflict with the management of the firm or prevent the owner from devoting sufficient time and attention to the affairs of the firm to manage and control its day to day activities.

(d) Only an independent firm may be certified as a MBE, WBE or SBE. An independent firm is one whose viability does not depend on its relationship with another firm. Recognition of an applicant as a separate entity for tax or corporate purposes is not necessarily sufficient to demonstrate that a firm is independent and non-Affiliated. In determining whether an applicant is an independent business, the Director will:

(i) Evaluate relationships with non-certified firms in such areas as personnel, facilities, equipment, financial and/or bonding support, and other resources.

(ii) Consider whether present or recent employer/employee relationships between the Socially and Economically Disadvantaged owner(s) of the applicant for MBE or WBE certification or any owners of the applicant for SBE certification and non-certified firms or persons associated with non-certified firms compromise the applicant's independence.

(iii) Examine the applicant's relationships with non-certified firms to determine whether a pattern of exclusive or primary dealings with non-certified firm compromises the applicant's independence.

(iv) Consider the consistency of relationships between the applicant and non-certified firms with normal industry practice.

(e) An applicant shall be certified only for specific types of work in which the Socially and Economically Disadvantaged owner(s) for MBEs and WBEs or the majority owner for SBEs has the ability and Expertise to manage and control the firm's operations and work.

(f) The District shall certify the eligibility of Joint Ventures involving MBEs, WBEs or SBEs and non-certified firms.

(g) The certification status of all MBEs, WBEs and SBEs shall be reviewed periodically by the Administrator. Failure of the firm to seek recertification by filing the necessary documentation with the Administrator as provided by rule may result in decertification.

(h) It is the responsibility of the certified firm to notify the Administrator of any change in its circumstances affecting its continued eligibility. Failure to do so may result in the firm's decertification.

(i) The Administrator shall decertify a firm that does not continuously meet the eligibility criteria.

(j) Decertification by another agency shall create a *prima facie* case for decertification by the District. The challenged firm shall have the burden of proving by a preponderance of the evidence that its District certification should be maintained.

(k) A firm that has been denied certification or recertification or has been decertified may protest the denial or decertification by filing a written appeal with the Executive Director within

10 calendar days of receipt of the denial of District certification, recertification or decertification. The appeal should set forth in detail the facts upon which it is based, and attach all relevant documentations. The Executive Director shall render a decision within 15 calendar days of receipt of a timely appeal. The Executive Director's decision shall be final.

(l) A firm found to be ineligible may not apply for certification for two years after the effective date of the final decision.

Section 9. **Schedule of Goals for Minority-Owned, Women-Owned and Small Business Enterprise Utilization**

In fulfillment of its policy to provide MBEs, WBEs, and SBEs full and equitable opportunities to participate in the District's construction prime contracts and subcontracts, the District shall establish annually goals for MBE, WBE and SBE participation, based on the availability of MBEs and WBEs in the District's geographic and procurement market.

Section 10. **Contract Goals.**

(a) The Director, in consultation with the Administrator and the User Department, shall establish Contract Goals for construction contracts based upon the availability of at least three MBEs and three WBEs registered on the District's vendor list to perform the anticipated subcontracting functions of the contract and the District's utilization of MBEs and WBEs to date.

(b) Where a substantial portion of the total construction contract cost is for the purchase of equipment, the Director may designate goals for only that portion of the contract relating to construction work and related supplies and/or modify the limitations on the credit for MBE or WBE suppliers herein.

(c) The Contract Goal(s) shall be designated in the contract documents.

Section 11. **Counting MBE, WBE, and SBE Participation towards Contract Goals**

(a) A Bidder may achieve the Utilization Contract Goals by its status as a MBE, WBE or SBE or by entering into a Joint Venture with one or more MBEs, WBEs and SBEs or by first-tier subcontracting a portion of the work to one or more MBEs, WBEs and SBEs or by direct purchase of materials or services from one or more MBEs, WBEs and SBEs or by any combination of the above.

(b) If a firm is certified as both a MBE and a WBE, the Bidder may count the firm's participation either toward the achievement of its MBE or WBE goal, but not both.

(c) A Bidder may count toward the achievement of its SBE goal the utilization of any MBE or WBE that also satisfies the definition of a SBE.

(d) A Bidder may count the entire amount of that portion of a contract that is performed by MBEs, WBEs or SBEs own forces, including the cost of supplies and materials obtained and installed by the MBE, WBE or SBE for thc work of the contract, and supplies purchased or equipment leased by the MBE, WBE or SBE used to directly perform the work of the contract (except supplies and equipment the MBE, WBE or SBE purchases or leases from the Prime Contractor or the Prime Contractor's Affiliate).

(e) Where a Bidder or first-tier subcontractor engages in a Joint Venture to meet the Contract Goal, the Administrator shall review the profits and losses, initial capital investment,

actual participation of the Joint Venture in the performance of the contract with its own forces and for which it is separately at risk, and other pertinent factors of the joint venture, which must be fully disclosed and documented in the Utilization Plan in the same manner as for other types of participation, to determine the degree of MBE, WBE or SBE participation that will be credited towards the Contract Goal. The Joint Venture's Utilization Plan must evidence how it will meet the goal or document the Bidder's Good Faith Efforts to do so. The Administrator has the authority to review all records pertaining to Joint Venture agreements before and after the award of a contract in order to assess compliance with this Ordinance. The MBE, WBE or SBE Joint Venture partner must have a history of proven expertise in performance of a specific area of work and will not be approved for performing only general management of the Joint Venture. The specific work activities for which the MBE, WBE or SBE Joint Venture partner will be responsible and the assigned individuals must be clearly designated in the Joint Venture Agreement. The Joint Venture must submit to the Administrator quarterly work plans, including scheduling dates of the tasks. The Administrator must approve the quarterly plans for the MBE, WBE or SBE Joint Venture partner's participation to be credited towards the Contract Goals.

(f) Only the participation of MBEs, WBEs or SBEs that will perform as first-tier subcontractors will be counted towards meeting the Utilization Contract Goals.

(g) Only expenditures to a MBE, WBE or SBE that is performing a Commercially Useful Function shall be counted towards the Utilization Contract Goal.

(i) A firm is considered to perform a commercially useful function when it is responsible for execution of a distinct element of the work of a contract and carries out its responsibilities by actually performing, managing, and supervising the work involved. The firm must pay all costs associated with personnel, materials and equipment. The firm must be formally and directly responsible for the employment, supervision and payment of its workforce must own and /or lease equipment, and must be responsible for negotiating price, determining quality and quantity and paying for and ordering materials used. The firm cannot share employees with the Prime Contractor or its Affiliates. No payments for use of equipment or materials by the firm can be made through deductions by the Prime Contractor. No family members who own related businesses are allowed to lease, loan or provide equipment, employees or materials to the firm.

(ii) A firm does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction through which funds are passed in order to obtain the appearance of MBE, WBE or SBE participation. The Prime Contractor is responsible for ensuring that the firm is performing a commercially useful function.

(iii) The District will evaluate the amount of work subcontracted, industry practices, whether the amount the MBE, WBE or SBE is to be paid under the contract is commensurate with the work it is actually performing and other relevant factors.

(iv) If a firm subcontracts a greater portion of the work of a contract than would be expected based on normal industry practice, it is presumed not to perform a Commercially Useful Function. When a firm is presumed not to be performing a Commercially Useful Function, the firm may present evidence to rebut this presumption.

(h) Credit towards the Contract Goals will be allowed only for those direct services performed or materials supplied by MBEs, WBEs or SBEs or first-tier subcontractor MBEs, WBEs or SBEs. MBEs, WBEs or SBEs must perform no less than eighty-five percent (85%) of

their work with their own forces, through the use of its own management and supervision, employees and equipment. If industry standards and practices differ, the firm must furnish supporting documentation for consideration by the District.

(i) Purchase of materials and supplies must be pre-approved if their purchase is related to goal attainment. Bidder may count payments to MBE, WBE or SBE regular dealers or manufacturers who offer only furnish and deliver contracts for materials and supplies for no more than twenty-five percent (25%) of each MBE, WBE or SBE goal, unless approved by the Administrator. If the bidder exceeds the supplier exception amount allowable as stated in the bid documents, the bid will be viewed as non-responsive.

(j) A dealer is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials or supplies required for performance of the contract are bought, kept in stock, and regularly sold to the public in the usual course of business. To be a regular dealer, the firm must engage in, as its principal business, and in its own name, the purchase and sale of the products in question. A regular dealer in such bulk items as steel, cement, gravel, stone, and petroleum products need not keep such products in stock, if it owns or operates distribution equipment. Brokers and packagers shall not be regarded as manufacturers or regular dealers within the meaning of this section. A manufacturer is a firm that operates or maintains a factory or establishment that produces on the premises the materials or supplies obtained by the Bidder.

(k) If a firm ceases to be a certified during its performance on a contract, the dollar value of work performed under a contract with that firm after it has ceased to be certified shall not be counted.

(l) In determining achievement of Utilization Contract Goals, the participation of a MBE, WBE or SBE shall not be counted until that amount has been paid to the MBE, WBE or SBE.

Section 12. **Utilization Plan Submission**

(a) Compliance documents must be submitted as provided in the solicitation. Failure to do so will render the bid non-responsive. The Director shall review each bid submission to determine if it meets the requirements herein.

(b) A Bidder must either meet the Utilization Contract Goals or establish its Good Faith Efforts to do so as described in Appendix D and the solicitation.

(c) Each Bidder shall submit with its bid a completed and signed Utilization Plan that lists the names, addresses, telephone numbers, email addresses and a description of the work with contract item number and contact person of the businesses intended to be used as subcontractors, subconsultants and suppliers, including those firms proposed to meet the Contract Goal(s); the type of work or service each business will perform; and the dollar amount to be allocated to the certified firm(s). Each Bidder's Utilization Plan shall commit to MBE, WBE or SBE participation equal to or greater than each of the Contract Goals set forth in the solicitation, unless the Bidder requests a partial or total waiver of the requirement that it file a Utilization Plan or achieve a particular goal by submitting with the bid a signed Waiver Request in the form specified in the solicitation.

(d) Each Bidder must submit with its bid a signed MBE, WBE or SBE Subcontractor's Letter of Intent for each firm in the form specified in the solicitation, with either a copy of each MBE, WBE or SBEs current Letter of Certification from a state or local government or agency

or documentation demonstrating that the firm is a MBE, WBE or SBE within the meaning of this Appendix D. In the event of a conflict between the amounts stated on the Utilization Plan and the MBE, WBE or SBE Subcontractor's Letter of Intent, the terms stated on the Utilization Plan shall control. An original or facsimile copy of the MBE, WBE or SBE Subcontractor's Letter of Intent will be acceptable.

(e) Where a Bidder had failed to meet the Contract Goal(s), it must file a Waiver Request documenting its Good Faith Efforts to meet the Goal(s) as provided in the format described in the solicitation, the Administrator shall require the contractor to file a Contractor Information Form and provide additional documentation of its good faith efforts in attempting to fulfill such goals.

(i) Such Good Faith Efforts, as defined herein, shall include, but are not limited to, the following:

(i) Attend any pre-bid conference conducted by the District to acquaint contractors with MBEs, WBEs and SBEs available to provide relevant goods and services and to inform MBEs, WBEs and SBEs of subcontract opportunities on the contract;

(ii) Review lists of available MBEs, WBEs and SBEs maintained by the District and other state and local governments and agencies prior to the bid opening to identify qualified MBEs, WBEs and SBEs for solicitation for bids;

(iii) Advertise, not less than 15 calendar days before the bid opening date, in one or more daily newspapers and/or trade publications, for proposals or bids by MBEs, WBEs and SBEs for subcontracts or the supply of goods and services on the contract;

(iv) Make timely written solicitations of available MBEs, and WBEs and SBEs identified on the District's vendor list that provide relevant services for subcontracts or the supply of goods and services;

(v) Provide MBEs, WBES and SBEs with convenient and timely opportunities to review and obtain relevant plans, specifications or terms and conditions of the contract to enable such MBEs, WBEs and SBEs to prepare an informed response to a contractor solicitation;

(vi) Divide total contract requirements into small tasks or quantities and adjust performance bond and insurance requirements or otherwise assist MBEs, WBEs and SBEs in obtaining the required bonding, insurance or financing, where economically feasible, to encourage participation of MBEs, WBEs and SBEs;

(vii) Follow up initial solicitation of MBEs, WBEs and SBEs by contacting them to determine if the enterprises are interested in making bids or proposals;

(viii) Negotiate in good faith with MBEs, WBEs and SBEs prior to the bid opening and do not reject as unsatisfactory any bids or proposals submitted by M/WBEs without justifiable reason, including the lack of bonding capacity or the ability to obtain insurance requirements such as Completed Builders Risk (All Risk) Insurance, Comprehensive General Liability Insurance, Contractor Contractual Liability Insurance and Public Liability Insurance;

(ix) Establish delivery schedules, where the requirements of the work permit, which will encourage participation by MBEs, WBEs and SBEs;

(x) Establish joint ventures with MBEs, WBEs and SBEs;

(xi) Use the services and assistance of the District, the Small Business Administration, the Office of Minority Business Enterprises of the U.S. Department of Commerce and appropriate community and minority and women's business organizations;

(ii) Failure of a Bidder to provide requested information to the Administrator or to cooperate with the Administrator's investigation, may be grounds for the rejection of a bid and/or a Waiver request.

(iii) Upon completion of the investigation, the Administrator shall inform the Director of his or her findings.

(iv) The Director, after consultation with the Administrator, shall determine whether to grant the waiver request based on the Bidder's Good Faith Efforts at the time of bid submission.

(v) Where the Director determines that a Bidder has not made Good Faith Efforts, the Director shall declare the bid submission non-responsive and will reject the bid.

(d) A contractor's submission of a Utilization Plan that commits to a MBE or WBE participation equal to or greater than the applicable utilization goals shall not provide a basis for a higher bid, an increase in contract price or a later change order.

(e) The requirement to submit a Utilization Plan and MBE, WBE or SBE Subcontractor's Letters of Intent applies when the individual project is awarded under Job Order Contracts awarded by the District.

(i) A Prime Contractor issued a Job Order Contract shall submit with each work order issued under such a Contract its Utilization Plan that lists the name, address, telephone number, email address and contact person for each MBE, WBE or SBE to be used on the work order, as well as a description of work to be performed and a dollar amount to be allocated to such MBE, WBE or SBE. The Prime Contractor shall submit with each work order a MBE, WBE or SBE Subcontractor's Letter of Intent from each certified firm.

(ii) A Prime Contractor awarded a Job Order Contract shall be subject to the compliance monitoring provisions herein. The Prime Contractor must submit to the Administrator monthly documentation, as specified by the Administrator, demonstrating that the Contractor has attained the Contract Goals for the completed portion of the Job Order Contract, or that it has been unable to do so despite its good faith efforts. Good Faith Efforts must be documented as provided in this Ordinance.

Section 13. **Compliance Review**

(a) The Director shall declare the bid submission non-responsive if a Bidder:

(i) Failed to submit with its bid a completed and signed Utilization Plan;

(ii) Failed to commit in its Utilization Plan to MBE, WBE and SBE participation equal to or greater than each of the Utilization Contract Goals unless the Bidder submitted with its bid a request for a total or partial waiver of the Goal(s).

(iii) Failed to identify in its Utilization Plan the MBE, WBE or SBE by name, scope of work, contract item number, and dollar value of work or percentage of participation equal to or greater than each of the Contract Goal(s).

(iv) Failed to submit with its bid the MBE, WBE and SBE Subcontractor's Letter of Intent from each MBE, WBE and SBE listed on its Utilization Plan.

(b) Where, after consultation with the Administrator, the Director determines that the Utilization Plan submitted by a Bidder is false or fraudulent, the bid shall be rejected or, if the determination is made after the bid award, the contract may be forfeited in accordance with the provision of Article 28 of the General Conditions.

(c) If a Mentor-Protégé relationship is proposed to meet the Contract Goal, the Mentor-Protégé Development Plan must be submitted to the Administrator for approval prior to contract award. Mentor-Protégé relationship" describes an association between large business prime contractor firms and socially disadvantaged firms designed to motivate, encourage and to provide mutually beneficial developmental assistance to those socially disadvantaged firms.

(d) Prior to the award of any contract, the Administrator shall review the Utilization Plan, MBE, WBE and SBE Subcontractor's Letter(s) of Intent and Letter(s) of Certification, and Contractor Information and Waiver Request Forms as specified in the solicitation, submitted by the apparent low bidder on a contract and conduct any other investigation the Administrator deems appropriate to determine compliance.

(e) Within 30 calendar days after demand, the Prime Contractor shall furnish executed copies of all MBE, WBE and SBE subcontracts to the Administrator. Subsequently, the contractor shall obtain and submit a copy of all MBE, WBE and SBE related subtier contracts on demand.

(f) The Prime Contractor shall set timetables for use of its subcontractors before fifty percent (50%) of the work is completed.

(g) If requested by the Administrator, the Prime Contractor must submit a MBE, WBE and SBE Work Plan projecting the work tasks associated with certified firms' commitments prior to the award of the contract. The Work Plan must provide a description of the work to be subcontracted to other MBEs, WBEs and SBEs and non-certified firms and the dollar amount and the name of the all tiers of subcontractors. The Work Plan becomes part of the Prime Contractor's contractual commitment and the contract record, and may not be changed without prior approval of the Administrator.

Section 14. **Contract Performance Compliance**

(a) After the award of a contract, the Administrator shall review the Prime Contractor's compliance with its MBE, WBE and SBE commitments during the performance of the contract.

(b) The Prime Contractor shall be required to submit the Affirmative Action Monthly MBE/WBE/SBE Status Report providing the information and in the format as specified by the District with every payment request. The Contractor's failure to do so may result in a delay of the progress payment.

(c) Evidence of MBE, WBE and SBE subcontractor participation and payments must be submitted as required by the District to confirm subcontractors' participation and payment.

(d) District contract compliance officers and auditors, or their designees, shall have access to the contractor's and subcontractor's books and records, including certified payroll records, bank statements, employer business tax returns and all records including all computer records and books of account to determine the contractor and MBE, WBE and SBE subcontractor compliance with the goal commitment. Audits may be conducted at any time and without notice in the total discretion of the District. A Prime Contractor must provide the Administrator any additional compliance documentation within 14 calendar days of such request. Audits may be conducted without notice at any time at the discretion of the District.

(e) If District personnel observe that any purported MBE, WBE and SBE subcontractor other than those listed on the Utilization Plan are performing work or providing materials and/or equipment for those MBE and WBE subcontractors listed on the Utilization Plan, the Prime Contractor will be notified in writing of an apparent violation is taking place and progress payments may be withheld. The contractor will have the opportunity to meet with the Affirmative Action Administrator prior to a finding of noncompliance.

(f) Where a partial or total waiver of the Contract Goal(s) has been granted, the Prime Contractor must continue to make Good Faith Efforts during the performance of the contract to meet the Goal(s), and the Administrator shall provide technical assistance with respect to such efforts. The Administrator shall require the Prime Contractor to provide documentation of its continuing Good Faith Efforts in attempting to fulfill its commitments.

(g) The Prime Contractor cannot make any changes to the approved Utilization Plan or substitutions of the MBE(s), WBE(s) or SBE(s) listed in the Utilization Plan throughout the life of the contract without the prior, written approval of the Administrator. This includes, but is not limited to, instances in which the Prime Contractor seeks to perform work originally designated for a MBE, WBE or SBE subcontractor with its own forces or those of an affiliate, a non-certified firm or another MBE, WBE or SBE. Failure to obtain the prior, written approval of the Administrator in the format specified by the District shall constitute a breach of the contract, and subject the Prime Contractor to any and all available sanctions. The participation of certified firms that did not receive prior, written approval by the Administrator will not be counted towards the Contract Goal(s).

(i) The Prime Contractor must demonstrate good cause to terminate or reduce the scope of work of the MBE, WBE or SBE to the satisfaction of the Administrator. Good cause is limited to the following circumstances:

(1) The listed MBE, WBE, or SBE subcontractor fails or refuses to execute a written contract.

(2) The listed MBE, WBE or SBE subcontractor becomes bankrupt, insolvent or exhibits credit unworthiness.

(3) The listed MBE, WBE or SBE is ineligible to work on public works projects because of suspension and debarment proceedings pursuant to federal or state or local law.

(4) The Administrator has determined that the listed MBE, WBE or SBE subcontractor is not a responsible contractor.

(5) The listed MBE, WBE or SBE subcontractor voluntarily withdraws from the project and provides the Administrator written notice of its withdrawal.

(6) The listed MBE, WBE or SBE subcontractor is ineligible to receive credit for the type of work required.

(7) The MBE, WBE or SBE owner dies or becomes disabled with the result that the listed MBE, WBE or SBE subcontractor is unable to complete its work on the contract.

(8) Other good cause as determined in the Administrator's sole discretion.

(ii) Good cause does not include where the Contractor seeks to terminate a MBE, WBE or SBE it relied upon to obtain the contract so that the Contractor can self-perform the work or substitute another MBE, WBE or SBE or non-certified subcontractor to perform the work for which the MBE, WBE or SBE was engaged or listed on the Utilization Plan.

(iii) The Prime Contractor must give the MBE, WBE or SBE notice in writing, with a copy to the Administrator, of its intent to request to terminate and/or substitute, and the detailed reasons for the request.

(iv) If the Prime Contractor proposes to terminate or substitute a MBE, WBE or SBE subcontractor for any reason, the Contractor must make Good Faith Efforts as defined herein to find a substitute MBE, WBE or SBE subcontractor for the original MBE, WBE or SBE to meet its MBE, WBE or SBE contractual commitment. Its Good Faith Efforts shall be directed at finding another MBE, WBE or SBE to perform or provide at least the same amount of work, material or service under the contract as the original MBE, WBE or SBE to the extent necessary to meet its MBE, WBE or SBE contractual commitment.

(v) The Prime Contractor must submit a MBE, WBE or SBE Subcontractor's Letter of Intent for each proposed new MBE, WBE or SBE subcontractor.

(vi) The Administrator will approve or disapprove the substitution based on the Prime Contractor's documented compliance with these provisions.

(h) In the event a Prime Contractor fails to achieve the level of MBE, WBE or SBE participation described in its Utilization Plan as the result of the District's deletion of the work to be performed by a MBE, WBE or SBE, the Prime Contractor shall notify the Administrator in writing and may request an amendment of its Utilization Plan. A letter of release signed by the subcontractor must be included with the request.

(i) In the event a Prime Contractor, in the performance of its contract, determines that the conditions of the work warrant a reduction in the scope of work to be performed by a MBE, WBE or SBE the Prime Contractor must utilize Good Faith Efforts to fulfill its MBE, WBE or SBE contractual commitment. The Prime Contractor must notify the Administrator in writing within 14 calendar days of the determination to request an amendment of its Utilization Plan. The Prime Contractor must give the MBE, WBE or SBE notice in writing, with a copy to the Administrator, of its intent to request to reduce the scope of work, and the detailed reasons for the request. The Administrator will approve or disapprove the reduction based on the Prime Contractor's documented compliance with these provisions.

(j) Where contract change orders are made individually or in the aggregate that increase the total value of the contract by more than ten percent (10%) of the original contract value, the

Prime Contractor shall increase the utilization of all MBEs, WBEs or SBEs, where feasible, so that the total value of the percentage of work performed by MBEs, WBEs or SBEs as to increased contract value bears the same relationship to the total value of the contract (as modified by change orders) as the percentage of MBEs, WBEs or SBEs utilization committed to in the contractor's original Utilization Plan.

Section 15. **Sanctions for Non-Compliance**

(a) Where the Administrator believes that the Prime Contractor or subcontractor has committed fraud or misrepresentation against the District or has failed to comply with this Ordinance or its contract, or provided false or fraudulent documentation, the Administrator shall notify the Prime Contractor and/or subcontractor in writing of such determination of noncompliance and withhold up to one hundred percent (100%) of the current progress or final payment due the Prime Contractor for up to 90 days. The amount to be withheld shall be based upon a determination of the degree to which the Prime Contractor has failed to meet its MBE, WBE or SBE contractual commitments and to what extent the Prime Contractor has made Good Faith Efforts to achieve such commitments. The Prime Contractor and/or subcontractor shall have the right to meet with the Administrator within 10 calendar days of receipt of the notice. After conference and conciliation, the Administrator will determine whether the Prime Contractor and/or subcontractor is in compliance.

(b) If the Administrator determines the Prime Contractor and/or subcontractor is not in compliance and the violation cannot be resolved by conference and conciliation, the Administrator shall refer the matter to the Executive Director and the Executive Director may return the referral to the Administrator with direction or may direct the Prime Contractor and/or subcontractor to show cause on a date certain why further sanctions should not be imposed.

(i) The Prime Contractor or subcontractor shall have 15 calendar days after receipt of the show cause notice within which to file a response in writing with the Administrator. A hearing before a duly appointed Hearing Officer shall be convened to provide the contractor and/or subcontractor an opportunity to be heard with respect to the non-compliance. Within 30 calendar days after the Executive Director's referral, the Hearing Officer shall schedule a hearing to be held within 30 calendar days of receipt of the referral for hearing at which the District, the contractor and/or subcontractor may present evidence of the purported violation and/or the absence thereof. The District will carry the burden of proof by a preponderance of the evidence. The Prime Contractor and/or subcontractor may present additional evidence and witnesses to show cause why sanctions should not be imposed. An official record will be kept with the Clerk of the District. All filings by the District or the respondents should be made with the Clerk of the District, with courtesy copies going to the parties and the Hearing Officer.

(ii) The Hearing Officer shall conduct such show cause hearings involving the Ordinance and shall render findings of fact, conclusions of law and recommendations regarding disposition of the hearings. Procedures and rules governing the show cause hearings will be adopted by the Board of Commissioners. The Hearing Officer will not become co-counsel with any attorneys appearing before him/her at any time during the hearing.

(iii) All Show Cause Hearings must be conducted on the record and all testimony must be under oath and transcribed verbatim by a court reporter. All parties shall be given the opportunity to present and respond to evidence. The Hearing Officer shall conduct a fair hearing and maintain order and shall abide by the Judicial Canons of Ethics enacted by the Illinois Supreme Court.

(iv) Within 30 calendar days after the hearing with the Prime Contractor and/or subcontractor, the Hearing Officer shall issue in writing to the Executive Director his/her written findings of fact, conclusions of law as to compliance and recommendations with respect to any appropriate sanctions. The Executive Director shall transmit the Hearing Officer's findings, conclusions and recommendations to the Board of Commissioners which may impose sanctions for a Prime Contractor's and/or subcontractor's noncompliance with this Ordinance including, but not limited to:

(1) Withholding up to fifty percent (50%) of the current progress or final payment due the contractor until the Administrator determines that the contractor is in compliance. Following the withholding of up to fifty percent (50%) of the current progress payment, up to one hundred percent (100%) of further progress payments may be withheld until the contractor is found to be in compliance with the requirements of this Ordinance. The amount to be withheld will be based upon a determination of the degree to which the Prime Contractor has failed to meet its MBE, WBE or SBE contractual commitments and to what extent the Prime Contractor has made good faith efforts to achieve such commitments.

(2) Declaring the Prime Contractor and/or subcontractor to be non-responsible and disqualify/debar the Prime Contractor and/or subcontractor from eligibility to bid on District construction contracts for a period of not less than one (1) year, and not more than three (3) years. An entity that is disqualified pursuant to the provisions of this Ordinance shall be precluded from participation on any District contract as a Prime Contractor, subcontractor and supplier for the period of disqualification. In cases of the use of false documentation, the making of false statements, fraud or misrepresentation, the disqualification period will be not less than eighteen (18) months, and not more than three (3) years for the second violation of the Ordinance and not less than twenty-four (24) months and not more than three (3) years for the third violation of the Ordinance from the date of disqualification established in the Board Order.

(3) Rejecting bids by the Prime Contractor for other contract(s) not yet awarded to that Bidder in instances of the use of false documentation, the making of false statements, fraud or misrepresentation.

(4) For any MBE, WBE or SBE that has misrepresented its MBE, WBE or SBE status and/or failed to operate as an independent business concern performing a Commercially Useful Function, declaring by the Director that the MBE, WBE or SBE ineligible to participate as a MBE, WBE or SBE in District contracts. A firm that has been declared ineligible may not participate as a MBE, WBE or SBE for a period of not less than one (1) year and not more than three (3) years.

(5) Forfeiting and deducting from the Prime Contractor's progress or final payments under the contract an amount up to the dollar amount of its MBE, WBE goal commitment that the contractor has failed to meet. The amount to be deducted will be based upon a determination of the extent to which the Prime Contractor made Good Faith Efforts to achieve such commitments.

(6) Referring the matter to the Office of the Attorney General or Cook County State's Attorney for follow-up action.

(c) The Administrator and Director will take action to prevent a contract from being awarded to a Prime Contractor or first-tier subcontractor disqualified from bidding hereunder for the period of disqualification.

(d) The District's attorneys' fees and costs will be assessed against the Prime Contractor and/or subcontractor where the Hearing Officer makes a finding that the Prime

Contractor or subcontractor used false documentation, made false statements, or committed fraud or misrepresentation.

(e) Notice of sanctions imposed by the Board of Commissioners for violations of the Ordinance by the Prime Contractor, subcontractor and/or supplier will be spread upon the public record by the District, including but not limited to publication in the Record of Proceedings of the Board of Commissioners, posting on the District's web site, publication in any type of media, newspaper publication and direct notice by letter to governmental entities.

(f) Any sanctions imposed against an entity shall also apply personally to all officers and directors of the entity or partners of the entity, and their successors and assigns with knowledge of the acts and omissions that give rise to the sanctions against the entity.

(g) The District may take other action, as appropriate, within the discretion of the Administrator, subject to the approval of the Hearing Officer and the Board of Commissioners.

Section *16.* **Other Federal Regulations**

The provisions of this Ordinance shall not apply to any contract to the extent that different procedures or standards are required by any law or regulation of the United States and nothing herein shall be interpreted to diminish or supplant the present Equal Employment Opportunity Requirements contained in Appendices B, C, G, and I of Grant funded contracts or Appendix C of non-Grant funded contracts.

Section 17. **Reporting and Review**

The Board of Commissioners directs the District staff to report to the Board of Commissioners on an annual basis with respect to the following:

(a) The level of MBE, WBE or SBE participation achieved in each year in District construction contracts subject to Appendix D.

(b) Identification of any problems with the enforcement of Appendix D; and

(c) Any recommendations with respect to improving the implementation of Appendix D.

Section 18. **Sunset Provision**

This Appendix D shall be reviewed no later than five years from its adoption and shall expire on June 4, 2020 unless the District finds that its remedial purposes have not been fully achieved and that there is a compelling interest in continuing to implement narrowly tailored remedies to redress discrimination against MBEs and WBEs so that the District will not function as a passive participant in a discriminatory market in the Metropolitan Chicago construction industry.

Section 19. **Repeal of Prior Inconsistent Provisions**

All enactments and provisions heretofore adopted by this Board of Commissioners in the area of affirmative action in connection with construction contracts subject to this Ordinance that are inconsistent with the provisions of this Ordinance are hereby expressly repealed.

Section 20. **Severability**

If any clause, sentence, paragraph, section or part of this Ordinance shall be adjudged by any court of competent jurisdiction to be invalid, the judgment shall not affect, impair or invalidate the remainder thereof, but shall be confined in its operation to the clause, sentence, paragraph, section or part of this Ordinance directly involved in the controversy in which the judgment shall have been rendered.

Section 21. **Effective Dates**

This amendment to revised Appendix D shall be effective and apply to all bids for contracts advertised after June 4, 2015.

ADOPTED:

Mariyana T. Spyropoulos, President
Board of Commissioners of the
Metropolitan Water Reclamation
District of Greater Chicago

Approved as to form and legality:

Head Assistant Attorney

General Counsel

EXHIBIT 5

UTILIZATION PLAN

REVISED JUNE, 2015

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

MBE, WBE, SBE UTILIZATION PLAN

For Local and Small business entities - Definitions for terms used below can be found in Appendix D: MBE - Section 5(s); WBE - Section 5(cc); SBE - Section 5(w).

NOTE: The Bidder shall submit with the Bid, originals or facsimile copies of all MBE, WBE, SBE Subcontractor's Letter of Intent furnished to all MBEs, WBEs, and SBEs. IF A BIDDER FAILS TO INCLUDE signed copies of the MBE, WBE, SBE Utilization Plan and all signed MBE, WBE, SBE Subcontractor's Letter of Intent with its bid, said bid will be deemed nonresponsive and rejected.

All Bidders must sign the signature page UP-5 of the Utilization Plan, even if a waiver is requested.

Name of Bidder: _____

Contract No.: _____

Affirmative Action Contact & Phone No.: _____

E-Mail Address: _____

Total Bid: _____

MBE, WBE, SBE UTILIZATION PLAN AND ALL SIGNED MBE, WBE, SBE SUBCONTRACTOR'S LETTER OF INTENT MUST BE COMPLETED, SIGNED AND ACCOMPANY YOUR BID!!!

The bidder should indicate on the Utilization Plan explicitly if the dollar amounts for the MBE participation will also be counted toward the achievement of its SBE participation. See Affirmative Action Ordinance, Revised Appendix D, Section 11, Counting MBE, WBE and SBE Participation towards Contract Goals. (a) (b) (c)

MBE UTILIZATION

Name of MBE and contact person: ______________________________

Business Phone Number: ______________ Email Address: ______________

Address: ______________________________

Description of Work, Services or Supplies to be provided: ______________________________

____

CONTRACT ITEM NO.: ______________________________

Total Dollar Amount Participation: ______________________________

If the MBE participation will be counted towards the achievement of the SBE goal please indicate here:

☐ **YES** ☐ **NO**

The MBE, WBE, SBE Utilization Plan and the MBE, WBE, SBE Subcontractor's Letter of Intent MUST Accompany the Bid! ! !

MBE UTILIZATION

Name of MBE and contact person: ______________________________

Business Phone Number: ______________ Email Address: ______________

Address: ______________________________

Description of Work, Services or Supplies to be provided: ______________________________

____

CONTRACT ITEM NO.: ______________________________

Total Dollar Amount Participation: ______________________________

If the MBE participation will be counted towards the achievement of the SBE goal please indicate here:

☐ **YES** ☐ **NO**

The MBE, WBE, SBE Utilization Plan and the MBE, WBE, SBE Subcontractor's Letter of Intent MUST Accompany the Bid! ! !

MBE UTILIZATION

Name of MBE and contact person: ______________________________

Business Phone Number: ______________ Email Address: ______________

Address: ______________________________

Description of Work, Services or Supplies to be provided: ______________________________

____

CONTRACT ITEM NO.: ______________________________

Total Dollar Amount Participation: ______________________________

If the MBE participation will be counted towards the achievement of the SBE goal please indicate here:

☐ **YES** ☐ **NO**

The MBE, WBE, SBE Utilization Plan and the MBE, WBE, SBE Subcontractor's Letter of Intent MUST Accompany the Bid! ! !

(Attach additional sheets as needed)

The bidder should indicate on the Utilization Plan explicitly if the dollar amounts for the WBE participation will also be counted toward the achievement of its SBE participation. See Affirmative Action Ordinance, Revised Appendix D, Section 11, Counting MBE, WBE and SBE Participation towards Contract Goals. (a) (b) (c)

WBE UTILIZATION

Name of WBE and contact person: ______________________________

Business Phone Number: ______________ Email Address: ______________

Address: ______________________________

Description of Work, Services or Supplies to be provided: ______________________________

____

CONTRACT ITEM NO.:______________________________

Total Dollar Amount Participation: ______________________________

If the WBE participation will be counted towards the achievement of the SBE goal please indicate here:

☐ YES ☐ NO

The MBE, WBE, SBE Utilization Plan and the MBE, WBE, SBE Subcontractor's Letter of Intent MUST Accompany the Bid! ! !

WBE UTILIZATION

Name of WBE and contact person: ______________________________

Business Phone Number: ______________ Email Address: ______________

Address: ______________________________

Description of Work, Services or Supplies to be provided: ______________________________

____

CONTRACT ITEM NO.:______________________________

Total Dollar Amount Participation: ______________________________

If the WBE participation will be counted towards the achievement of the SBE goal please indicate here:

☐ YES ☐ NO

The MBE, WBE, SBE Utilization Plan and the MBE, WBE, SBE Subcontractor's Letter of Intent MUST Accompany the Bid! ! !

WBE UTILIZATION

Name of WBE and contact person: ______________________________

Business Phone Number: ______________ Email Address: ______________

Address: ______________________________

Description of Work, Services or Supplies to be provided: ______________________________

____

CONTRACT ITEM NO.:______________________________

Total Dollar Amount Participation: ______________________________

If the WBE participation will be counted towards the achievement of the SBE goal please indicate here:

☐ YES ☐ NO

The MBE, WBE, SBE Utilization Plan and the MBE, WBE, SBE Subcontractor's Letter of Intent MUST Accompany the Bid! ! !

(Attach additional sheets as needed)

SBE UTILIZATION

Name of SBE and contact person: _____

Business Phone Number: _____ Email Address: _____

Address: _____

Description of Work, Services or Supplies to be provided: _____

_____

CONTRACT ITEM NO.:_____

Total Dollar Amount Participation: _____

The MBE, WBE, SBE Utilization Plan and the MBE, WBE, SBE Subcontractor's Letter of Intent MUST Accompany the Bid! ! !

SBE UTILIZATION

Name of SBE and contact person: _____

Business Phone Number: _____ Email Address: _____

Address: _____

Description of Work, Services or Supplies to be provided: _____

_____

CONTRACT ITEM NO.:_____

Total Dollar Amount Participation: _____

The MBE, WBE, SBE Utilization Plan and the MBE, WBE, SBE Subcontractor's Letter of Intent MUST Accompany the Bid! ! !

SBE UTILIZATION

Name of SBE and contact person: _____

Business Phone Number: _____ Email Address: _____

Address: _____

Description of Work, Services or Supplies to be provided: _____

_____

CONTRACT ITEM NO.:_____

Total Dollar Amount Participation: _____

(Attach additional sheets as needed)

The MBE, WBE, SBE Utilization Plan and the MBE, WBE, SBE Subcontractor's Letter of Intent MUST Accompany the Bid! ! !

SIGNATURE SECTION

On Behalf of _____ I/We hereby acknowledge that
(name of company)

I/WE have read Revised Appendix D, will comply with the provisions of Revised Appendix D, and intend to use the MBEs, WBEs, and SBEs listed above in the performance of this contract and/or have completed the Waiver Request Form. To the best of my knowledge, information and belief, the facts and representations contained in this Exhibit are true, and no material facts have been omitted.

I do solemnly declare and affirm under penalties of perjury that the contents of the foregoing document are true and correct, and that I am authorized, on behalf of the bidder, to make this affidavit.

_____ _____
Date *Signature of Authorized officer*

ATTEST: _____
Print name and title

_____
Secretary

_____
Phone number

1) **The Bidder is required to sign and execute this page, EVEN IF A WAIVER IS BEING REQUESTED.**

2) **Failure to do so will result in a nonresponsive bid and rejection of the bid.**

3) If a waiver is requested, the bidder must also complete the following **"WAIVER REQUEST FORM."**

The MBE, WBE, SBE Utilization Plan and the MBE, WBE, SBE Subcontractor's Letter of Intent MUST Accompany the Bid! ! !

Page Intentionally

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WAIVER REQUEST FORM

If a waiver is requested, the Bidder is required to sign and execute this page.

Contract No.: _____

Name of Bidder: _____

Contact Person and Phone Number: _____

With respect to the contract specified above, the Bidder hereby requests a total or partial waiver of the requirement that, pursuant to Section 12 (a)-(d) of the Affirmative Action Ordinance, Revised Appendix D, it files a MBE, WBE, SBE Utilization Plan or achieve a particular goal for MBE, WBE, SBE participation in the contract. The reasons for the request are as follows:

_____

_____

_____

_____

On Behalf of _____ I/We hereby acknowledge that
(name of company)

I/WE have read Affirmative Action Ordinance, Revised Appendix D, will comply with the provisions of Affirmative Action Ordinance, Revised Appendix D, and intend to use the MBEs, WBEs, and SBEs listed in the MBE, WBE, SBE Utilization Plan in the performance of this contract and have completed the Waiver Request Form. To the best of my knowledge, information and belief, the facts and representations contained in this Waiver Request Form are true, and no material facts have been omitted.

I do solemnly declare and affirm under penalties of perjury that the contents of the foregoing document are true and correct, and that I am authorized, on behalf of the contractor, to make this affidavit.

_____ _____
Date *Signature of Authorized officer*

ATTEST: _____
Print name and title

_____
Secretary

_____
Phone number

NOTE TO BIDDERS

All Waiver requests are evaluated carefully by the District. **The evaluation is based on your firm's documented GOOD FAITH EFFORTS.**

The GOOD FAITH EFFORTS MUST be Undertaken PRIOR to your bid submittal to the District.

Good Faith Efforts are identified on pp. D15-D16, Section 12. Utilization Plan Submission (e), (i)(i)-(xi).

The MBE, WBE, SBE Utilization Plan and the MBE, WBE, SBE Subcontractor's Letter of Intent MUST Accompany the Bid! ! !

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MBE, WBE, SBE SUBCONTRACTOR'S LETTER OF INTENT

To: (Name of Bidder) _____ and the MWRDGC

RE: Contract Name: (Insert Name) _____

Contract Number: (Insert Number) _____

From: (Name of MBE/WBE/SBE Firm) _____ MBE: Yes ___ No ___
WBE: Yes ___ No ___
SBE: Yes ___ No ___

The MBE/WBE status of the undersigned is confirmed by the attached letter of Certification. A certification letter must be attached hereto.

The undersigned is prepared to provide the following described services or supply the following described goods in connection with the above named project/contract:

_____

_____

If more space is needed to fully describe the MBE/WBE/SBE firms' proposed scope of work and/or payment schedule, attach additional sheets.

The above described performance is offered for the following total price:

$_____ _____
(Written in Figures) (Written in Words)

In the event of a discrepancy between the "Written in Words" price and the "Written in Figures" price, the "Written in Words" price shall govern."

The undersigned will enter into a formal written agreement for the above work with the Prime Contractor, conditioned upon the execution of a contract by the Prime contractor with the MWRDGC.

_____
(Signature of Owner, President or Authorized Agent of MBE/WBE/SBE)

_____
Name/Title (Print)

Date_____ Phone_____

THIS SIGNED DOCUMENT MUST BE SUBMITTED WITH THE BID. FAILURE TO DO SO WILL RESULT IN A NONRESPONSIVE BID AND REJECTION OF THE BID.

All bidders shall submit with the Bid, copies of MBE, WBE, SBE Subcontractor's Letter of Intent in paper form with signatures, which were furnished to each MBE, WBE, and SBE listed in its MBE, WBE, SBE Utilization Plan and must be submitted to the District with its bid as part of its bid packet with either a copy of each MBE, WBE, and SBE current Letter of Certification from a state or local government or agency or documentation demonstrating that the MBE, WBE, SBE is a MBE, WBE or SBE within the meaning of this Revised Appendix D. Failure to submit the MBE, WBE, SBE Subcontractor's Letter of Intent signed by each MBE, WBE, SBE subcontractor will be viewed as nonresponsive and the bid will be rejected. All MBE, WBE, SBE Subcontractor's Letter of Intent must conform to the MBE, WBE, SBE Utilization Plan submitted with the bid. An original or facsimile copy of MBE, WBE, SBE Subcontractor's Letter of Intent will be acceptable.

The MBE, WBE, SBE Utilization Plan and the MBE, WBE, SBE Subcontractor's Letter of Intent MUST Accompany the Bid! ! !

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EXHIBIT 6

AFFIRMATIVE ACTION STATUS REPORT

AFFIDAVIT - AFFIRMATIVE ACTION STATUS REPORT

Notice: **This report is required to be submitted at 25%, 50%, 75%, and 100% completion of construction.**

Contract Title: ______________________________

Contract Number: ______________________________

Prime Contractor's Name: ______________________________

Prime's Contact Name: ______________________ Estimated Completion Date: ______________

Prime's Contact Phone #: (   ) ______________________ Status Report No.: 25% - 50% - 75% - 100% (CIRCLE ONE)

In connection with the above-captioned contract:

For each MBE, WBE, and SBE subcontractor, including third tier contracts awarded by your MBE/WBE/SBE company, describe the work or goods or services provided in relation to this contract (indicate line items, if applicable) performed during the report period.

MBE, WBE, and SBE Subcontractor	MBE / WBE / SBE	AMOUNT OF CONTRACT	AMOUNT PAID TO DATE
DESCRIPTION OF WORK/SERVICES AND/OR GOODS PROVIDED. BE SPECIFIC.			

MBE, WBE, and SBE Subcontractor	MBE / WBE / SBE	AMOUNT OF CONTRACT	AMOUNT PAID TO DATE
DESCRIPTION OF WORK/SERVICES AND/OR GOODS PROVIDED. BE SPECIFIC.			

MBE, WBE, and SBE Subcontractor	MBE / WBE / SBE	AMOUNT OF CONTRACT	AMOUNT PAID TO DATE
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MBE, WBE, and SBE Subcontractor	MBE / WBE / SBE	AMOUNT OF CONTRACT	AMOUNT PAID TO DATE
DESCRIPTION OF WORK/SERVICES AND/OR GOODS PROVIDED. BE SPECIFIC.			

I DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THIS DOCUMENT ARE TRUE AND CORRECT, AND THAT I AM AUTHORIZED TO MAKE THIS AFFIDAVIT. I CERTIFY THAT THE ABOVE NAMED FIRMS WERE AWARDED CONTRACT(S), PERFORMED THE WORK WITH THEIR OWN FORCES, AMOUNTS LISTED ARE ACCURATE AND PAYMENTS WERE MADE IN ACCORDANCE WITH CONTRACTUAL OBLIGATIONS. CANCELLED CHECKS AND/OR SUPPORTING INFORMATION WILL BE ON FILE FOR INSPECTION OR AUDIT.

Name of Affiant: _____

Title: _____

Signature: _____
(Signature of Affiant)

Date: _____

State of _____ County (City) of _____

This instrument was SUBSCRIBED and SWORN TO before me on _____ .

_____
Signature of Notary Public

EXHIBIT 7

VETERAN'S BUSINESS ENTERPRISE CONTRACTING POLICY REQUIREMENTS
APPENDIX V

November 1, 2018

APPENDIX V

VETERAN'S BUSINESS ENTERPRISE CONTRACTING POLICY REQUIREMENTS

Section 1. **Purpose**

The purpose of this policy is to increase contracting opportunities with the Metropolitan Water Reclamation District of Greater Chicago for veteran-owned and operated small business enterprises.

Section 2. **Definitions**

(a) "Eligible Veteran" means an individual who has been a member of the armed forces of the United States and served under the following conditions:

a. served for a total of at least six months; or
b. served for the duration of hostilities regardless of the length of engagement; and
c. was discharged on the basis of hardship; or
d. was released from active duty because of a service connected disability; or
e. was discharged under honorable conditions

(b) "Good Faith Efforts" means those honest, fair and commercially reasonable actions undertaken by a construction contractor or professional services consultant to meet the VBE goal, which by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the Policy's goals.

(c) "Participating Business" means a business located within the counties of Cook, DuPage, Kane, Lake, McHenry or Will in the State of Illinois or Lake County in the State of Indiana which has the majority of its regular full-time work force located in this region and/or a business which has been placed on the District's vendor list and/or has bid or sought District contract(s) for construction or professional services work.

(d) "Small Business Enterprise" (SBE) in this Appendix has the meaning consistent with Revised Appendix D for construction contracts or Appendix A for professional services contracts, as applicable.

(e) "Veteran-owned Business Enterprise" (VBE) means both a small business enterprise and participating business, including a sole proprietorship, partnership, corporation, limited liability company, joint venture or any other business or professional entity which is at least fifty-one (51%) directly and unconditionally owned by one or more eligible veterans, or, in the case of a publicly held corporation, at least fifty-one (51%) of the stock which is owned by one or more eligible veterans, and whose control and management of the business including long-term goals for the company as well as day-to-day operations are controlled by one or more eligible veterans.

Section 3. **Certification Eligibility**

(a) Only a firm owned by an Eligible Veteran(s) may be certified as a VBE.

(i) Ownership by one or more Eligible Veterans must be direct ownership.
(ii) A business or professional enterprise owned principally by another business entity that is in turn owned and controlled by one or more veterans would not qualify.

(b) Only a firm that is managed and controlled by an Eligible Veteran(s) may be certified as a VBE.

(c) For the purposes of this policy, there is no distinction between service-disabled (SDVBE) and non-service disabled veteran-owned businesses.

Section 4. **Contract Goals**

(a) The standard participation goal for VBEs is 3%, unless otherwise specified in the Invitation to Bid. The participation goals are applicable to District contracts where the estimated total expenditure is in excess of $100,000.00, or in a lesser amount as authorized by the Board of Commissioners.

(b) VBE goals are separate from the Minority Business Enterprise (MBE), Women's Business Enterprise (WBE), and Small Business Enterprise (SBE) goals.

(c) VBE contract goals will only be applied to a contract when there are at least two (2) qualified VBE contractors or professional services consultants registered on the District's vendor list to perform the anticipated subcontracting functions of the contract.

Section 5. **Good Faith Efforts**

The Contractor must undertake **"Good Faith Efforts"** to ensure that qualified VBE firms are utilized in the performance of the contract and provide maximum opportunities for VBE participation, notwithstanding the fact that the Contractor may have the capability to complete the project without the use of subcontractors.

Section 6. **VBE Commitment Form Submission** Complete the **VBE COMMITMENT FORM**

(a) Provide the names, contact information and qualifications for the prospective VBE firms that you plan to use. Delineate the various anticipated categories and/or disciplines of work/services to be provided by VBE firms.

(b) Summarize Contractor's or Consultant's commitment to comply with the VBE goals regarding this project.

(c) Where a Contractor or Consultant is a business owned and controlled by a VBEor where the Contractor or Consultant utilizes a VBE in a joint venture or as a subcontractor, a Contractor or Consultant may count toward the achievement of its VBE goals the utilization of any VBE that also satisfies the definition of a SBE, as set forth in the Revised Appendix D or Appendix A, as applicable to construction or professional services contracts.

EXHIBIT 8

VBE COMMITMENT FORM

VBE COMMITMENT FORM

1. **Name of VBE:** _____

   Identify MBE, WBE, SBE Status: _____ **Address:** _____

   City, State, Zip Code: _____

   Contact Person: _____ **Telephone Number:** _____

   eMail Address: _____

   Dollar Amount of Participation: $_____ **Percent of Participation:** _____**%**

   Scope of Work: _____

---

2. **Name of VBE:** _____

   Identify MBE, WBE, SBE Status: _____ **Address:** _____

   City, State Zip Code: _____

   Contact Person: _____ **Telephone Number:** _____

   eMail Address: _____

   Dollar Amount of Participation: $_____ **Percent of Participation:** _____**%**

   Scope of Work: _____

---

3. **Name of VBE:** _____

   Identify MBE, WBE, SBE Status: _____ **Address:** _____

   City, State Zip Code: _____

   Contact Person: _____ **Telephone Number:** _____

   eMail Address: _____

   Dollar Amount of Participation: $_____ **Percent of Participation:** _____**%**

   Scope of Work: _____

---

4. **Name of VBE:** _____

   Identify MBE, WBE, SBE Status: _____ **Address:** _____

   City, State, Zip Code: _____

   Contact Person: _____ **Telephone Number:** _____

   eMail Address: _____

   Dollar Amount of Participation: $_____ **Percent of Participation:** _____**%**

   Scope of Work: _____

Attach a copy of qualifications for each VBE firm

COMPANY-WIDE MEETING MANAGEMENT

From time to time, the Admin Department will receive a request to organize a company-wide meeting across all offices. Any admin at any office can take this request and act as the **Point of Contact (POC)** for the meeting, even if they are not located at the office where the meeting is being broadcast.

The POC for the meeting will function as the coordinator for all other admin at each office participating in the meeting and will be the **one voice to the meeting requester on behalf of the entire department**. It's important that all admin allow the POC to coordinate the meeting for continuity. If the meeting requester submits reciepts or makes a request of another admin other than the POC, they should immediately pass the request on to the POC or inform them of the action that was taken since it may affect all offices involved in the meeting.

As the POC, you may be organizing one of the following company-wide meetings:

- Lunch & Learn for the Wellness committee
- Lunch & Learn or internal meeting for a specific Robinson department
- All-office meetings at every location, same meeting – different days
- Webinar for all locations on same day/time but with separate logins for every office

All of these meetings will fall into two categories:

One meeting broadcast to all offices OR Multiple of same meeting, live at each office

The category of meeting will determine the extent to which you will need to coordinate among the offices.

Some initial questions you will want to ask the requester before taking the next steps:

1. **Is this a live meeting at one or more of our locations or is it a virtual broadcast from another location to our offices** (like a webinar)**?**
2. **Will the meeting include PDH** (Personal Development Hours) **for the attendees?**
3. **If it is a lunch meeting, will the vendor/presenter be paying for the meal or will Robinson pay?**
4. **Who needs to be invited?** (Rarely would we send an invitation to everyone in the company unless it is a Wellness Lunch & Learn.)
5. **Has this meeting been approved by Jennifer Prinz?**

These questions will help you to determine what type and which category of meeting you will be coordinating.

12.13.18

How to act as the POC and manage a Company-wide Meeting:

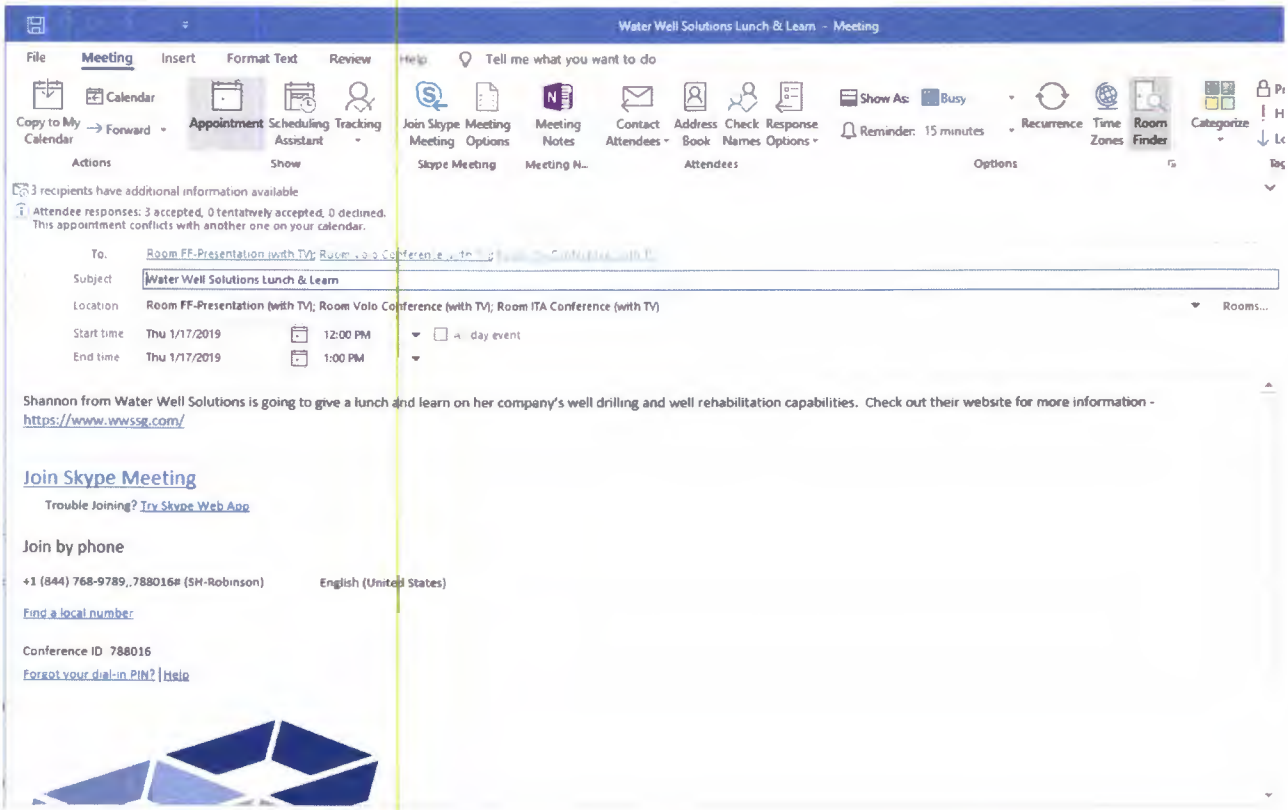
1. When receiving a request for a multi-office or all company meeting, **you must first contact Jennifer Prinz** to get approval to send out the invitations. She will also determine who should receive the invite as not every person in the company should be invited to every meeting. **The meeting needs to be approved by Jennifer Prinz even if the requester is a department head and has told you that Jennifer is aware of the meeting.**

2. Make a Calendar Meeting Reservation to the Conference Rooms FIRST - no attendees except the rooms. Do this on your personal calendar.

Creating the Room Reservation

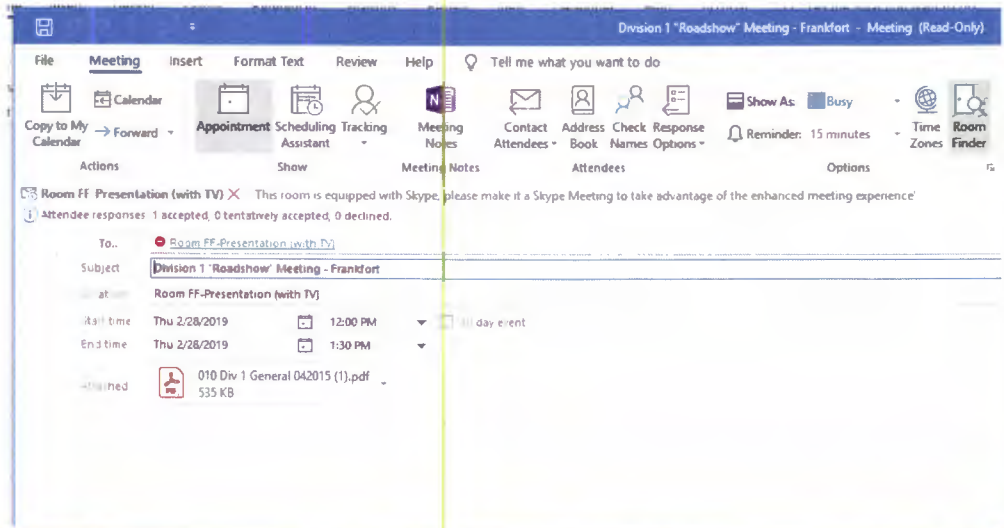
Follow the process below for each type of meeting:

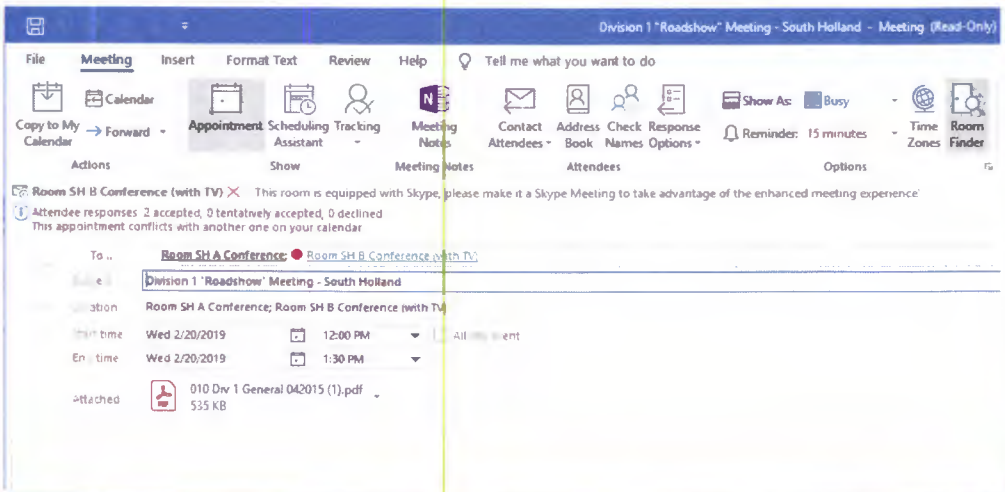
a. **One meeting broadcast to all offices** – Reserve the time/date and invite all the participating conference rooms. This type of meeting must be reserved as a Skype meeting. Remember: this is the room reservation only. You will create the invite in another step.

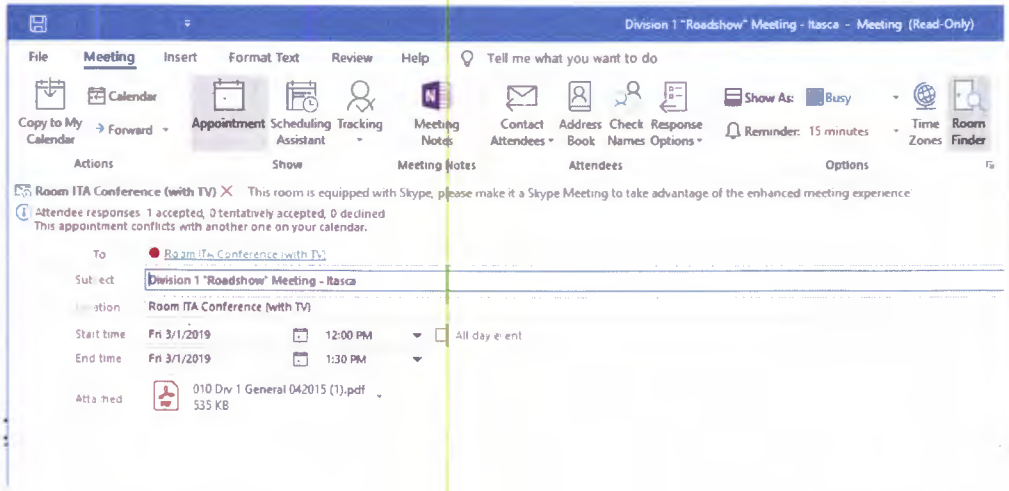


EXCEPTION: If the meeting is a Webinar that is coming from a source outside of Robinson, you will have to do a separate meeting invite for every office. Webinars require individual registrations for each office participating and cannot be broadcast from one Robinson office to all other offices.

b. **Multiple of same meeting, live at each office on different days** – Reserve all conference rooms individually for the day and time indicated by the requester. This will be done through your personal calendar. Remember: this is the room reservation only. You will create the invite in another step.







Tips:

For Frankfort, invite the Presentation room for large meetings or meetings that will broadcast from this location.

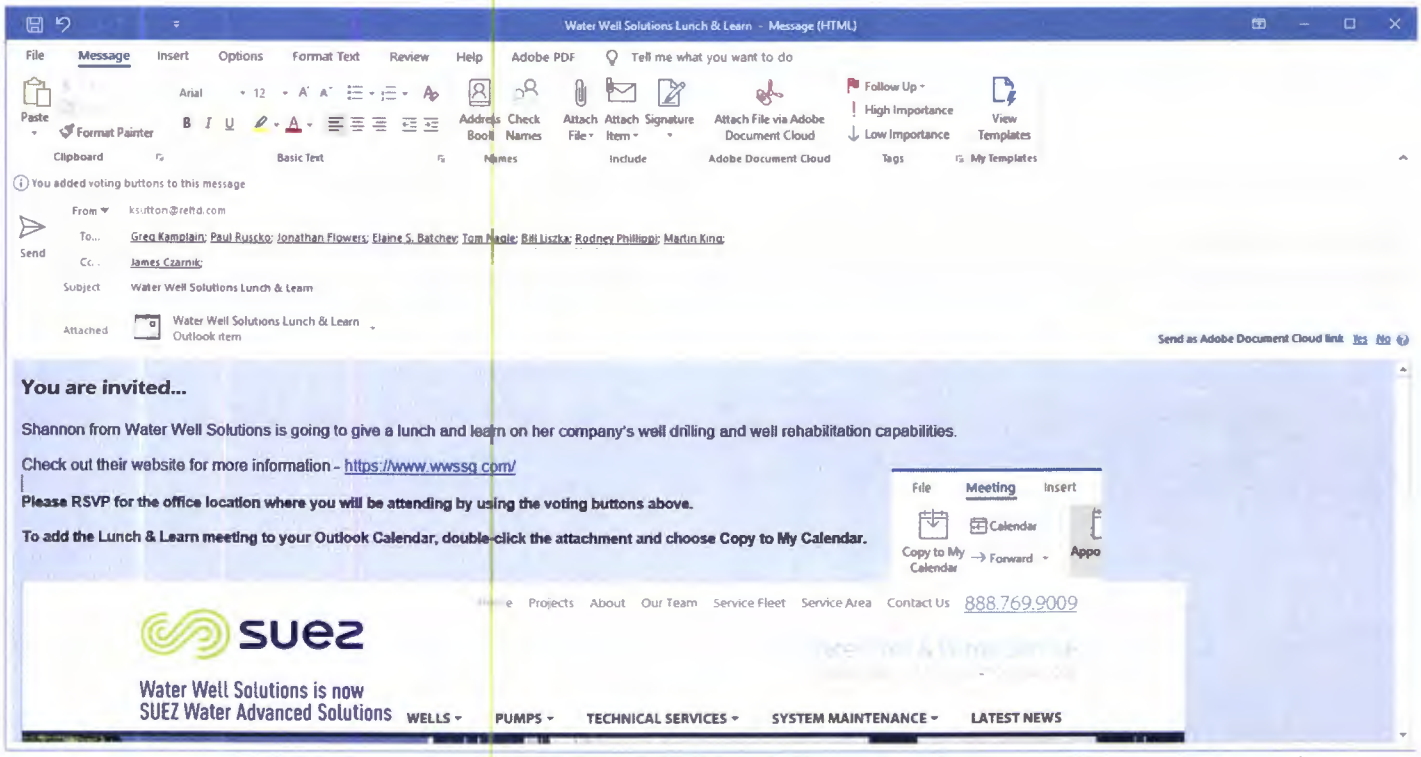
For South Holland, always invite both conference rooms for meetings with large attendance.

For all other offices, invite the room labeled "TV" in case the presenter wants to use a power point for the meeting or if the meeting is being broadcast to all offices.

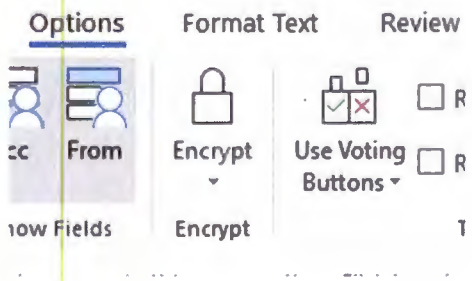
3. Create an invite specific to the type of meeting and send to approved invitees. Invitations should be cc'd to the admin who will be assisting at each office. If the meeting is being broadcast or if it is a Webinar, RELIT@reltd.com should also be cc'd on the invite.

Creating your Meeting Invite:

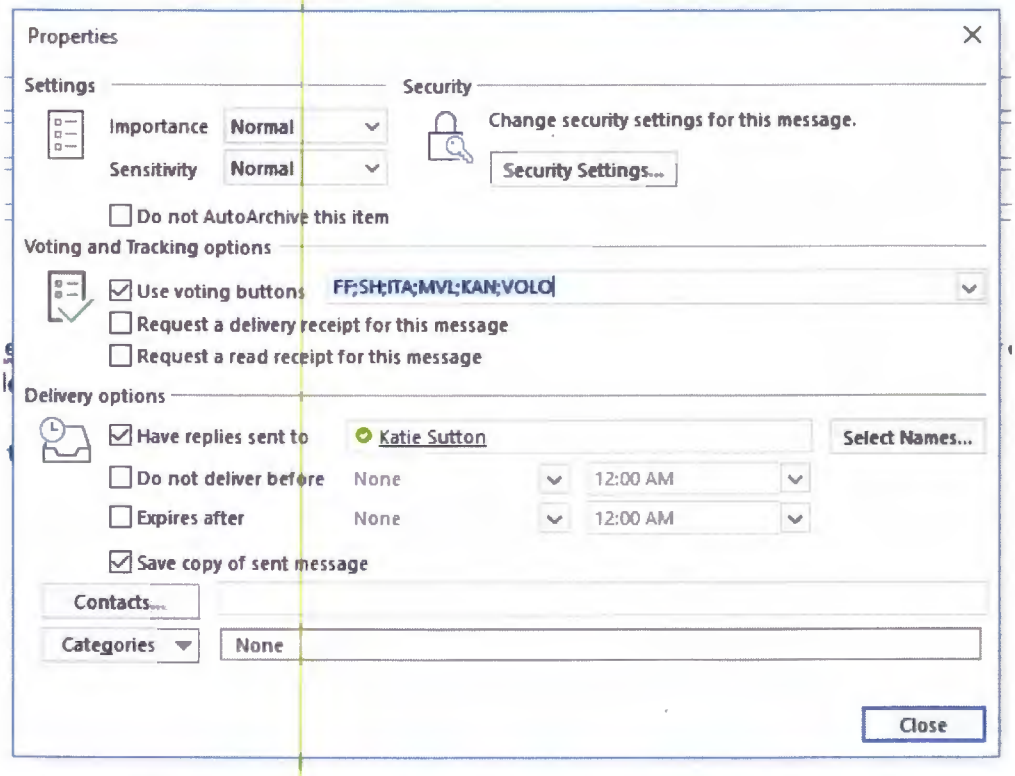
a. **One meeting broadcast to all or multiple offices** - Create an All-in-One Invite with RSVP voting buttons and a downloadable Outlook meeting reminder attachment for each office. This will also be done from your calendar. **You will send this to all invitees. Make sure that RELIT@reltd.com and all admin at participating offices are included as cc: on the invite.**



i. **Adding Voting Buttons:**
In your email invite, go to "Options" and choose "Use Voting Buttons"



Put in to the "Use Voting Buttons" field all of the offices that will be participating in the meeting. Separate with semi-colons and do not put any spaces between the text.



Complete "Have replies sent to" field with the name(s) of who should receive the voting responses.

ii. Attach the Outlook room reservation to your invite

1) Go to "Outlook Item" and this will open a dialog box.
2) The dialog box will open a list from your personal calendar.
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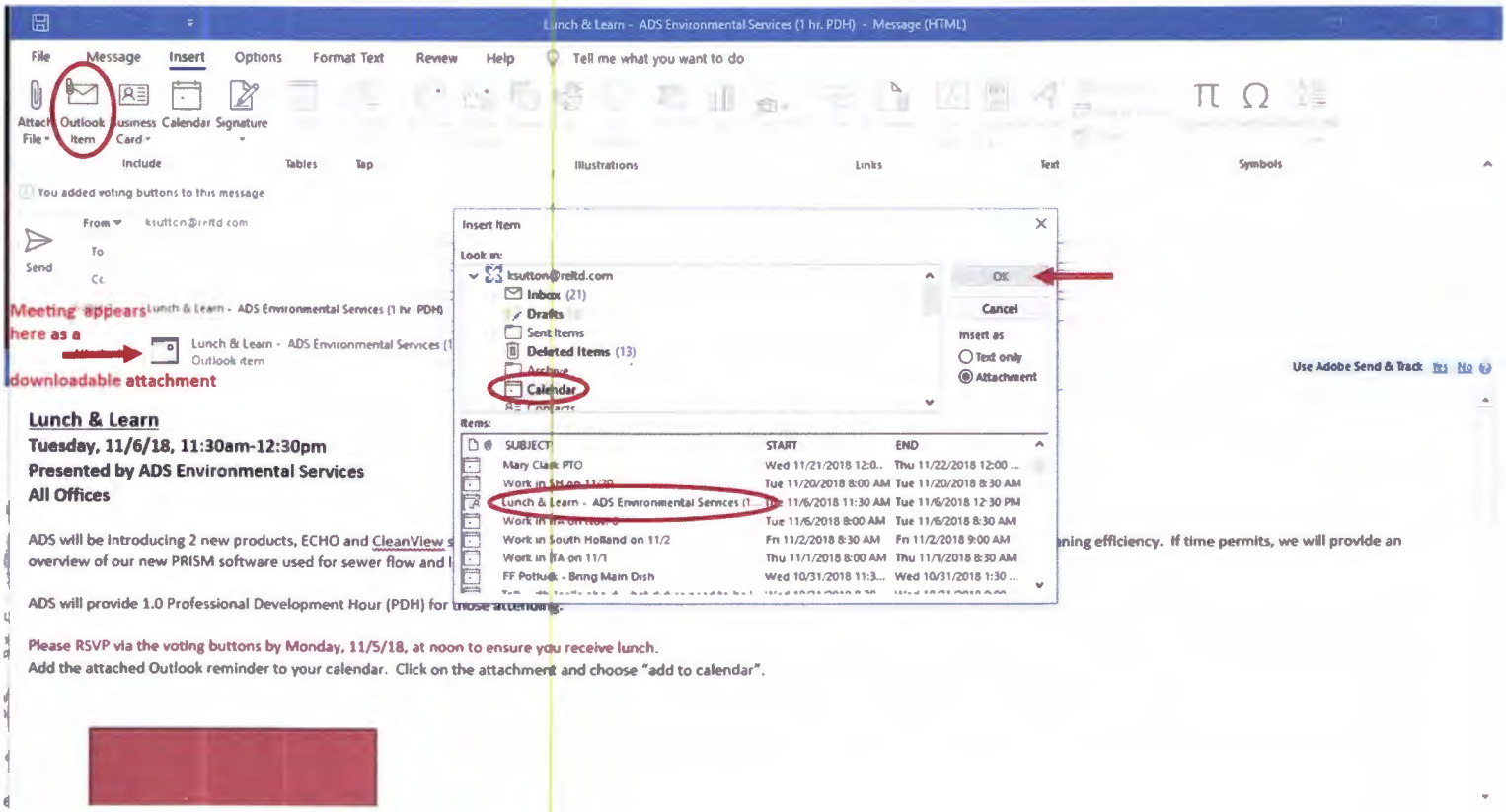
(see example below)

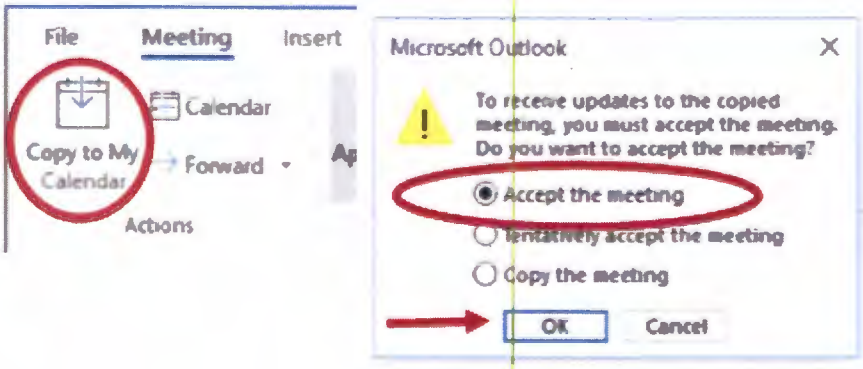


In the text of your email make sure to include an instructional on how to download the meeting to the attendees Outlook calendar. Also include something that prompts them to use the voting buttons.

Example:

Please RSVP for the office location where you will be attending by using the voting buttons above.

To add the Lunch & Learn meeting to your Outlook Calendar, double-click the attachment to open, choose "Copy to My Calendar", and "Accept" the meeting invite.



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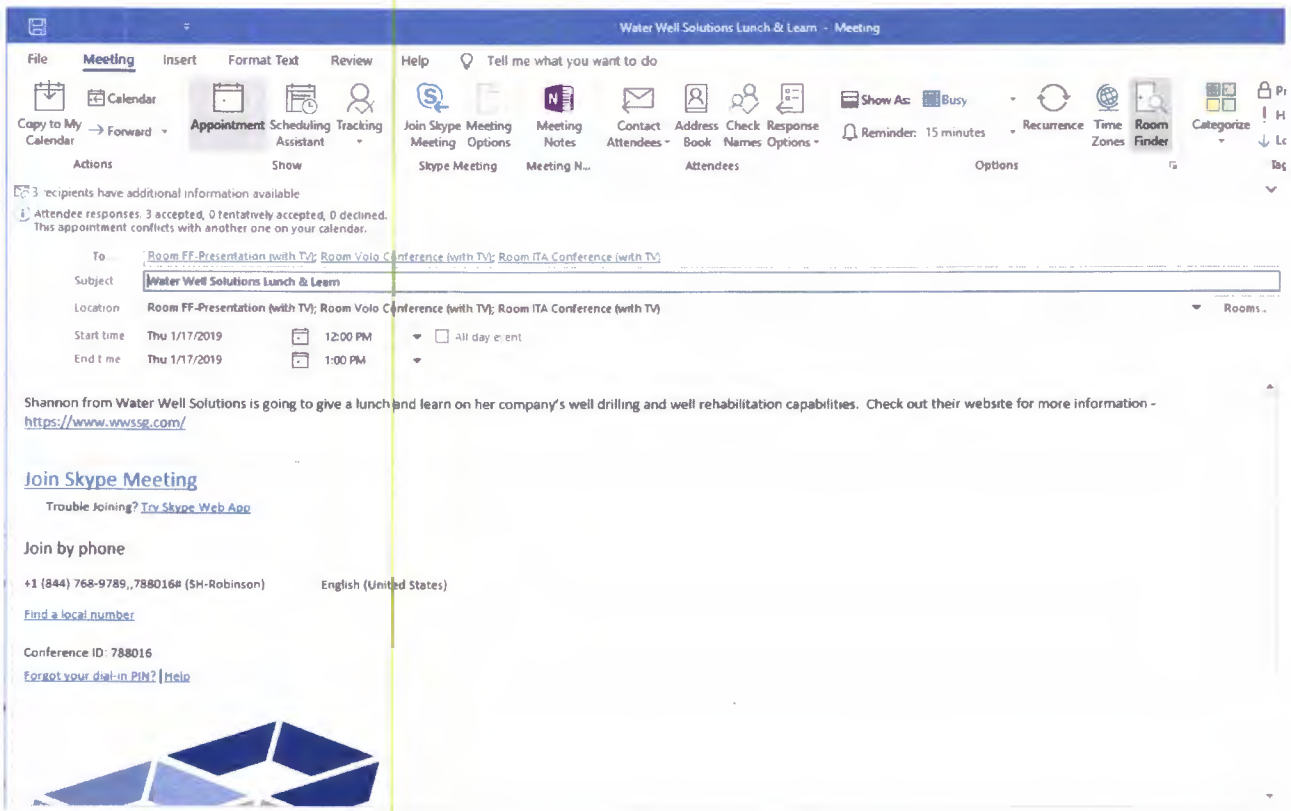

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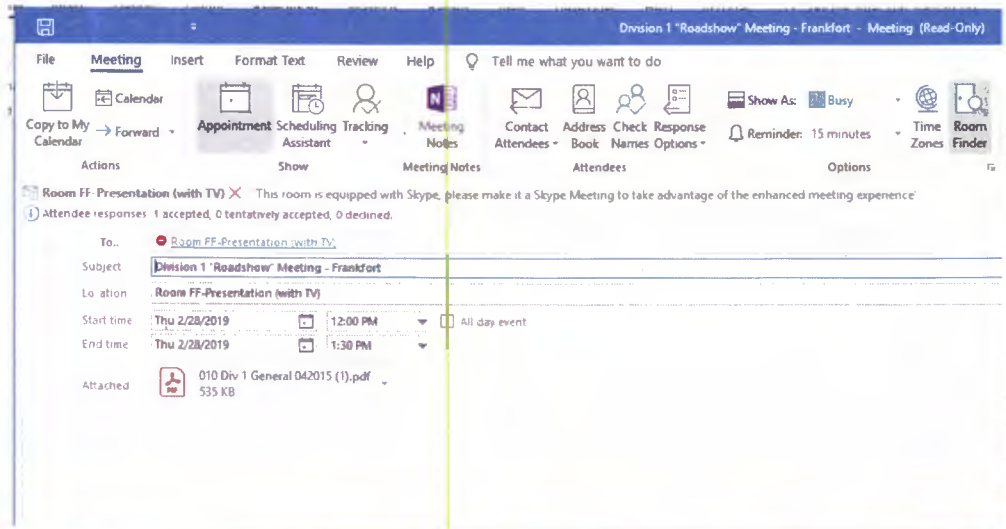

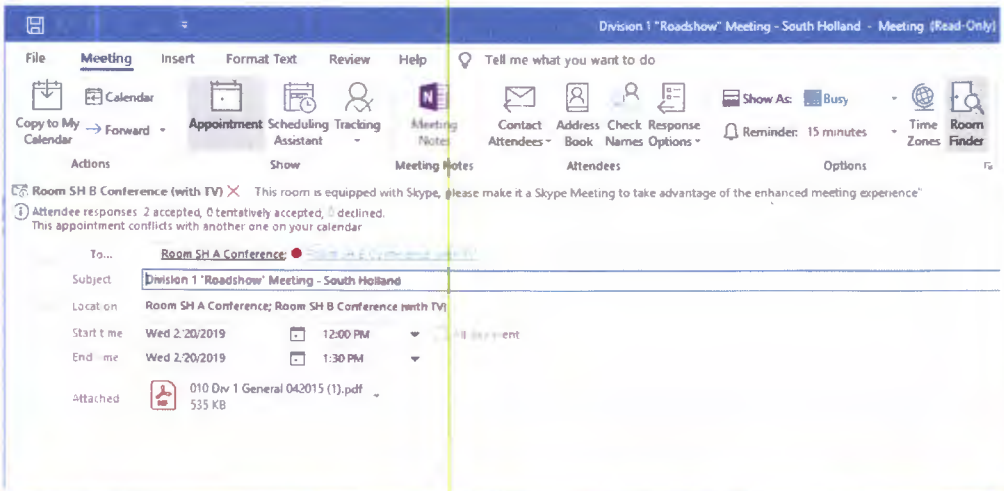

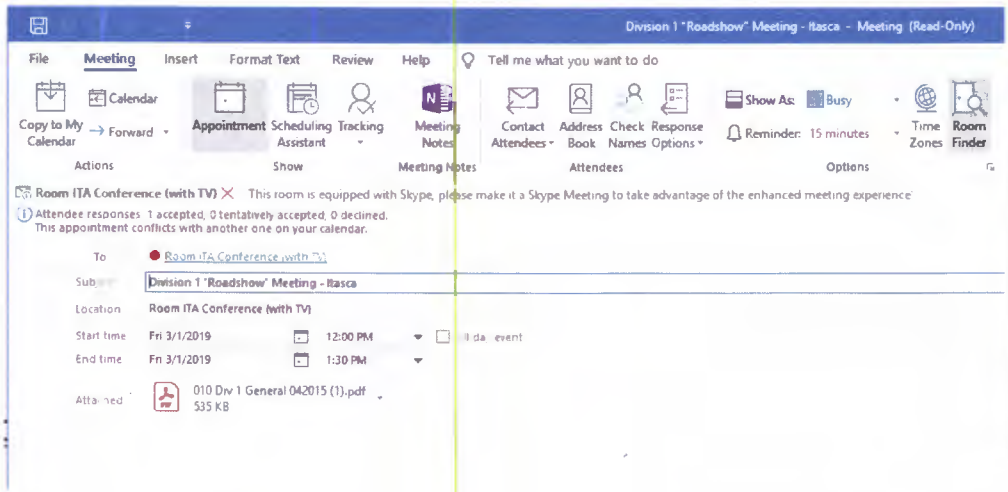

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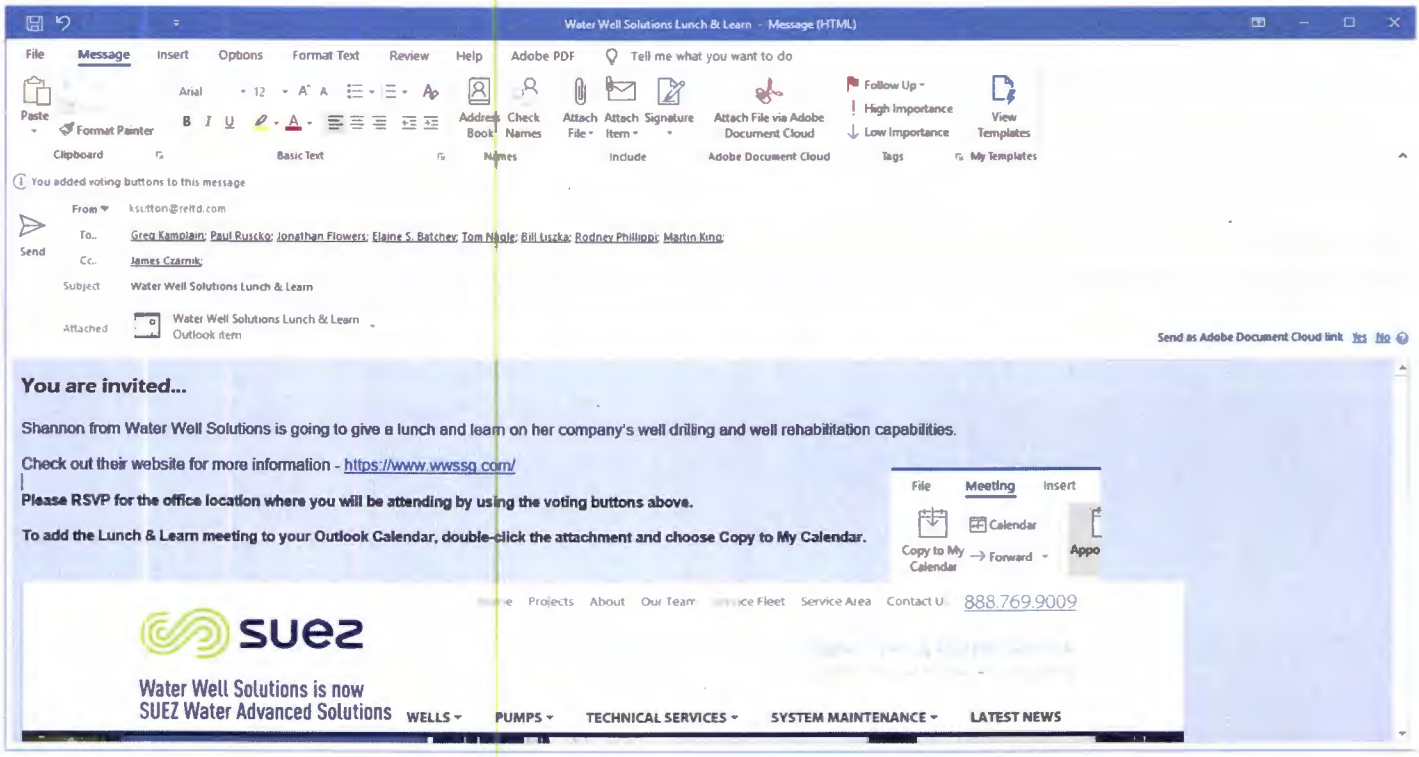

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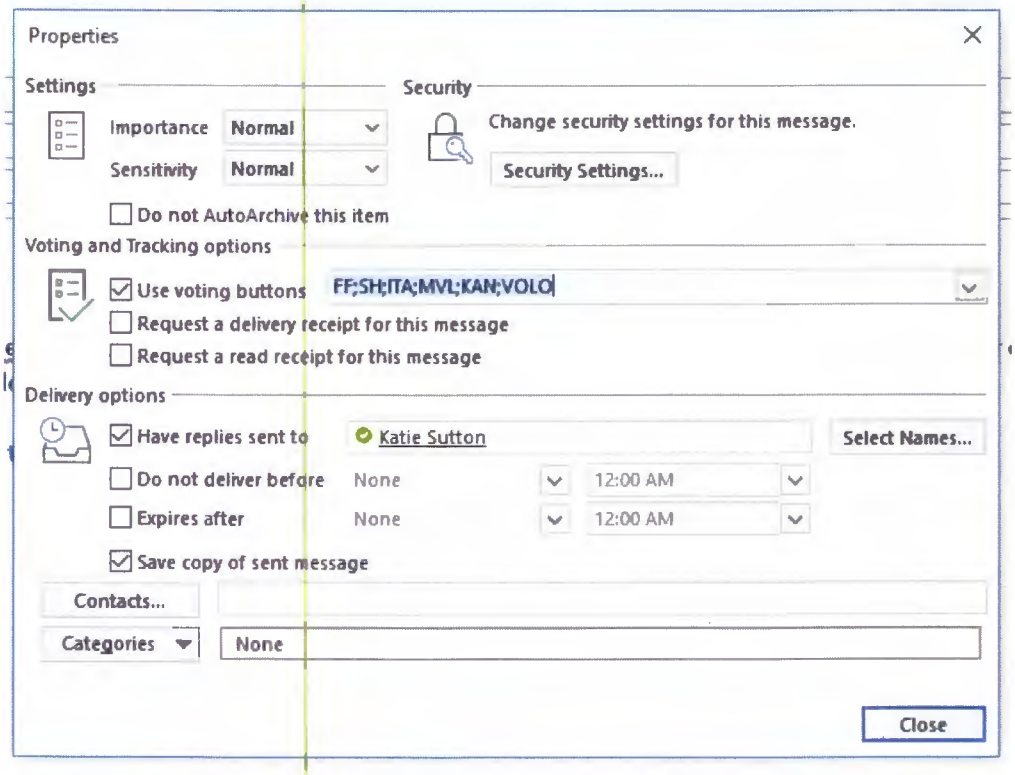

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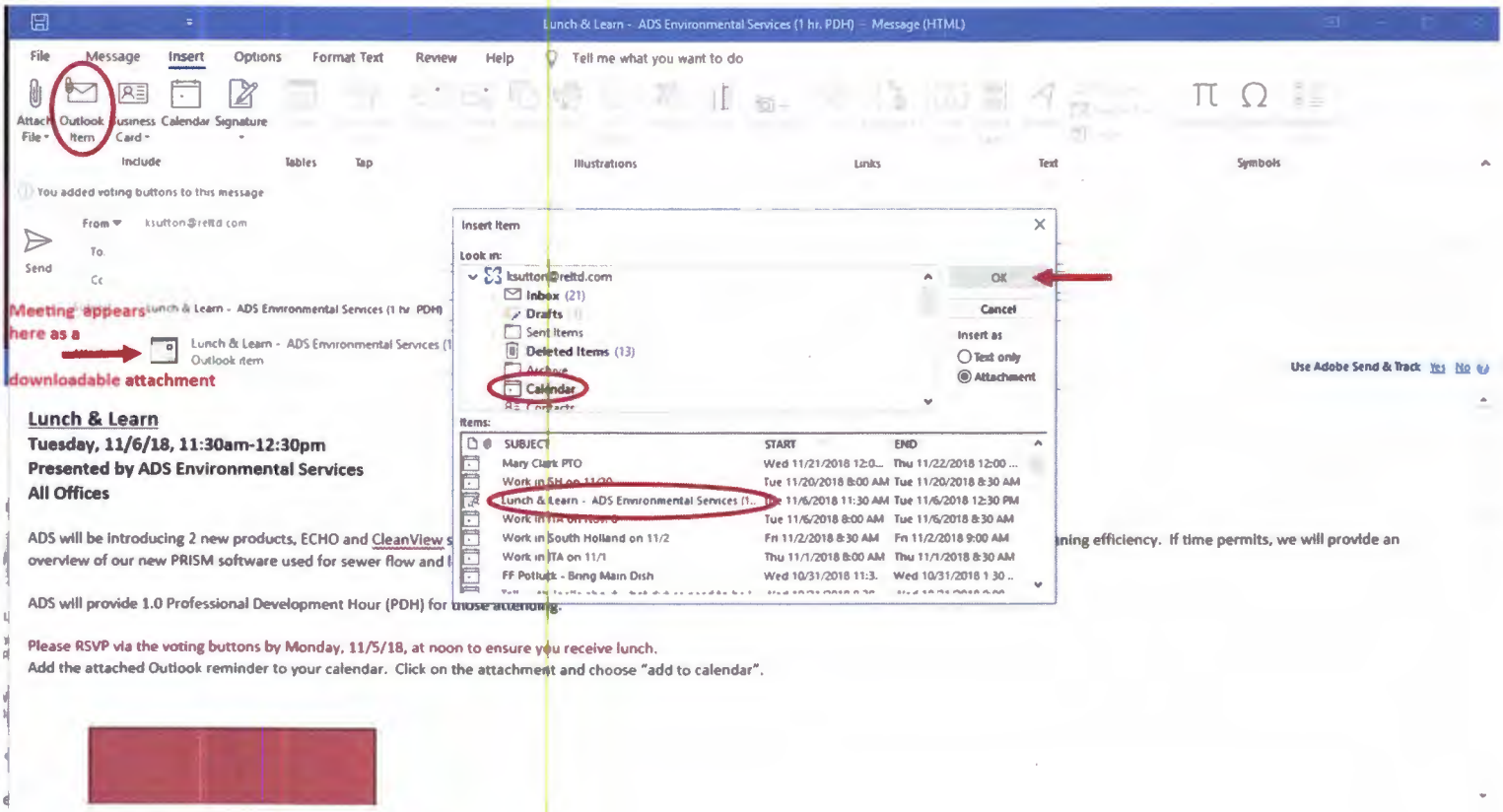
4) Click "ok" and this will attach as a downloadable attachment that the invitees can add to their calendar.

(see example below)



In the text of your email make sure to include an instructional on how to download the meeting to the attendees Outlook calendar. Also include something that prompts them to use the voting buttons.

Example:

Please RSVP for the office location where you will be attending by using the voting buttons above.

To add the Lunch & Learn meeting to your Outlook Calendar, double-click the attachment to open, choose "Copy to My Calendar", and "Accept" the meeting invite.