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

RESOLUTION
NO. 2022-R-066

A RESOLUTION APPROVING A CONTRACT BETWEEN THE VILLAGE OF TINLEY PARK AND P.T. FERRO CONSTRUCTION FOR 174th ST. WATER MAIN AND ROADWAY IMPROVEMENTS

MICHAEL W. GLOTZ, PRESIDENT
NANCY M. O'CONNOR, VILLAGE CLERK

WILLIAM P. BRADY
WILLIAM A. BRENNAN
DIANE M. GALANTE
DENNIS P. MAHONEY
MICHAEL G. MUELLER
COLLEEN M. SULLIVAN
Board of Trustees

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

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

WHEREAS, the Corporate Authorities of the Village of Tinley Park, Cook and Will Counties, Illinois, have considered entering into a Contract with P.T. Ferro Construction, 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**.

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 7TH day of June, 2022, by the Corporate Authorities of the Village of Tinley Park on a roll call vote as follows:

AYES: Brady, Galante, Mahoney, Mueller, Sullivan

NAYS: None

ABSENT: Brennan

APPROVED this 7TH day of June, 2022, by the President of the Village of Tinley Park.

Michael W. Glotz
Village President

ATTEST:

Nancy O'Connor
Village Clerk

EXHIBIT 1

A CONTRACT BETWEEN THE VILLAGE OF TINLEY PARK AND P.T. FERRO

CONSTRUCTION FOR 174th ST. WATER MAIN AND ROADWAY IMPROVEMENTS

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

CERTIFICATE

I, NANCY M. O'CONNOR, 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. 2022-R-066, "**A RESOLUTION APPROVING A CONTRACT BETWEEN THE VILLAGE OF TINLEY PARK AND P.T. FERRO CONSTRUCTION FOR 174TH ST. WATER MAIN AND ROADWAY IMPROVEMENTS**," which was adopted by the President and Board of Trustees of the Village of Tinley Park on June 7, 2022.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal of the Village of Tinley Park this 7th day of June, 2022.

_____
VILLAGE CLERK

VILLAGE OF TINLEY PARK, IL

174TH STREET, 66TH COURT, AND 173RD PLACE – ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT

RELTD # 21-R0315

VILLAGE OF TINLEY PARK
COOK COUNTY, ILLINOIS
NOTICE TO BIDDERS

The Village of Tinley Park, Illinois, will receive sealed bids for the following improvements at the Clerk's Office, 16250 South Oak Park Avenue, Tinley Park, IL 60477, on June 1, 2022, until 11:00 A.M.

174TH STREET, 66TH COURT AND 173RD PLACE
ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT

This project shall consist of the removal of the existing pavement along 174th Street and the construction of a revised alignment to improve the intersection geometry at 66th Court. Additionally, HMA pavement, curb and gutter removal, new curb and gutter, driveway removal and replacement, storm sewer, sidewalk removal, tree removal and replacement, and new sidewalk are all included. Also, a new water main is proposed along 174th Street to 66th Court, along 66th Court between South Street and 174th Street, and along 173rd Place between 66th Court and 65th Avenue. And the project also includes street lighting improvements as an alternate bid.

Bids will be publicly read aloud on June 1, 2022, at 11:01 A.M. No bid shall be withdrawn after the opening of the bids without the consent of the Mayor and Board of Trustees for a period of forty-five days after the scheduled time of closing bids.

All bids shall be in a sealed 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.

The Bidding Documents can be viewed and downloaded from QuestCDN via the Village's website: https://qap.questcdn.com/qap/projects/prj_browse/ipp_browse_grid.html?projType=all&provider=6246123&group=6246123 or at www.questcdn.com under Login using **QuestCDN #8213413** for a non-refundable charge of $15.00. A QuestCDN login will be required. Contact QuestCDN.com at 952-233-1632 or info@questcdn.com for assistance in membership registration and downloading this digital project information. Contractors must purchase bid documents and be shown on the Bidder's Planholder List in order to bid. Bids received from contractors who are not in the Bidder's Planholder List will be rejected.

A **bid bond, certified check/bank draft** on a solvent bank, 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.

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

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 current "prevailing rate of wages" (hourly cash wages plus amount for fringe benefits) in the county where the work is performed. The Department publishes the prevailing wage rates on its website at http://www.state.il.us/agency/idol/rates/rates.HTM. The Department revises the prevailing wage rates

and the contractor/subcontractor has an obligation to check the Department's web site for revisions to prevailing wage rates. For information regarding current prevailing wage rates, please refer to the Illinois Department of Labor's website. All contractors and subcontractors rendering services under this contract must comply with all requirements of the Act, including but not limited to, all wage requirements and notice and record keeping duties.

The contractor 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 Title V, Chapter 54 of the Tinley Park Municipal Code entitled "Responsible Bidder Requirements on Public Work Projects.

Bidder qualifications and experience will also be included in the basis for determining the lowest responsible bidder.

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 Mayor 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.

Mayor and Board of Trustees
Village of Tinley Park

PROPOSAL and CONTRACT

PROPOSAL

TO THE OWNER, Village of Frankfort

1. Proposal of P.T. Ferro Construction Company
(name and address of bidder)
700 Rowell Ave, Joliet, IL 60433

estimating@ptferro.com
(email address of bidder)

for the improvement described in the NOTICE TO CONTRACTORS.

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

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

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

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

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

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

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

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

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

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

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

The amount of the bond, check or draft is Ten Percent

($ 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.

Document A310™ – 2010

Conforms with The American Institute of Architects AIA Document 310

Bid Bond

CONTRACTOR:
(Name, legal status and address)

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

SURETY:
(Name, legal status and principal place of business)

Travelers Casualty and Surety Company of America
One Tower Square
Hartford, CT 06183
Mailing Address for Notices
1411 Opus Place Suite 450
Downers Grove, IL 60515

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

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

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

BOND AMOUNT: $ 10% Ten Percent of Amount Bid

PROJECT:
(Name, location or address, and Project number, if any)
174th Street, 66th Court and 173rd Place - Roadway Improvements and Water Main Replacement

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 1st day of June, 2022

(Witness) Wm. David Berkley

(Witness)

P.T. Ferro Construction Co.
(Principal) (Seal)

By:
(Title) Matthew Marketti - President

Travelers Casualty and Surety Company of America
(Surety) (Seal)

By:
(Title) James I. Moore Attorney-in-Fact

P.T. FERRO CONSTRUCTION CO Corporate SEAL ILLINOIS

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA HARTFORD, CONN.

State of Illinois

County of DuPage

SURETY ACKNOWLEDGEMENT (ATTORNEY-IN-FACT)

I, Sherry Bacskai Notary Public of DuPage County, in the State of Illinois, do hereby certify that James I. Moore Attorney-in-Fact, of the Travelers Casualty and Surety Company of America who is personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person, and acknowledged that he signed, sealed and delivered said instrument, for and on behalf of the Travelers Casualty and Surety Company of America for the uses and purposes therein set forth.

Given under my hand and notarial seal at my office in the City of Downers Grove in said County, this 1st day of June, 2022.

SHERRY BACSKAI
OFFICIAL SEAL
Notary Public, State of Illinois
My Commission Expires
October 22, 2023

Notary Public Sherry Bacskai

My Commission expires: October 22, 2023

TRAVELERS

Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company
Farmington Casualty Company

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, St. Paul Fire and Marine Insurance Company, and Farmington Casualty Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint James I. Moore of Downers Grove , IL , their true and lawful Attorney(s)-in-Fact to sign, execute, seal and acknowledge the following bond:

Surety Bond No.: Bid Bond
OR
Principal: P.T. Ferro Construction Co.
Obligee: Village of Tinley Park
Project Description: 174th Street, 66th Court and 173rd Place - Roadway Improvements and Water Main Replacement

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **21st** day of **April, 2021.**

State of Connecticut

By: _____
Robert L. Raney, Senior Vice President

City of Hartford ss.

On this the **21st** day of **April, 2021**, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of each of the Companies, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of said Companies by himself as a duly authorized officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June, 2026**

_____
Anna P. Nowik, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of each of the Companies, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of each of the Companies, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this 1st day of June , 2022 .

_____
Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney(s)-in-Fact and the details of the bond to which this Power of Attorney is attached.

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? City of Joliet, Village of Orland Park, Village of Mokena,

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

   If so, list major items: CAT 314, CAT 325, Loaders, Skid Steers,

   Dump Trucks, Asphalt Pavers, Asphalt Grinders, etc.

4. Give Bank reference: First Midwest Bank

   Address:
   Joliet IL

5. List names and addresses of major suppliers:

   Lafarge, Joliet, IL

   Welsch Concrete

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 14 calendar days.

CERTIFICATE OF ELIGIBILITY TO BID

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

Date: 6/1/22

By: _____
(Name of Contractor)

President - PT Ferro
(Title)

Robinson ENGINEERING
Municipal Expertise. Community Commitment.

REL # 21-R0315

CORP Awarded Schedule of Prices

Local Agency Village of Tinley Park
Location
Description Bid Tabulation - Base Bid

Schedule for Single Bid

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

TOTAL COST ESTIMATE	**$1,444,627.20**

Item Number	Items	Unit	Quantity	Unit Price	Total
1	CONTINGENCY	L SUM	1	$50,000.00	$50,000.00
2	CONCRETE TRUCK WASHOUT	EACH	1	$100.00	$100.00
3	CLEARING AND GRUBBING	ACRE	0.01	$50,000.00	$500.00
4	EARTH EXCAVATION	CU YD	700	$56.75	$39,725.00
5	PAVEMENT REMOVAL	SQ YD	700	$8.50	$5,950.00
6	DRIVEWAY PAVEMENT REMOVAL	SQ YD	800	$18.00	$14,400.00
7	SIDEWALK REMOVAL	SQ FT	2,400	$3.75	$9,000.00
8	RELOCATE SIGN PANEL AND POST	EACH	3	$340.00	$1,020.00
9	COMBINATION CURB AND GUTTER REMOVAL	FOOT	15	$23.00	$345.00
10	CURB REMOVAL	FOOT	50	$18.00	$900.00
11	AGGREGATE SHOULDER REMOVAL	CU YD	40	$60.00	$2,400.00
12	WATER MAIN REMOVAL, 6"	FOOT	103	$32.00	$3,296.00
13	WATER MAIN REMOVAL, 10"	FOOT	10	$37.00	$370.00
14	FENCE REMOVAL AND REINSTALLATION	FOOT	100	$100.00	$10,000.00
15	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	23	$95.00	$2,185.00
16	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	21	$115.00	$2,415.00
17	TREE ROOT PRUNING	EACH	8	$115.00	$920.00
18	FIRE HYDRANTS TO BE REMOVED	EACH	6	$1,650.00	$9,900.00
19	6" CUT AND CAP	EACH	7	$3,115.00	$21,805.00
20	10" CUT AND CAP	EACH	2	$3,500.00	$7,000.00
21	6" LINE STOP	EACH	2	$6,500.00	$13,000.00
22	10" LINE STOP	EACH	1	$8,000.00	$8,000.00
23	12" LINE STOP	EACH	2	$13,000.00	$26,000.00
24	WATER VALVE BOXES TO BE ABANDONED	EACH	2	$525.00	$1,050.00
25	VALVE VAULTS TO BE ABANDONED	EACH	6	$875.00	$5,250.00
26	EXPLORATION TRENCH, SPECIAL	FOOT	250	$40.00	$10,000.00
27	COMBINATION CONCRETE CURB AND GUTTER, TYPE B -6.12	FOOT	550	$40.00	$22,000.00
28	CONCRETE CURB, TYPE B	FOOT	50	$50.00	$2,500.00
29	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 7 INCH	SQ YD	150	$115.00	$17,250.00
30	HOT-MIX ASPHALT DRIVEWAY PAVEMENT, 6"	SQ YD	750	$72.50	$54,375.00

Item Number	Items	Unit	Quantity	Unit Price	Total
31	CLASS D PATCHES, 6 INCH	SQ YD	800	$70.00	$56,000.00
32	PREPARATION OF BASE	SQ YD	800	$0.01	$8.00
33	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	210	$140.00	$29,400.00
34	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50	TON	80	$155.00	$12,400.00
35	BITUMINOUS MATERIALS (PRIME COAT)	POUND	3,950	$0.01	$39.50
36	BITUMINOUS MATERIALS (TACK COAT)	POUND	370	$0.01	$3.70
37	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SQ FT	4,500	$10.00	$45,000.00
38	AGGREGATE BASE COURSE, TYPE B 8"	SQ YD	910	$15.00	$13,650.00
39	TACTILE/DETECTABLE WARNING SURFACE	SQ FT	30	$25.00	$750.00
40	AGGREGATE SHOULDERS, TYPE B 6"	SQ YD	5	$100.00	$500.00
41	6" DUCTILE IRON WATER MAIN WITH POLYETHYLENE ENCASEMENT	FOOT	13	$120.00	$1,560.00
42	8" DUCTILE IRON WATER MAIN WITH POLYETHYLENE ENCASEMENT	FOOT	973	$140.00	$136,220.00
43	12" DUCTILE IRON WATER MAIN WITH POLYETHYLENE ENCASEMENT	FOOT	847	$155.00	$131,285.00
44	8" VALVE AND VALVE VAULT, TYPE A, 4' DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	2	$4,700.00	$9,400.00
45	10" VALVE AND VALVE VAULT, TYPE A, 4' DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1	$6,600.00	$6,600.00
46	12" VALVE AND VALVE VAULT, TYPE A, 5' DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	5	$9,400.00	$47,000.00
47	8" X 8" TAPPING SLEEVE AND VALVE IN VALVE VAULT, TYPE A, 5' DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1	$7,500.00	$7,500.00
48	6" X 6" TAPPING SLEEVE AND VALVE IN VALVE VAULT, TYPE A, 5' DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1	$7,200.00	$7,200.00
49	DUCTILE IRON WATER MAIN FITTINGS	POUND	6,520	$11.00	$71,720.00
50	NON-PRESSURE CONNECTION TO EXISTING WATER MAIN, 10"	EACH	1	$3,500.00	$3,500.00
51	NON-PRESSURE CONNECTION TO EXISTING WATER MAIN, 12"	EACH	2	$4,500.00	$9,000.00
52	FIRE HYDRANT WITH AUXILIARY VALVE, VALVE BOX AND TEE	EACH	7	$8,275.00	$57,925.00
53	1" WATER SERVICE (SHORT)	EACH	15	$3,750.00	$56,250.00
54	1" WATER SERVICE, (LONG)	EACH	14	$4,685.00	$65,590.00
55	SANITARY SEWER SERVICE ADJUSTMENT	EACH	14	$4,700.00	$65,800.00
56	20" DIAMETER STEEL SLEEVE, 0.344" WALL THICKNESS, OPEN CUT INSTALLATION	FOOT	86	$350.00	$30,100.00
57	24" DIAMETER STEEL SLEEVE, 0.375" WALL THICKNESS, OPEN CUT INSTALLATION	FOOT	43	$375.00	$16,125.00
58	REMOVE AND REPLACE 6" STORM SEWER WITH WATER MAIN QUALITY PIPE	FOOT	36	$85.00	$3,060.00
59	REMOVE AND REPLACE 12" STORM SEWER WITH WATER MAIN QUALITY PIPE	FOOT	29	$140.00	$4,060.00
60	STORM SEWERS, TYPE 1, WATER MAIN QUALITY PIPE, 12"	FOOT	25	$135.00	$3,375.00
61	PROPOSED MANHOLE/CATCH BASIN CONNECTION OVER EXISTING STORM SEWER	EACH	1	$3,500.00	$3,500.00
62	MANHOLES, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1	$3,750.00	$3,750.00
63	INLETS, TYPE A, TYPE 11 FRAME AND GRATE	EACH	2	$1,900.00	$3,800.00
64	TRENCH BACKFILL	CU YD	1,500	$68.00	$102,000.00
65	TOPSOIL FURNISH AND PLACE, 4" (SPECIAL)	SQ YD	2,300	$5.00	$11,500.00
66	SODDING, SPECIAL	SQ YD	2,300	$15.00	$34,500.00
67	PERIMETER EROSION BARRIER	FOOT	850	$3.00	$2,550.00
68	TREE PLANTING IN VILLAGE PARKWAYS	EACH	7	$550.00	$3,850.00
69	TEMPORARY INLET PROTECTION	EACH	16	$225.00	$3,600.00

Item Number	Items	Unit	Quantity	Unit Price	Total
70	POTENTIAL LEAD SERVICE REPLACEMENT - ROUNDWAY TO METER	EACH	6	$7,150.00	$42,900.00

Robinson ENGINEERING
Municipal Expertise. Community Commitment.

REL # 21-R0315

CORP Awarded Schedule of Prices

Local Agency Village of Tinley Park
Location
Description Bid Tab - Alternate Bid

Schedule for Single Bid

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

	TOTAL COST ESTIMATE	**$209,747.00**

Item Number	Items	Unit	Quantity	Unit Price	Total
1	TOPSOIL FURNISH AND PLACE, 4" (SPECIAL)	SQ YD	600	$5.00	$3,000.00
2	SODDING, SPECIAL	SQ YD	600	$15.00	$9,000.00
3	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2" DIA.	FOOT	96	$80.00	$7,680.00
4	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 4	FOOT	280	$3.15	$882.00
5	LIGHT POLE FOUNDATION, 20" DIAMETER	FOOT	24	$450.00	$10,800.00
6	LIGHT POLE FOUNDATION, 24" DIAMETER	FOOT	32	$485.00	$15,520.00
7	LIGHT POLE, ALUMINUM, 25 FT. M.H., 8 FT. MAST ARM	EACH	5	$7,900.00	$39,500.00
8	LUMINAIRE, LED, HORIZONTAL MOUNT, LOW WATTAGE	EACH	2	$1,200.00	$2,400.00
9	LUMINAIRE, LED, HORIZONTAL MOUNT, MEDIUM WATTAGE	EACH	3	$1,265.00	$3,795.00
10	UNIT DUCT, 600V, 3-1C NO.4, 1/C NO.6 GROUND, (XLP-TYPE USE), 1 1/2" DIA. POLYETHYLENE	FOOT	1,625	$34.00	$55,250.00
11	LIGHTING UNIT COMPLETE, SPECIAL	EACH	4	$11,380.00	$45,520.00
12	LIGHT POLE FOUNDATION, 20" DIAMETER, OFFSET	FOOT	10	$500.00	$5,000.00
13	LIGHT POLE FOUNDATION, 24" DIAMETER, OFFSET	FOOT	10	$600.00	$6,000.00
14	BOLLARDS	EACH	36	$150.00	$5,400.00

SIGNATURES

(If an individual)

Signature of Bidder .....

Business Address .....

(If a co-partnership)

Firm Name ..... (SEAL)

Signed by ..... (SEAL)

Business Address .....

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

(If a corporation)

Corporate Name P.T. Ferro Construction Company

Signed By .....

President

Business Address 700 Rowell Ave, Joliet, IL 60433

P.T. FERRO CONSTRUCTION CO Corporate SEAL ILLINOIS

(Corporate Seal)

Insert Names of Officers

President Matt Marketti

Secretary Wm. David Berkley

Treasurer Diane Abernathy

Attest: .....

Attestor's Title: Secretary

Phone Number 815-726-6284

BIDDER'S CERTIFICATE

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

Village of Tinley Park - 174th Street, 66th Court, & 173rd Place Roadway Improvements and Water Main Replacement

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 P.T. Ferro Construction Company

By: _____

Company Name Matt Marketti - President

Date: 6/1/22

VILLAGE OF TINLEY PARK

SERVICE CONTRACT

This contract is by and between the **Village of Tinley Park**, an Illinois home-rule municipal corporation (the "Village"), and **P.T. Ferro Construction** (the "Contractor"), for the project or work described in Exhibit A, attached hereto and made a part hereof.

1. In consideration of the compensation stated in paragraph 2, the Contractor shall provide all the services described in the Scope of Services attached hereto as Exhibit "A" and incorporated herein by reference. The express terms of this Contract shall take precedence and control over any term or provision of the Scope of Services (Exhibit A) that in any way conflicts with, differs from, or attempts to alter the terms of this Contract.

2. Except in the event of a duly authorized change order approved by the Village as provided in this Contract, and in consideration of the Contractor's final completion of all work in conformity with this Contract, the Village shall pay the Contractor an amount not to exceed **One Million Six Hundred Fifty Four Thousand Three Hundred Seventy Four and 20/100 Dollars ($1,654,374.20)**. Within thirty (30) calendar days of completion of the work, the Contractor shall submit his application for payment to the Village, and the Village shall pay Contractor for the work performed no later than **thirty (30)** calendar days from the date of the Village's receipt and the Village's approval of the work and the application for payment. No payment shall be made by the Village until the Contractor has submitted to the Village (i) a Contractor's Affidavit listing all subcontractors and material suppliers utilized on the project and (ii) final waivers of lien from the Contractor, all subcontractors and all material suppliers.

3. No changes shall be made, nor will invoices for changes, alterations, modifications, deviations, or extra work or services be recognized or paid except upon the prior written order from authorized personnel of the Village. The Contractor shall not execute change orders on behalf of the Village or otherwise alter the financial scope of the Project.

4. Written change orders may be approved by the Village Manager or his designee provided that the change order does not increase the amount set forth in paragraph 2 of this Contract to more than $10,000.00. Changes in excess of this amount must be approved by the Village Board prior to commencement of the services or work. **If a requested change causes an increase or decrease in the cost of or time required for the performance of the contract, Contractor will agree to an equitable adjustment in the contract price or performance schedule, or both. Neither party is obligated to comply with requested changes unless and until both parties execute a written change order.**

5. **Time is of the essence on this Contract.** The Contractor shall complete all work under this Contract by the dates set forth below:

6. No "Notice to Proceed" may be given nor any work commenced until this Contract is fully executed and all exhibits and other attachments are completely filled out and attached hereto.

7. It is understood and agreed by the parties that the Contractor is an independent contractor retained for the above-mentioned purpose. The Village shall not control the manner nor the means of the Contractor's performance, but shall be entitled to a work product as described herein. The term "subcontractor" shall mean and include only those hired by and

having a direct contract with Contractor for performance of work on the Project. The Village shall have no responsibility to any subcontractor employed by a Contractor for performance of work on the Project, and all subcontractors and material suppliers shall look exclusively to the Contractor for any payments due. The Village will **not** be responsible for reporting or paying employment taxes or other similar levies that may be required by the United States Internal Revenue Service or other State or Federal agencies. Every subcontractor shall be bound by the terms and provisions of this Contract as far as applicable to their work. The Contractor shall be fully responsible to the Village for the acts and omissions of its subcontractors, and shall ensure that any subcontractors perform in accordance with the requirements of this Contract. Nothing contained herein shall create any contractual or employment relations between any subcontractor and the Village. The Contractor is solely responsible for the safety procedures, programs and methods of its employees and agents and shall hold the Village harmless for any and all damages resulting from violations thereof. The Contractor shall comply with all applicable federal, State and local safety laws and regulations.

8. **It is further agreed that the Contractor shall indemnify, hold harmless, and defend the Village, its officers, agents, and employees from and against any and all claims, losses, damages, causes of action, suits, and liability of every kind, including all expenses of litigation, court costs, and attorneys' fees, for injury to or death of any person or for damage to any property arising out of or in connection with the Contractor's negligence under this Contract.**

9. **The Contractor assumes full responsibility for the work to be performed hereunder and hereby releases, relinquishes, and discharges the Village, its officers, agents, and employees from all claims, demands, and causes of action of every kind and character, including the cost of defense thereof, for any injury to or death of any person and any loss of or damage to any property that is caused by, alleged to be caused by, arising out of, or in connection with the Contractor's negligence in its work to be performed hereunder. The Contractor shall maintain insurance coverage in an amount and from a carrier suitable to the Village, and the Village shall be named as an additional insured where required. Certificates of Insurance are attached hereto as Exhibit B.**

10. The Village is exempt from payment of state and local sales and use of taxes on labor and materials incorporated into the project. If necessary, it is the Contractor's responsibility to obtain a sales tax permit, resale certificate, and exemption certificate that shall enable the Contractor to buy any materials to be incorporated into the project and then resale the aforementioned materials to the Village without paying the tax on the materials at the time of purchase. In no event will the Village be liable for or pay any sales or use taxes incurred by the Contractor in performing the services under this contract.

11. The Contractor shall comply with all applicable federal, state, and local statutes, regulations, ordinances, and other laws, including but not limited to the Immigration Reform and Control Act (IRCA). The Contractor may not knowingly obtain the labor or services of an unauthorized alien. The Contractor, not the Village, must verify eligibility for employment as required by IRCA.

12. At any time, the Village may terminate this Contract for convenience, upon written notice to the Contractor. The Contractor shall cease work immediately upon receipt of such notice. The Contractor shall be compensated for services performed and accepted by the Village up to the date of termination.

13. No waiver or deferral by either party of any term or condition of this Contract shall be deemed or construed to be a waiver or deferral of any other term or condition or subsequent wavier or deferral of the same term or condition.

14. This Contract may only be amended by written instrument approved and executed by the parties.

15. This Contract and the rights and obligations contained herein may not be assigned by the Contractor without the prior written approval of Village.

16. The parties hereby state that they have read and understand the terms of this Contract and hereby agree to the conditions contained herein.

17. This Contract has been made under and shall be governed by the laws of the State of Illinois. The parties agree that performance and all matters related thereto shall be in Cook County, Illinois.

18. Contractor, its employees, associates or subcontractors shall perform all the work hereunder. Contractor agrees that all of its associates, employees, or subcontractors who work on this Project shall be fully qualified and competent to do the work described hereunder. Contractor shall undertake the work and complete it in a timely manner.

19. If any provision of this Contract shall be held to be invalid or unenforceable for any reason, the remaining provisions shall continue to be valid and enforceable. If a court of competent jurisdiction finds that any provision of this Contract is invalid or unenforceable, but that by limiting such provision it may become valid and enforceable, then such provision shall be deemed to be written, construed, and enforced as so limited.

20. This Contract represents the entire and integrated agreement between the Village and Contractor and supersedes all prior negotiations, representations, or agreements, either written or oral.

21. This Contract will be effective when signed by the last party whose signing makes the Contract fully executed.

22. The Contractor agrees to comply with the Illinois Prevailing Wage Act, if the work to be performed under this Contract is covered by said Act.

23. The Contractor agrees to comply with the Illinois Substance Abuse Prevention on Public Works Projects Act.

CERTIFICATIONS BY CONTRACTOR

Affidavit of Compliance

Contractor and all subcontractors shall complete this Affidavit of Compliance ("Affidavit") and submit supporting documentation as required pursuant to *Responsible Bidder Requirements on Public Work Projects*. Contractor must submit this Affidavit and all related evidence with its bid. Contractor shall be responsible for providing this Affidavit to all subcontractors who will perform work on the project. All subcontractors' Affidavits and supporting documentation must be submitted no later than the date and time of the contract award. Failure to comply with all submission requirements may result in a determination that the Contractor is not a responsible bidder.

For the remainder of this Affidavit, "Contractor" refers to the general contractor and all subcontractors. Each item must be answered. If the question is not applicable, answer "NA." If the answer is none, answer "none."

The certifications set forth in this Affidavit and all documents attached hereto shall become a part of any contract awarded to the Contractor. Furthermore, Contractor shall comply with these certifications during the term and/or performance of the contract.

The undersigned Matt Markett, (Name), as President (Title) and on behalf of P.T. Ferro Construction (Contractor) having been duly sworn under oath certifies that:

Business Organization

The form of business organization of the Contractor is (check one):

__ Sole Proprietor or Partnership
__ LLC
X Corporation
__ Independent Contractor (Individual)

If contractor/subcontractor is a corporation, indicate the state and the date of incorporation:

August, 1964

Authorized to do business in the State of Illinois: Yes [X] No [ ]

Describe supporting documentation attached: _____

Federal Employer I.D. #: 36-2537787

Social Security # (if an individual or sole proprietor): _____

Registered with Illinois Department of Revenue: Yes [X] No [ ]

Describe supporting documentation attached (if "No," explain): _____

Registered with Illinois Department of Employment Security: Yes [X] No [ ]

Describe supporting documentation attached (if "No," explain): _____

Tax liens or tax delinquencies

Disclosure of any federal, state or local tax liens or tax delinquencies against the contractor of any officers of the contractor in the last five (5) years Yes [ ] No [X]

"No" means "not applicable." If "yes," describe lien/delinquencies and resolution:

_____

_____

_____

_____

EOE Compliance

Contractor is in compliance with provisions of Section 2000e of Chapter 21, Title 42 of the United States Code and Federal Executive Order No. 11246 as amended by Executive Order No. 11375 (known as the Equal Opportunity Employer provisions). Yes [X] No [ ]

Employee Classification

Contractor's employees who will perform work on the project are properly classified as an employee or independent contractor under all applicable state and federal laws and local ordinances (Form B). N/A [X] Yes [ ] No [ ]

Professional or Trade Licenses

Contractor will possess all applicable professional and trade licenses required for performing the Contract work: Yes [X] No [ ]

License	Number	Date Issued	Current Expiration	Holder of License

If any of the above license(s) have been revoked or suspended, state the date and reason for suspension/revocation:

Documentation Attached (Contractor must initial next to each item):

____ Form A: Name and address of subcontractors from whom Contractor has accepted a bid or intends to hire to perform work on any part of the project.
NOTE: All subcontractors shall complete and submit an Affidavit of Compliance no later than the date the subcontractor commences work on the project.

____ Form B: List of individuals who will perform work on the project on behalf of the Contractor, verifying that each individual is properly classified as an employee or independent contractor. Contractor also verifies that all Contractor's employees are covered under a current workers' compensation policy, properly classified under the workers' compensation policy, and covered by a health and welfare and retirement plan.

____ ~~Form~~ C Additional Information (if required)

____ Certificate of Good Standing
(or other evidence of compliance with laws pre-requisite to doing business in the state)

____ Illinois Department of Revenue registration

____ Illinois Department of Employment Security registration

____ Standards of Apprenticeship/Apprentice Agreements

____ Substance Abuse Prevention program (or applicable provision from CBA in effect)

____ Written Safety Policy Statement signed by company representative

____ OSHA cards evidencing 10-hour or greater safety program completed, if requested

____ Workers' Compensation Coverage

____ Professional or Trade Licenses

Eligibility to Contract

The undersigned hereby certifies that the Contractor is not barred from bidding on or entering into this contractor as a result of a violation of either the bid-rigging or bid-rotating provisions of Article 33E of the Criminal Code of 1961, as amended.

P.T. Ferro Construction
Name of Contractor (please print)

Submitted by (signature)

President
Title

Certificate of Compliance with Illinois Human Rights Act

The undersigned hereby certifies that the Contractor is in compliance with Title 7 of the 1964 Civil Rights Act as amended and the Illinois Human Rights Act as amended.

P.T. Ferro Construction
Name of Contractor (please print)

Submitted by (signature)

President
Title

Certificate of Compliance with Illinois Drug-Free Workplace Act

The undersigned, **having 25 or more employees**, does hereby certify pursuant to section 3 of the Illinois Drug Free Workplace Act (30 ILCS 580/3) that it shall provide a drug-free workplace for all employees engaged in the performance of the work under the contract by complying with the requirements of the Illinois Drug-Free Workplace Act and, further certifies, that it is not ineligible for award of this contract by reason of debarment for a violation of the Illinois Drug-Free Workplace Act.

P.T. Ferro Construction
Name of Contractor (please print)

Submitted by (signature)

President
Title

Certificate Regarding Sexual Harassment Policy

The undersigned does hereby certify pursuant to section 2-105 of the Illinois Human Rights Act (775 ILCS 5/2-105) that it has a written sexual harassment policy that includes, at a minimum, the following information: (i) the illegality of sexual harassment; (ii) the definition of sexual harassment under State law; (iii) a description of sexual harassment, utilizing examples; (iv) an internal complaint process including penalties; (v) the legal recourse, investigative and complaint process available through the Department of Human Rights and Human Rights Commission; (vi) direction on how to contact the Department of Human Rights and Human Rights Commission; and (vii) protection against retaliation.

P.T. Ferro Construction — Name of Contractor (please print)

Submitted by (signature)

President — Title

Certificate of Compliance with Substance Abuse Prevention on Public Works Projects Act

The undersigned hereby certifies that:

A. There is in place a written program which meets or exceeds the program requirements of the Substance Abuse Prevention on Public Works Projects Act (P.A. 95-0635), and has provided a written copy thereof to the Village of Tinley Park.

B. There is in place a collective bargaining agreement which deals with the subject matter of the Substance Abuse Prevention on Public Works Projects Act (P.A. 95-0635)

(Cross out either A or B depending upon which certification is correct)

P.T. Ferro Construction Company — Name of Contractor (please print)

Submitted by (signature)

President — Title

Certificate of Compliance with Prevailing Wage Requirements

The undersigned hereby certifies that:
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 current "prevailing rate of wages" (hourly cash wages plus amount for fringe benefits) in the county where the work is performed. The Department publishes the prevailing wage rates on its website at http://www.state.il.us/agency/idol/rates/rates.HTM. The Department revises the prevailing wage rates and the contractor/subcontractor has an obligation to check the Department's web site for revisions to prevailing wage rates. For information regarding

current prevailing wage rates, please refer to the Illinois Department of Labor's website. All contractors and subcontractors rendering services under this contract must comply with all requirements of the Act, including but not limited to, all wage requirements and notice and record keeping duties.

P.T. Ferro Construction
Name of Contractor (please print)

Submitted by (signature)

President
Title

Certificate of Compliance with the Village of Tinley Park Responsible Bidder Ordinance

The undersigned or the entity making the proposal or bid has reviewed and is in compliance with the Village of Tinley Park Responsible Bidder Ordinance No. 2019-O-079

P.T. Ferro Construction
Name of Contractor (please print)

Submitted by (signature)

President
Title

[*Signature Page to Follow*]

CONTRACTOR NAME

BY: _____ 6/20/22
Date

Printed Name: Matt Masteff.

Title: President

VILLAGE OF TINLEY PARK

BY: _____ June 7, 2022
Michael W. Glotz, Village President Date
(required if Contract is $20,000 or more)

ATTEST:

_____ June 7, 2022
Village Clerk Date
(required if Contract is $20,000 or more)

VILLAGE OF TINLEY PARK

BY: _____ _____
Village Manager Date

SCOPE OF SERVICES

This project shall consist of the removal of the existing pavement along 174th Street and the construction of a revised alignment to improve the intersection geometry at 66th Court. Additionally, HMA pavement, curb and gutter removal, new curb and gutter, driveway removal and replacement, storm sewer, sidewalk removal, tree removal and replacement, and new sidewalk are all included. Also, a new water main is proposed along 174th Street to 66th Court, along 66th Court between South Street and 174th Street, and along 173rd Place between 66th Court and 65th Avenue. The project also includes street lighting improvements.

Exhibit B

INSURANCE REQUIREMENTS

(See Risk Manager for Insurance Requirements)

Form A

Subcontractors who will Perform Work on the Project

Name	Address	Work to be Performed
Len Cox + Sons	1203 Theodore Street Crest Hill, IL 60403	Sewer + Water
Traffic Control Company	3019 East End Avenue South Chicago Heights, IL	Traffic Control
Homer Tree	16464 W. 143rd St. Lockport, IL 60441	Tree Removal
Van Mark Electric	1225 Channahon Road, Unit 3 Rockdale, IL 60436	Electric
Seasons Landscape	16141 Briggs St. Joliet, IL 60432	Landscape

Form B

Individuals who will perform work on the project

List all individuals who will perform work on this project with the following information:

Individual is an employee (E) or independent contractor (I);
Individual's trade classification (indicate apprenticeship status where appropriate);
Employee (E) is covered under Contractor's current workers' compensation (WC) policy;
Employee's (E) county of residence.

Name	E/I	Trade	WC - Y/N	County of residence

Form C

Additional Information Required

If required in the bid specifications, Contractor shall complete items I and/or II below:

Statement of past three (3) years experience on public construction projects.

Public Body/ Project Name/Year	Reference Name/ Phone #	Original Price/ Final price	Subcontractors

List any determinations by a court or governmental agency for violations of federal, state or local laws, including but not limited to violations of contracting or antitrust laws, tax or licensing laws, environmental laws, the Occupational Safety and Health Act (OSHA), the National Labor Relations Act (NLRA), or federal Davis-Bacon and related Acts.

Date	Law	Determination	Penalty

CONTRACT

1. THIS AGREEMENT, made and concluded this 7th day of June, 20 22, between the Village of Tinley Park, acting by and through its Mayor and Board of Trustees known as the party of the first part, and P.T. Ferro Construction Co., his/their executors, administrators, successors or assigns, known as the party of the second part.

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

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

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

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

By: Michael W. Glotz

Title: Michael W. Glotz, Mayor

Attest: Nancy O'Connor

Title: Nancy M. O'Connor, Village Clerk

MUNICIPAL SEAL

Executed by Municipality

FOR THE CONTRACTOR
(Party of the Second Part)

P.T. Ferro Construction Co.

By:

Title: President

Attest:

Attester's Title: Corp. Secretary

P.T. FERRO CONSTRUCTION CO. Corporate SEAL ILLINOIS

CORPORATE SEAL

Executed by Contractor

CONTRACT BOND

KNOWN ALL MEN BY THESE PRESENTS, that we, P.T. Ferro Construction Co., a corporation organized under the laws of the State of IL (Contractor's State), and licensed to do business in the State of Illinois, as principal, and Travelers Casualty and Surety Company of America (Surety), a corporation organized and existing under the laws of the State of CT (Surety's State), 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 Six Hundred Fifty-Four Thousand Three Hundred Seventy-Four and 20/100--- Dollars ($ 1,654,374.20 ---), 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 and Board of Trustees for the construction of the work designated REL# 21-R0315 - 174th St., 66th Ct., and 173rd Pl. Roadway Improvements and Water Main Replacement - REBID ---, 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 14th day of June A.D. 20 22

Executed by Contractor

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

By: _____
President Matthew Marketti

Attest: _____

Attester's Title: Wm. David Berkley - Corp. Secretary

CORPORATE SEAL

Executed by Surety for Contractor

Surety's corporate name: Travelers Casualty and Surety Company of America

By: _____
Attorney-in-fact James I. Moore

By: N/A
Attorney-in-fact

CORPORATE SEAL

APPROVED THIS 7 DAY OF June A.D. 20 22

VILLAGE OF TINLEY PARK, IL

Executed by Municipality

By: _____

Title: Michael W. Glotz, Mayor

ATTEST FOR VILLAGE OF TINLEY PARK, IL

MUNICIPAL SEAL

By: _____

Title: Nancy M. O'Connor, Village Clerk

STATE OF IL)
) SS
COUNTY OF Will)

I, Consuelo Ceja (Notary), a Notary Public in and for said County in the State aforesaid, do hereby certify that Mark Markett (President) and Wm. David Barkley (Attester), to me personally known to be president and Corp. Secretary (Attesters Title), respectively, of P.T. Ferco 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 Corp. 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's Notary

GIVEN UNDER MY HAND AND NOTARIAL SEAL THIS 14th DAY OF June A.D. 2022

SEAL

OFFICIAL SEAL
Consuelo Ceja
NOTARY PUBLIC, STATE OF ILLINOIS
My Commission Expires Oct. 8, 2023

Consuelo Ceja
Notary Public

STATE OF Illinois)
) SS
COUNTY OF DuPage)

I, Sherry Bacskai (Notary), a Notary Public in and for said County in the State aforesaid, do hereby certify that James I. Moore (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 Travelers Casualty and Surety Company of America (Surety) appeared before me this day in person and acknowledged that he signed the name of Travelers Casualty and Surety Company of America (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's Notary

GIVEN UNDER MY HAND AND NOTARIAL SEAL THIS 14th DAY OF June A.D. 20 22

SEAL

SHERRY BACSKAI
OFFICIAL SEAL
Notary Public, State of Illinois
My Commission Expires
October 22, 2023

Sherry Bacskai
Notary Public

TRAVELERS	**Travelers Casualty and Surety Company of America** **Travelers Casualty and Surety Company** **St. Paul Fire and Marine Insurance Company** **Farmington Casualty Company**

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, St. Paul Fire and Marine Insurance Company, and Farmington Casualty Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint James I. Moore of Downers Grove , IL , their true and lawful Attorney(s)-in-Fact to sign, execute, seal and acknowledge the following bond:

Surety Bond No.: 107636965 **Principal:** P.T. Ferro Construction Co.
OR **Obligee:** Village of Tinley Park
Project Description: REL # - 174th St., 66th Ct., and 173rd Pl., Roadway Improvements and Water Main Replacement - REBID

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **21st** day of **April, 2021.**

State of Connecticut

By: _____
Robert L. Raney, Senior Vice President

City of Hartford ss.

On this the **21st** day of **April, 2021**, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of each of the Companies, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of said Companies by himself as a duly authorized officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June, 2026**

_____
Anna P. Nowik, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of each of the Companies, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of each of the Companies, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this 14th day of June , 2022 .

_____
Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney(s)-in-Fact and the details of the bond to which this Power of Attorney is attached.

DIVISION I

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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 (l) copy each of such executed documents will be retained by the Owner and the Engineer, the third will be delivered to the Contractor.

3-6 FAILURE TO EXECUTE CONTRACT

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

SECTION 4. SCOPE OF WORK

4-1 INTENT OF THE PLANS AND SPECIFICATIONS

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

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

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

4-2 SPECIAL WORK

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

4-3 CHANGES

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

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

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

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

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

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

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

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

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

4-4 PERIODIC AND FINAL CLEANUP

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

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

4-5 LUMP SUM CONTRACTS

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

4-6 LOCAL ORDINANCES AND REGULATIONS

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

4-7 PREFERENCE TO VETERANS

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

SECTION 5. CONTROL OF THE WORK

5-1 PLANS AND WORKING DRAWINGS

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

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

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

5-2 CONFORMITY WITH PLANS AND SPECIFICATIONS

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

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

5-3 COORDINATION OF COMPONENT PARTS OF THE CONTRACT

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

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

5-4 COOPERATION BY CONTRACTOR

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

5-5 UTILITIES

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

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

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

5-6 COOPERATION BETWEEN CONTRACTORS

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

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

5-7 CONSTRUCTION STAKES

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

5-8 AUTHORITY AND DUTIES OF OBSERVERS

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

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

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

The building shall conform to the following requirements:

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

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

Windows, not less than 3

Door, with lock approved by the Engineer 1

Instrument locker, 2 feet x 3 feet x 4 feet, with adjustable shelves
Hinged wall table ..... 3 feet x 6 feet

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

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

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

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

5-10 CONSTRUCTION OBSERVATION

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

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

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

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

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

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

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

5-11 REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORK

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

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

5-12 FINAL ACCEPTANCE

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

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

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

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

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

SECTION 6. CONTROL OF MATERIAL

6-1 QUALITY OF MATERIALS

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

6-2 DEFECTIVE MATERIALS

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

6-3 TESTING MATERIALS

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

6-4 SAND, GRAVEL AND CRUSHED STONE

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

6-5 CONCRETE

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

6-6 MISCELLANEOUS MATERIALS

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

6-7 JOB SITE OBSERVATION

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

6-8 STORED MATERIALS

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

6-9 "OR EQUAL" CLAUSE

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

SECTION 7. LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

7-1 LAWS TO BE OBSERVED

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

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

7-1.01 INDEMNIFICATION

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

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

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

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

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

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

7-2 INSURANCE REQUIREMENTS

7-2.01 GENERAL

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

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

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

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

A. PRIMARY INSURANCE

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

B. NO WAIVER OF INSURANCE REQUIREMENT BY OWNER

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

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

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

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

C. INSURANCE DOES NOT LIMIT LIABILITY

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

D. NOTIFICATION OF PERSONAL INJURY/PROPERTY DAMAGE

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

7-2.02 MINIMUM INSURANCE REQUIREMENTS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Certificates must be sent to: RELcertificates@thehortongroup.com

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

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

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

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

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

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

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

1. Bodily Injury and Property Damage Combined

   $5,000,000 Each Occurrence

   $10,000,000 Annual Aggregate

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

a. Owner
b. Robinson Engineering, Ltd.

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

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

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

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

7-3 PERMITS AND LICENSES

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

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

7-4 PATENTS AND ROYALTIES

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

7-5 STATE AND FEDERAL PARTICIPATION

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

7-6 SANITARY PROVISIONS

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

7-7 PUBLIC CONVENIENCE AND SAFETY

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

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

7-8 BARRICADES AND WARNING SIGNS

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

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

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

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

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

7-9 DEBRIS ON TRAVELED SURFACE OR STRUCTURES

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

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

7-10 EQUIPMENT ON TRAVELED SURFACE AND STRUCTURES

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

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

7-11 USE OF EXPLOSIVES

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

7-12 USE OF FIRE HYDRANTS

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

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

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

7-13 PROTECTION AND RESTORATION OF PROPERTY

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

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

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

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

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

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

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

7-14 PROTECTION AND RESTORATION OF TRAFFIC SIGNS

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

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

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

7-15 CONTRACTOR'S RESPONSIBILITY FOR WORK

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

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

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

7-16 GUARANTEE PERIOD

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

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

7-17 PERSONAL LIABILITY OF OWNER'S AGENTS

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

7-18 NO WAIVER OF LEGAL RIGHTS

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

7-19 SAFETY

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

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

7-20 USE OF PRIVATE LAND

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

7-21 USE OF WATER

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

7-22 COST OF SERVICES

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

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

7-23 WORK IN BAD WEATHER

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

7-24 SUNDAY WORK

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

7-25 WATCHMEN

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

7-26 CONSTRUCTION DEBRIS

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

7-27 SAMPLE INSURANCE CERTIFICATE

EMAIL ALL CERTIFICATES TO RELCERTIFICATES@THEHORTONGROUP.COM

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

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

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

PRODUCER	CONTACT NAME:
YOUR INSURANCE AGENT	PHONE (A/C, No, Ext): FAX (A/C, No):
	E-MAIL ADDRESS:
	INSURER(S) AFFORDING COVERAGE / NAIC #
INSURED: YOUR NAME AND ADDRESS	INSURER A : CARRIERS MUST BE RATED
	INSURER B : A- VII OR BETTER
	INSURER C :
	INSURER D :
	INSURER E :
	INSURER F :

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

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

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

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

REL JOB NUMBER AND PROJECT NAME AND ADDRESS:

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

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

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SECTION 8. PROSECUTION AND PROGRESS

8-1 SUBLETTING OR ASSIGNMENT OF CONTRACT

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

8-2 PROGRESS SCHEDULE

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

8-3 PRE-CONSTRUCTION CONFERENCE

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

8-4 PROSECUTION OF THE WORK

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

8-5 COMPLETION DATE

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

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

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

8-6 LIMITATIONS OF OPERATIONS

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

8-7 SUSPENSION OF WORK

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

8-8 DETERMINATION AND EXTENSION OF CONTRACT TIME FOR COMPLETION

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

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

8-9 FAILURE TO COMPLETE THE WORK ON TIME

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

SCHEDULE OF DEDUCTIONS FOR EACH DAY OF OVERRUN IN CONTRACT TIME

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

8-10 DEFAULT ON CONTRACT

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

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

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

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

8-11 TERMINATION OF THE CONTRACTOR'S RESPONSIBILITY

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

SECTION 9. MEASUREMENT AND PAYMENT

9-1 MEASUREMENT OF QUANTITIES

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

9-2 SCOPE OF PAYMENT

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

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

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

9-3 INCREASED OR DECREASED QUANTITIES

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

9-4 PAYMENT FOR EXTRA WORK

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

Extra work will be paid for:

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

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

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

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

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

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

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

9-5 PAYMENT FOR SUBCONTRACTING, EXTRA WORK

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

9-6 PARTIAL PAYMENTS

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

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

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

9-7 ACCEPTANCE AND FINAL PAYMENT

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

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

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

9-8 OWNER'S RIGHT TO WITHHOLD CERTAIN AMOUNTS

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

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

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

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

9-9 RELEASE OF CLAIMS AND LIENS

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

DIVISION II

Technical Specifications

EXCAVATION AND CLEANUP

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SECTION 1. EXCAVATION AND BACKFILL FOR UNDERGROUND CONDUITS

1-1 DESCRIPTION

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

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

1-2 CONSTRUCTION DETAILS

1-2.01 SURFACE REMOVAL AND TOPSOIL PRESERVATION

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

1-2.02 WIDTH OF EXCAVATION

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

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

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

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

1-2.03 EXCAVATION BELOW GRADE

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

1-2.04 ROCK EXCAVATION

A. GENERAL

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

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

B. MEASUREMENT FOR PAYMENT

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

C. PAYMENT

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

1-2.05 SUBSURFACE EXPLORATION

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

1-2.06 EXPLORATORY EXCAVATION

A. GENERAL

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

B. PAYMENT

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

1-2.07 BRACED AND SHEETED TRENCHES

A. GENERAL

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

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

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

B. PAYMENT

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

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

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

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

1-2.08 TRENCHES WITH SLOPING SIDES, LIMITED

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

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

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

1-2.09 SHORT TUNNELS

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

1-2.10 PILING EXCAVATION MATERIAL

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

1-2.11 REMOVAL OF WATER

The Contractor shall at all times during construction provide and maintain ample means and devices with which to promptly remove and properly dispose of all water entering the excavations or other parts of the Work until all Work to be performed therein has been completed. No sanitary sewer shall be used for disposal of trench water, unless specifically approved by the Engineer and then only if the trench water does not ultimately arrive at existing pumping or sewage treatment facilities. No water containing settle able solids shall be discharged into storm sewers.

1-2.12 BLASTING

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

1-2.13 SAFETY

A. BARRICADES, GUARDS AND SAFETY PROVISIONS

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

B. STRUCTURE PROTECTION

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

C. PROTECTION OF PROPERTY AND SURFACE STRUCTURES

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

1-2.14 DEVIATIONS OCCASIONED BY STRUCTURES OR UTILITIES

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

1-2.15 INTERRUPTION TO UTILITIES

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

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

1-2.16 MAINTENANCE OF TRAFFIC AND CLOSING OF STREETS

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

1-2.17 CONSTRUCTION IN EASEMENTS

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

1-2.18 UNDERGROUND CONDUIT CONSTRUCTED IN TUNNEL

A. GENERAL

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

B. MATERIALS

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

C. EXCAVATION AND LAYING

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

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

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

D. METHODS OF CONSTRUCTION

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

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

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

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

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

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

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

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

E. USE OF CASING PIPE

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

F. JACKING OR BORING OF PIPE

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

G. MEASUREMENT AND PAYMENT

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

1-2-19 SANITARY SEWERS

A. GENERAL

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

B. MATERIAL

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

C. EXCAVATION AND BEDDING

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

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

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

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

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

D. BACKFILLING

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

E. METHOD OF MEASUREMENT

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

F. BASIS OF PAYMENT

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

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

1-2.20 WATER MAINS

A. GENERAL

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

B. MATERIAL

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

C. EXCAVATION AND BEDDING

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

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

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

D. BACKFILLING

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

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

E. METHOD OF MEASUREMENT

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

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

F. BASIS OF PAYMENT

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

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

SECTION 2. RESTORATION OF SURFACES

2-1 GENERAL

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

2-2 CONSTRUCTION DETAILS

2-2.01 TEMPORARY SURFACE OVER TRENCH

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

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

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

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

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

2-2.04 REPLACING EXISTING TEMPORARY STREET AND ALLEY SURFACES

A. GENERAL

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

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

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

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

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

B. MEASUREMENT

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

C. PAYMENT

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

2-2.05 DISPOSAL OF SURPLUS EXCAVATED MATERIAL

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

2-2.06 CLEANING UP

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

SECTION 3. FINISHING AND CLEAN UP FOR UNDERGROUND CONDUITS

3-1 CLEAN UP

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

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

DIVISION II

Technical Specifications

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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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VILLAGE OF TINLEY PARK

174th STREET IMPROVEMENT – 67TH COURT TO 66TH COURT

WATER MAIN IMPROVEMENTS – 174TH STREET, 66TH COURT, AND 173RD PLACE

SPECIAL PROVISIONS

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction", adopted January 1, 2022 (hereinafter referred to as the Standard Specifications); 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 as noted along 174th Street and the construction of a revised alignment to improve the intersection geometry at 66th Court. Additionally, HMA pavement, curb and gutter removal, new curb and gutter, driveway removal and replacement, storm sewer, sidewalk removal, tree removal and replacement, new sidewalk, and street lighting are all included. Also, a new water main is proposed along 174th Street to 66th Court, along 66th Court between South Street and 174th Street, and along 173rd Place between 66th Court and 65th Avenue.

For the base bid, the project includes the installation of the watermain and all associated appurtenances and the intersection realignment. The watermain must be placed in service and all associated restoration must be completed by November 23, 2022. All construction activity must be within the right of way or Village-owned property as shown on the plans.

For the alternate bid, the bid includes the addition of the street lighting as shown on the plans. The completion date for the lighting and all associated restoration work will be April 30, 2023. All construction activity must be within the right of way or Village-owned property as shown on the plans.

FUNDING LIMITS

The Village has budgeted a specific amount of funds for the construction of this project. It is recognized that the cost to complete the work at all locations listed within these special provisions and the contract drawings may vary from the budgeted amount. The quantities called for in this contract indicate the estimated amount of work to be expected. The actual amounts for the various items may vary depending upon actual field conditions. Bidders are hereby notified that the Village reserves the right to reduce or increase the scope of project quantities and to delete entire line items at its sole discretion. It shall be understood and agreed that the contract unit prices shall prevail regardless of changes to the contract quantities which may be made subsequent to the contract award and that no additional compensation per unit price or otherwise will be allowed for any increase or decrease in the quantities including, but not

limited to, decreases due to the deletion of an entire location/section of the improvement. No increase in unit price will be allowed if the method of construction changes due to increased or decreased quantity. By submitting a bid, the successful bidder agrees to be bound by said unit prices and will not make claims for adjustments due to work which may be added or deleted from the project.

AWARD OR REJECTION

THIS PROJECT SHALL BE AWARDED TO ONLY ONE (1) CONTRACTOR. The Village of Tinley Park reserves the right to award the contract to the lowest responsible Bidder in the schedule of prices, based upon which lowest bid is in the best financial interest of the Village. Providing the lowest bid does not guarantee the Contractor will be awarded the contract, as the Contractor will need to be the lowest bidder the Village ultimately selects at its own discretion.

Each Bidder must submit bids to be eligible for the award of the contract. Failure to do so may result in the rejection of the Contractor's Bid.

Accompanying the proposal is either a bid bond on Department form BLR 12230 or a proposal guarantee check, complying with the specifications made payable to the Village Treasurer, with the amount being 10% of the bid amount for the total.

The Owner reserves the right to accept or reject any and all proposals or to waive technicalities or to accept or reject any item of any proposal, and to disregard any informality on the bids and bidding, when in it is opinion the best interest of the Village will be served by such actions. After the bid opening time, no bid shall be withdrawn or canceled for a period of sixty (60) calendar days. All bidders must submit a Bid for all items included to have a responsive bid. Failure to comply with all items of this provision will be a basis for rejecting the Bid.

BASIS OF AWARD

This project has a base bid and an alternate bid. The Base Bid includes all of the work designated in the plans and specifications for the water main and roadway work and excludes all work associated with the street lighting while Alternate Bid 1 includes all of the work designated on the plans and specifications associated with the street lighting. The Contract will be awarded at the Village's discretion based on the lowest responsive responsible bid received for either the base bid or the base bid plus alternate bid. It is the Village's intent to award a contract based on funding limits.

PREQUALIFICATION

The Contractor shall be IDOT prequalified for roadway. A copy of the current IDOT Prequalification shall be submitted with bid. If this information is not supplied or on file, the bid documents shall be withheld. Also, the Contractor shall have sufficient experience, as determined by the Village and its representatives, in the field of municipal underground utility construction to warrant release of the bid documents. The Contractor shall provide such documentation as is deemed necessary upon request. If this information is not satisfactorily completed, the bid documents shall be withheld. The Contractor shall have completed at least a total of 5 municipal utility projects in the last 5 years, of which the total utility work performed by the Contractor represented at least $200,000 of each contract.

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. All Contractors and subcontractors rendering services under this contract must comply with all requirements of the Act, *including but not limited to*, all wage, notice and record keeping duties.

MATERIAL INSPECTION REPORTS

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

The Contractor shall be responsible for QC testing of these materials with the Engineer being notified at least forty-eight (48) hours in advance of the placement of any of these materials. The Local Agency shall be responsible for the QA testing of these materials on the job and at the plant per article 1030 of the Standard Specifications. Please note that the Contractor is required to submit a QC plan to the Engineer for approval per the referenced specifications.

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

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

PUBLIC CONSTRUCTION ACT, 30 ILCS 557/1

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

INSURANCE COVERAGE

The Insurance Requirements can be found in Section 7 of the General Requirements "Legal Relations and Responsibility to the Public". The Contractor and any subcontractors shall obtain and thereafter keep in force for the term of the contract the insurance coverage specified in this section. The Contractor shall not

commence work under the Contract until all the insurance required by this section or any Special Provision has been obtained.

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

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

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 $50,000 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 in color and submitted as an electronic file on a flash drive. 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 – 174th STREET, 66th COURT AND 173RD PLACE ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT." 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.

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.

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. At the end of each working day, the Contractor shall provide a steel plate, barricades, warning tape and any other safety measures deemed necessary by the Village/Engineer over the excavated areas so that traffic, parking or access is not impeded during non-working hours. 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, but shall be included in the cost of the various removal items.

PUBLIC AND RESIDENT NOTIFICATION

If the Contractor is required to shutoff existing utility service (i.e. sanitary, power, communications, and gas) for any reason during the course of this project, the Contractor shall provide 24-hour advance written notice to: 1) the Village of Tinley Park of the scheduled work, 2) those residents/businesses with connections to the water sections affected by the work via door hangers, and 3) any other residents that may potentially be adversely affected by the water main construction operations via door hangers. Access to residential and commercial driveways shall be maintained when possible.

WAIVERS OF LIEN

The Contractor, and all subcontractors, shall submit waivers of lien to the Owner/Engineer for all work performed for the 30 days prior to the pay request.

COMPLETION SCHEDULE

It is anticipated that the contract will be awarded on June 7, 2022. A preconstruction meeting will be scheduled on or before June 21, 2022, and a notice to proceed issued by June 22, 2022.

The awarded Contractor shall schedule his work such that completion of the water main construction and the water main in operation by September 14, 2022. Substantial Completion of the base bid project shall be achieved by **October 11, 2022** and all punch list items and restoration completed by November 23, 2022. Substantial Completion is defined as: water main and services installed, disinfected, pressure tested, connected and operational as well as installation of curb and gutter, binder course, surface course, sidewalks, ramps, and driveways.

The completion date for Alternate Bid 1 including all punch list items and restoration is April 30, 2023.

It is the Contractor's responsibility to ensure that the contract documents and insurance requirements are met in a timely manner after award as no work will be allowed until this information is received and correct. No adjustment to completion date will be made if this requirement is not met. Failure to complete the work on time may result in assessment of liquidated damages in accordance with Section 8-9, "FAILURE TO COMPLETE THE WORK ON TIME" of the General Requirements & Covenants of this contract.

COORDINATION WITH ENGINEERING OBSERVER REQUIRED

The purpose of this section is to define a minimum acceptable level of communication from the Contractor in order to efficiently coordinate and utilize Village resources. The Contractor is required to communicate

with the Engineering Observer designated by the Village regarding the schedule to complete the Work and any proposed changes to that schedule. The Contractor must provide notice to the Engineering Observer at least 5 full working days prior to initiating the Work. After initiating the Work, if the Contractor intends to cease work for more than 3 working days, and such request is approved in writing by the Village, the Contractor must notify the Engineering Observer at least 24 hours prior to the day which no Work will be taking place onsite. When the Contractor intends to resume Work onsite, he must provide notice to the Engineering Observer at least 24 hours prior. If the Contractor cancels work for the day or delays starting work from the expected start time due to any circumstance (i.e. weather, etc.), the Contractor must notify the Engineering Observer by 5:00 AM the same day. If the Contractor fails to notify the Engineering Observer in accordance with the provisions of this section, the Contractor shall be responsible for reimbursement of costs incurred (accounted for at current billing rates) due to his failure to communicate with the Engineering Observer or Engineer. By submitting a bid, the Contractor understands, acknowledges, and accepts these responsibilities.

AS-BUILT DRAWINGS

The Contractor will be responsible for providing two copies of red-lined drawings showing field lengths, rim and invert elevations and locations for all water system appurtenances installed as part of this contract including manholes, inlets/catch basins, stubs, and crossing locations. Distances should be given to each utility item from existing visible landmarks (surface or edge of pavement) identified on the design plans for this project. This work shall not be paid for separately, but shall be included in the unit cost of various items, and retention from final payment due Contractor shall be withheld until these drawings are reviewed and approved by the Village/Engineer.

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.

Street sweeping will be required 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 Contractor's responsibility to repair and shall be included in the unit price for the various removal items.

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

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

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

PERSONAL OR PROPERTY DAMAGE

Any and all claims of personal or property damage caused by the Contractor in the course of performing the work shall be reported to the Village immediately.

Any property damaged in any manner or in any way by the Contractor, in the course of performing the work, shall be repaired to equal or better than the original condition solely at the expense of the Contractor. Under no circumstances shall the Village or Engineer be held responsible for such damages or the repair or payment thereof.

Any and all claims of property damage caused by the Contractor in the course of performing the work shall be corrected immediately and expeditiously so as not to place an undue burden upon the claimant nor upon the Village.

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.

PERMITS AND LICENSURE

An Illinois Environmental Protection Agency Water Construction Permit has been obtained for this project. The Contractor shall be responsible for completing all work in accordance with the requirement set forth in this permit, as well as the provisions of this contract.

The Contractor and all subcontractors must be licensed and bonded with the Village of Tinley Park Community Development Department (16250 S. Oak Avenue, 708-444-5100) and also provide proof of insurance, including workman's compensation insurance prior to the commencement of any work. Contractors and subcontractors who begin work that have not been licensed, bonded and provided proof of insurance to the Community Development Department shall cease work and have the cost of any outstanding fees doubled. Monetary penalties may also be applied to the cost of the license.

RESTORATION LIMITS

The Contractor shall only be compensated for restoration per the limits shown on the plan, or in accordance with this section, whichever is more restrictive, and shall take great care not to damage additional areas beyond those limits. The limit of restoration in grassed areas is 3 feet outside the allowable trench width, beyond the edge of constructed sidewalk, driveway pavement, curb and gutter, and aggregate for temporary access. The limits of pavement restoration in paved locations is 1 foot outside the allowable trench width. Grassed areas disturbed beyond said limits shall be restored at the Contractor's expense with 4 inches of topsoil and sodding in accordance with the specifications and standards contained herein. Paved surfaces not called out to be removed which are damaged or disturbed shall be removed and replaced at the Contractor's expense in accordance with the specifications and standards contained herein. Rough grading to the subgrade of the topsoil shall be included in the cost of the various landscaping restoration items.

CONCRETE TRUCK WASHOUT

This item of work shall be constructed at a location(s) determined by the Contractor and approved by the Village/Engineer in accordance with the details of the Illinois Urban Manual. The Contractor must use the concrete truck washout and shall be responsible for constructing, maintaining, and removing the concrete truck washout(s) as part of this item. The cost for this work including all material and labor required will be paid for at the contract unit price bid per EACH for CONCRETE TRUCK WASHOUT.

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 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 laboratory testing costs above $1,000.00. The work contained within this special provision shall be considered incidental to the contract.

WATER MAIN SHUT DOWN

The Contractor will not be allowed to shut down or operate any existing water mains or valves. The contractor shall notify the Village of Tinley Park Water Department a minimum of 24 hours in advance if any valve operations are required.

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. Any water used on this project shall be metered through meters provided by the Village. The Contractor will not be charged for water use but is required to make cash deposits prior to obtaining meters. The Contractor shall report the total water used to the Water Superintendent at the end of each working day.

PRESSURE TEST, STERILIZATION, AND FLUSHING OF PIPING

All piping used in the transmission of water to the distribution system shall be properly pressure tested and sterilized. The dosage shall be such as to produce a minimum of fifty (50) parts per million concentration. The heavily chlorinated water shall be retained in the water distribution system for a period of at least twenty-four (24) hours, after which time it shall be flushed out.

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 2.5 feet per second in the main. A 2-1/2 inch hydrant opening will, under normal pressures, provide this velocity in pipe sizes up to and including 12 inches. Flushing shall meet AWWA C651. All taps 2 inch in size and smaller required for chlorination or flushing

purposes, or for temporary or permanent release of air, shall be provided by the Contractor as a part of the construction of water mains with no additional compensation.

When the complete system has been thoroughly flushed, samples shall be collected at the discharge main to be delivered to the lab for bacteriological examination. Should the results prove satisfactory, the system shall be placed in service; otherwise, it shall be cause for re-sterilization. This work will not be paid for separately but will be considered included in the unit cost of various water main items. Water main shall be pressure tested at 150 psi for a minimum of two hours with no pressure loss.

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 shall be included in the various pay items.

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.

DEWATERING

The Contractor shall be responsible for dewatering the trench and maintaining the water level below the bottom of the pipe until the pipe has been backfilled in order to preserve the line and grade of the pipe. This dewatering shall include all surface water from rainfall, snowmelt, etc. All such dewatering expenses including pumps and additional drain rock shall not be compensated for separately but shall be considered incidental to the contract.

TRAFFIC CONTROL PLAN

Traffic Control shall be in accordance with the applicable sections of the Standard Specifications for Road and Bridge Construction, the applicable guidelines contained in the Illinois Manual on Uniform Traffic Control Devices for Streets and Highways, these Special Provisions and any special details and Highway Standards contained herein and in the plans and the Standard Specifications for Traffic Control Items.

Special attention is called to Articles 107.09 and 107.14 and Section 701 of the Standard Specifications for Road and Bridge Construction and the following Highway Standards relating to traffic control standards listed on the plan set and the latest edition of the standard incorporated by reference.

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. The Contractor shall be solely responsible for ensuring that all traffic control devices are installed and maintained in accordance with applicable state standards.

Contractor shall provide traffic control for the duration of the project. Road closure of 174th Street will be allowed during the road reconstruction portion of the contract. Contractor must coordinate the road closure with the Engineer and the Village and provide one (1) week advance written notice to the residents of 174th Street. This written notice shall inform residents of the road closure and the allowance for pedestrian access and shall be of a form and method approved by the Village of Tinley Park. The Contractor shall maintain access to residential driveways when possible.

The Contractor shall contact the Resident Engineering Representative at least 72 hours in advance of beginning work.

STANDARDS: 701501-06, 701801-06, 701901-08

Traffic Control will not be paid for separately but shall instead be considered incidental to the contract.

CLEARING AND GRUBBING

This work shall consist of the removal of trees and brush which block access locations to the water main construction, at the locations indicated on the plans, or as directed by the Engineer. Work shall be performed in accordance with Section 253 of the Standard Specifications and as detailed in the plans.

This work shall be paid for at the contract unit price per LUMP SUM for CLEARING AND GRUBBING. No trees or bushes shall be relocated without prior approval of the Village/Engineer.

EARTH EXCAVATION

This work shall consist of the removal of existing material under the entire width of the proposed 174th Street right-of-way in order to prepare the proposed subgrade at the proposed elevation. Earth excavation shall include removal of the existing roadway aggregate base and proper disposal by the Contractor. Earth excavation shall also include removal of existing material beneath the entire width of the proposed sidewalks within the project limits to meet the proposed subgrade design on the plans or as directed by the Engineer. This work shall be as specified and in accordance with applicable Sections 202, 204 and 205 of the Standard Specifications. All excess material generated from the construction of the improvements shall be disposed of properly by the Contractor.

This work will be paid for at the contract unit price per CUBIC YARD for EARTH EXCAVATION and shall include all excavation, disposal, materials, equipment, and labor required to complete the work as specified herein and shown on the plans. The Earth Excavation will not be measured in place, but shall be paid for based on the agreed upon Plan Quantity.

PAVEMENT REMOVAL

Where existing pavement is to be removed as shown on the plans or as directed by the Engineer, it shall be removed to a straight sawed joint. The saw cutting will be considered incidental to the pavement removal. The removal shall include existing asphalt pavement and concrete pavement. The existing roadway aggregate base removal shall be paid for separately as EARTH EXCAVATION.

The cost for this work including all labor and equipment required for the removal of the pavement and proper disposal will be paid for at the contract unit price per SQUARE YARD for PAVEMENT REMOVAL.

DRIVEWAY PAVEMENT REMOVAL

Where existing driveways are to be removed as shown on the plans or as directed by the Engineer, they shall be removed to a straight sawed joint. The saw cutting will be considered incidental to the driveway removal. The removal shall include whatever depth is necessary to achieve the desired replacement thickness.

Access to the property shall be maintained at all times by placement of Aggregate for Driveway Maintenance in driveway areas disturbed by the construction and is incidental to the contract. The Contractor shall periodically monitor the condition of temporary driveways to ensure that a safe access to the property exists, adding additional aggregate material when necessary.

The cost for this work including all labor and equipment required for the removal of the driveway will be paid for at the contract unit price per SQUARE YARD for DRIVEWAY PAVEMENT REMOVAL.

RELOCATE SIGN PANEL AND POST

This work consists of the removal and reinstallation of traffic sign panels and posts as shown on the plan or as directed by the Engineer.

The method and materials to be used for the reinstallation shall be in accordance with IDOT standards. New locations for the signs shall be determined and coordinated with the Village.

The cost for furnishing all labor, materials and equipment necessary for removal and reinstallation will be paid for at the contract unit price bid per EACH for RELOCATE SIGN PANEL AND POST.

COMBINATION CURB AND GUTTER REMOVAL

This item shall consist of the removal of combination concrete curb and gutter in accordance with Section 440 of the Standard Specifications, and as detailed in the plans by means of a straight sawed joint at locations as designated by the Engineer.

All existing pavement removed due to this work shall be replaced in two layers with a patch consisting of 1.5" of Hot-Mix Asphalt Surface Course, Mix "D", N50 over 4" of Hot-Mix Asphalt Binder Course, IL-19.0, N50. Saw cutting shall be required as directed by the Engineer to secure a straight joint.

All grassed areas disturbed by the removal of this item shall be restored in accordance with the TOPSOIL FURNISH AND PLACE, 4" and SODDING special provision contained herein and shall be paid for at the contract unit price for those pay items.

This work shall be measured along the face of the concrete curb, be paid for at the contract unit price per FOOT for COMBINATION CURB AND GUTTER REMOVAL and shall include the cost of all labor, equipment, materials, excavation and haul-off, saw cutting, any necessary HMA patching, and any other appurtenances required to complete the work as specified herein and on the plans.

AGGREGATE SHOULDER REMOVAL

This work shall consist of the removal of the existing aggregate shoulder at locations shown on the plans and as designated by the Engineer.

The cost for this work including all equipment and labor required will be paid for at the contract unit price bid per CUBIC YARD of AGGREGATE SHOULDER REMOVAL.

WATER MAIN REMOVAL

This item of work will include the removal of the existing water main at locations shown on the plans or as directed by the Engineer.

Measurement shall be made along the centerline of water main removed.

The cost for furnishing all labor, materials and equipment necessary for the excavation, and removal of the water main will be paid for at the contract unit price bid per FOOT for WATER MAIN REMOVAL.

FENCE REMOVAL AND REINSTALLATION

This item shall consist of removal and replacement of existing fencing, at locations shown on the plans or as directed by the Engineer. Existing fences shall be carefully removed and placed at a safe location(s) to prevent damage. If the fence is damaged in any manner or in any way by the Contractor, in the course of performing the work, it shall be repaired to equal or better than the original condition solely at the expense of the Contractor.

Where permissible by property owners, fencing may remain on the same property where temporarily removed. Temporary construction fencing shall be provided to control access to construction areas as necessary. Upon completion of construction activities, fencing shall be re-installed.
This work will be paid for at the contract unit price per FOOT for FENCE REMOVAL AND REINSTALLATION, which shall include all necessary equipment and labor to completely remove and reinstall fencing. The cost for temporary fencing to control construction access shall be considered incidental to the pay item.

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 as designated by the Engineer 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.

CUT AND CAP

The Contractor shall install the water main as shown on the plans and completely flush and chlorinate said main. Once the new water main is in service, 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 [SIZE SPECIFIED] CUT AND CAP.

LINE STOP

Under this item Contractor shall furnish all materials, labor and equipment to properly install and set line stops into the existing water mains, in parkway or pavement locations, where determined by the Engineer as being necessary to facilitate the capping of or connection to the existing water main.

The linestopping procedure is a means of temporarily plugging a water or sewer force main without disrupting pressure or service upstream of the line stop. A pressure tap is first made into the main, allowing insertion of the line stop-plugging device into the main under pressure. By using a special line stop fitting, the tapping valve can be recovered after the line stop-plugging head has been removed from the main.

The existing water mains, upstream of the line stop(s), cannot be shut down or taken out of service.

To ensure that the entire operation shall be accomplished without interruption of upstream water service of flow, the installation shall be accomplished by Contractor personnel skilled and experienced in the procedures specified to line stops of this size on cast iron or ductile iron water main. Installation shall be per manufacturer and industry standards.

The line stop fitting shall consist of a two (2) part, full encirclement stainless steel saddle with a stainless steel nozzle MIG welded to the upper saddle half. Accessories shall include all fasteners and gaskets noted below.

The stainless steel used in the saddle halves shall be Type 304, a minimum of 16 gauge (.0598") thick.

The line stop nozzle shall be machined from seamless pipe or tubing and shall have an external pipe thread to receive a screwed pipe cap at the end of the work. The interior shall be threaded to receive the completion plug.

The full encirclement saddle gasket shall be molded from an elastomer compound that will resist compression set and is compatible with drinking water in the temperature angle of -40 to 150 degrees F.

The gasket shall have molded grid pattern on the surface that seals against the main. The longitudinal ends of the gasket shall be tapered to allow sealing at the lap joint.

Materials for bolts and nuts shall be Type 304 stainless steel.

If applicable, the line stop fittings shall be compatible with the end users existing Hydra-Stop equipment or approved equal.

Sizes of mains shown on plans have been taken from records, and were not verified in the field. The type of pipe is not known but believed to be cast iron or ductile iron.

Before any excavation is started, the Contractor must have available at the job site line stop fittings that will fit both Class AB and Class CD pipe, Transite pipe, PVC pipe, and that he further has fittings on the job to fit pipe a nominal size larger and smaller than the proposed line stop.

Heavy tuberculation can be anticipated in the existing mains.

At request of the Engineer, the Contractor shall submit three (3) sets of drawings, furnished by the manufacturers, fully and distinctly illustrating and describing the line stop fitting proposed to be furnished.

Contractor shall first wire brush and grind the exterior of the main to remove any debris, corrosion, or other surface irregularities that might interfere with the proper sealing of the line stop-fitting gasket.

Under no circumstances shall the Contractor attempt to reshape or bend a line stop saddle in order to obtain greater gasket compression.

All gasket-sealing surfaces shall be thoroughly coated with Permatex No. 2 sealing compound, or approved equal, prior to assembly around the main. Fasteners shall be tightened in accordance with manufacturer's instructions.

The assembled line stop fitting and valve assembly shall be pressure tested.

If the existing main is to be cut in the same excavation as the line stop, the Contractor will be responsible for protecting the existing water main.

The Contractor will install any permanent concrete support or reaction blocking or other restraint as necessary.

Drilling equipment shall be in good condition and equipped with a power drive to insure smooth cutting and to minimize shock and vibration.

The shell cutter shall have carbide teeth to insure adequate performance if the existing main contains chill spots, sand inclusions or has cement lining.

Cutting equipment is to be chlorinated prior to staring the pressure tap.

The resilient plugging (sealing) elements shall be free from cuts, nick or other surface defects that could prevent a satisfactory shutdown. The sealing elements shall be inserted into the main by self-contained hydraulic or jackscrew actuators.

Line stop units are to be lightweight so they can be handled by manpower alone (no crane necessary).

The units furnished will be able to shut down heavily tuberculated lines through the expansion of the Stopper Rubber itself. Stationary (nonexpendable) stoppers needing a brushing technique are not acceptable.

No two holing (line-up), or knowledge of direction of flow will be necessary.

In the event that a satisfactory initial shutdown cannot be obtained by a line stop, Contractor shall repeatedly insert and remove the plugging head in an effort to break up tuberculation or other debris that interferes with a good shutdown.

If a satisfactory shutdown cannot be made at that location, the Contractor will, at his own expense, install a new line stop fitting upstream of the first, and continue repeating the process until a satisfactory shutdown is accomplished.

Line stop equipment is to be chlorinated prior to inserting into the main.

Shutdowns will be accomplished using line stops alone, or in combination with existing valves. Because of the interior condition of the mains and/or the age of the valves, "bottle-tight" shutdowns are not anticipated. A satisfactory shutdown is one which allows the required work (i.e. valve replacements, etc.) using drainage pumps to de-water the excavation, with workmen wearing boots and rain gear, if necessary.

If leakage is excessive, Contractor and municipal personnel will cooperate in using "geophones" or other listening devices to determine where the leakage is occurring. If excessive leakage is flowing through the municipal water valves, the municipality will determine whether to close additional valves or to authorize a Contract Extra to install more line stops.

In the event that a line stop location is abandoned, through no fault of the Contractor, he shall be entitled to payment for that line stop.

The line stop work will generally be performed in either a parkway or a compacted stone area. It is the intent of the contract to minimize any area disturbed by means of construction.

The cost for furnishing all labor, materials and equipment necessary for this work will be paid for at the contract unit price EACH for [SIZE SPECIFIED] LINE STOP.

WATER VALVE BOXES TO BE ABANDONED

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 WATER VALVE BOXES TO BE ABANDONED.

VALVE VAULTS TO BE ABANDONED

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.

EXPLORATION TRENCH, SPECIAL

As shown on the plans or at the request of the Engineer, the Contractor shall conduct additional exploratory excavations. This shall not include excavations normally needed for the installation of the water main pipe or services such as potholing dry utilities or excavating for points of connection. Those items shall be considered incidental to attributable line items. The intent of this work is to be required only when there are unforeseen circumstances that need to be explored once approval is obtained by the Engineer.

It is anticipated that this work will consist of providing an excavator with operator, foreman and laborer to provide for the excavation. Restoration will be paid separately. The Contractor shall be paid at the contract unit price per FOOT for EXPLORATION TRENCH, SPECIAL only when directed by the Engineer.

COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12

This item shall consist of the construction of combination concrete curb and gutter in accordance with Sections 606 of the Standard Specifications, and as detailed in the plans by means of a straight sawed joint at locations as designated by the Engineer. The curb and gutter shall be combination concrete curb and gutter, type B-6.12. All curb and gutter shall have a 4 inch aggregate base. The aggregate base shall extend 1 foot beyond the back of curb location.

Curbs shall be depressed across all driveways and sidewalk ramps as shown on the plans or as directed by the Engineer. Transitions between proposed and existing curb shall also be as indicated on the plans or as directed by the Engineer. This work will not be paid separately but shall be considered incidental to the unit price bid for combination concrete curb and gutter.

All new sections shall have saw cut contraction joints 2 inches deep at 15 foot intervals. This saw cutting shall be completed no later than 24 hours after pouring. The abutting street in front of the curb and all driveways, carriage walks and sidewalks behind the curb shall be restored to their original condition with like material. The surfaces shall be removed by sawed joints and one ½ inch preformed joint filler shall be used between new concrete and existing concrete; where concrete driveways, walks, etc. meet curbs; and between the curb and all steel castings.

This work shall be measured along the face of the concrete curb, be paid for at the contract unit price per FOOT for COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12, and shall include the cost of all labor, equipment, materials, excavation and haul-off required for construction, saw cutting, reinforcing bars, aggregate base, expansion material, and any other appurtenances required to complete the work as specified herein and on the plans.

PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 7 INCH

Where existing concrete driveways are to be removed as shown on the plans or as directed by the Engineer, they shall be removed to a straight sawed joint and the removed driveway restored with a minimum of seven inches (7") of P. C. Concrete and 4 inch Aggregate Base, Type B. This work shall be done in conformance with Sections 440 and 423 of the Standard Specifications.

This work shall include removal and disposal of the existing concrete driveway as shown on the plans or as directed by the Engineer. All work shall be in accordance with Section 440 of the Standard Specifications. Driveways shall be removed between joints. Saw cutting of the joints prior to removal will be required so as not to damage any adjacent concrete during removal. Driveway removal shall be paid for at the contract unit price bid per SQUARE YARD for DRIVEWAY PAVEMENT REMOVAL.

The cost for this work including Portland Cement Concrete, aggregate base course, equipment, labor, and any excavation required for the construction of the driveway will be paid for at the contract unit price per SQUARE YARD for PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 7 INCH.

HOT MIX ASPHALT DRIVEWAY PAVEMENT, 6"

Where existing asphalt driveways or parkways are to be removed, they shall be removed to a straight sawed joint and restored with a minimum of six inch (6") aggregate base, Type B, 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 two inches (2") Hot-Mix Asphalt Surface Course, Mix D, N50. This work shall be done in conformance with Section 440 of the Standard Specifications.

The cost for Hot-Mix Asphalt Binder and Surface Courses, prime coat, tack coat, and aggregate base 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, 4" (SPECIAL) and SODDING, SPECIAL specified elsewhere in these special provisions and paid for through those items.

CLASS D PATCHES, 6 INCH

This item shall consist of the removal of the existing asphalt pavement and the subsequent replacement to the depth specified herein with Class D patches in accordance with applicable articles in Sections 406, 440 and 442 of the Standard Specifications, except as modified herein, at locations directed by the Engineer.

The Contractor shall saw cut the limits of the existing asphalt surface at locations shown on the plans and as directed by the Engineer.

At patching locations as marked and directed by the Engineer, the existing asphalt pavement shall be removed to a depth of six inches (6") and replaced with an application on the aggregate base of Bituminous Materials (Prime Coat) at a rate of 0.25 pounds per square foot.

The existing aggregate base shall be removed and replaced to the depth specified by the Engineer. The replacement material shall be in accordance with Section 358 of the Standard Specifications for the AGGREGATE BASE COURSE, TYPE B pay item and will be paid for under the same pay item. The aggregate base shall be prepared and compacted according to Section 358 of the Standard Specifications. The preparation of base, including all costs associated with the removal of existing aggregate base, will be paid for at the contract unit price per SQUARE YARD of PREPARATION OF BASE.

The replacement patch shall consist of four inches (4") of Hot-Mix Asphalt Binder Course, IL-19.0, N50 and two inches (2") of Hot-Mix Asphalt Surface Course, Mix "D", IL-9.5, N50 installed to the existing street surface elevation.

Class D Patches shall be measured in place and the areas computed in square yards. The area measured shall be the actual areas required as ordered by the Engineer. If additional asphalt is removed or damaged due to the negligence on the part of the Contractor, the additional quantities shall not be measured for payment, but shall be done at the Contractor's expense.

This work shall be measured in place and paid for at the contract unit price per SQUARE YARD for CLASS D PATCHES, 6 INCH which price will include all materials, equipment and labor required to complete the work as specified above, excluding AGGREGATE BASE COURSE, TYPE B, and PREPARATION OF BASE.

PORTLAND CEMENT CONCRETE SIDEWALK , 5 INCH

This work shall include the installation of a new concrete sidewalk and aggregate base on a prepared subgrade. Sidewalk installation shall be 5 inches thickness over 4 inch aggregate base (CA-6) and 7 inches thickness over 4 inch aggregate base (CA-6) through driveway sections as indicated on the drawings.

This work shall include removal and disposal of the existing concrete sidewalk as shown on the plans or as directed by the Engineer. All work shall be in accordance with Section 440 of the Standard Specifications. Sidewalk shall be removed between joints. Saw cutting of the joints prior to removal will be required so as not to damage any adjacent concrete during removal. Sidewalk removal shall be paid for at the contract unit price bid per SQUARE FOOT for SIDEWALK REMOVAL.

This work shall be paid for at the contract unit price per SQUARE FOOT of PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH regardless of thickness and shall include all labor, materials, equipment, and haul-off of existing aggregate base as deemed necessary by the Engineer, aggregate base, compaction, and any other appurtenances necessary to complete the work as specified herein or on the plans.

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, Diagonal Curb Ramps, Corner Parallel Curb Ramps, and Mid-Block Curb Ramps for Sidewalks in accordance with Article 424.09 of the Standard Specifications. The detectable warning plate(s) shall be polymer composite material Federal Standard brick red in color cast in place non-replaceable design and meet the Village of Tinley Park Standards. No hardware shall be present on the tile and the tiles shall be installed such that at least one inch of concrete surrounds the outer edges of the tile. 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 TACTILE/DETECTABLE WARNING SURFACE and will include all materials, equipment and labor required to complete the work as specified above.

DUCTILE IRON WATER MAIN WITH POLYETHYLENE ENCASEMENT

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, McWane Tyton, "Push-On" Joint, or approved equal, and must meet all applicable requirements of ANSI A21.51, AWWA C151 (AWWA Standard for Ductile-Iron Pipe, Centrifugally Cast for Water), ANSI A21.10, AWWA C110 (AWWA Standard for Ductile Iron and Grey Iron fittings for Water), AWWA C153 (AWWA Standard for Ductile-Iron Compact Fittings For Water Service), ANSI A21.11, AWWA C111 (AWWA Standard for Ductile-Iron and Grey-Iron Fittings For Water), ANSI A21.4, AWWA C104 (AWWA Standard for Cement Water Lining for Ductile Iron Pipe and Fitting for Water) specifications. All water mains shall be wrapped in 8-mil thick polyethylene encasement (V-bio polywrap) in accordance with ANSI A21.5 and AWWA C105 (AWWA Standard for Polyethylene Encasement for Ductile-Iron Pipe Systems) Method B, with pipe and joints wrapped separately.

This work shall be measured along the centerline of water main installed, be paid for at the contract unit price per FOOT for [SIZE SPECIFIED] DUCTILE IRON WATER MAIN WITH POLYETHYLENE ENCASEMENT, and shall include the cost of all labor, equipment, materials for construction of the new water main, excavation, material haul-off, backfilling, wrapping the water main, all water main fittings and joint restraints, and any

other appurtenances required to complete the work as specified herein and on the plans. Trench backfill shall be paid for separately.

VALVES

All valves 10" and smaller shall be East Jordan or approved equal resilient wedge gate valves abiding to AWWA C515 (AWWA Standard for Resilient-Seated Gate Valves for Water Supply Service) and AWWA C550 (AWWA Standard for Protective Interior Coatings for Valves and Hydrants).

All proposed valves larger than 10 inch 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 Superintendent. 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 10 inches in diameter, valve vaults shall have a forty-eight (48) inch inside diameter; for pressure connections and valves 12 inches and larger 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 [SPECIFIED SIZE] VALVE AND VALVE VAULT, TYPE A [SPECIFIED DIAMETER], TYPE 1 FRAME, CLOSED LID, and per EACH for [SPECIFIED SIZE] TAPPING SLEEVE AND VALE IN VALVE VAULT, TYPE A [SPECIFIED DIAMETER, TYPE 1 FRAME, CLOSED LID, installed, and shall include all equipment and labor necessary to complete the installation.

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.

DUCTILE IRON WATER MAIN FITTINGS

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. All fittings shall be of ductile iron material with "Megalug" retainer glands or approved equal as determined by the Owner.

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 furnishing all labor, materials, and equipment for the installation of fittings, excluding incidental to hydrant and tapping sleeve installations will be paid at the contract unit price per POUND for DUCTILE IRON WATER MAIN FITTINGS.

STAINLESS STEEL WATER MAIN T-HEAD BOLTS AND NUTS

Stainless steel T-head bolts and nuts shall be series S30400 AISI 304 meeting ASTM A193. To prevent galling the entire surface of the bolt shall be spray coated with burgundy colored 1010 Xylan as manufactured by Whitford Worldwide or approved equal. This item shall be incidental to the water main installation.

NON-PRESSURE CONNECTION TO EXISTING WATER MAIN

This work shall consist of performing a non-pressure connection by cutting-in the fitting(s) to existing water main of size indicated on the plans or as directed by the Engineer.

Existing watermains will be shut down by the Village for the connection process. The Contractor shall provide a minimum of 48-hour advanced written notice to the Village and any affected residents or businesses. Shut downs will need to be coordinated with the Village.

All excavation under and within two (2) feet of any pavement, curb and gutter or sidewalk shall be backfilled with trench backfill. Trench backfill shall be in accordance with the special provision Trench Backfill and will be paid for separately as TRENCH BACKFILL.

This item shall include material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, cutting of existing water main, plug removal, testing, disinfection, piping, valving, sleeves, fittings, existing water main

shut-down for connection and associated miscellaneous work required to furnish and install connection to existing water main as shown on the drawings. Includes removal, transporting, and disposal of excess excavated material.

The cost to perform the work as described above shall be paid for at the contract unit price bid per EACH for NON-PRESSURE CONNECTION TO EXISTING WATER MAIN – [SIZE SPECIFIED].

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 inch 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 bright yellow per the Village of Tinley Park Water Department by the manufacturer. 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.

1" WATER SERVICE, (SHORT)

This item shall include the installation of new water services and all necessary appurtenances from the new water main to the property line or at a location as directed by the Village/Engineer. All work shall be completed in accordance with Section 562 of the Standard Specifications. The Contractor shall provide adequate protection of the water services when the services are subject to IEPA horizontal and vertical separation requirements, including providing water main quality casings, if necessary.

This work shall include all items necessary to complete the connection of the new water service to the watermain and residence including the copper water service, tap, saddle, corp stop, fittings, buffalo box and connection to the new main. Corporation stops will be a Mueller H-15025 or approved equal. A stainless-steel saddle shall be provided at all taps. All material shall be as approved by the Owner prior to installation. Connection of the new water service to the existing water service is included. The existing water service shall be disconnected or crimped on the portion to be abandoned. The removal and abandonment of the existing curb box shall also be included in this item of work. The remaining portion of the existing water service shall be connected to the new water service. The cost for the materials, excavation, trench backfill, service connection, tap, saddle, corp stop, and copper line shall all be included at the contract unit price bid per EACH for 1" WATER SERVICE, (SHORT).

1" WATER SERVICE, (LONG)

This item shall include the installation of new water services, and all necessary appurtenances from the new water main to the locations designated on the plans or as directed by the Village/Engineer. All work shall be completed in accordance with Section 562 of the Standard Specifications.

This work shall include all items necessary to complete the connection of the new water service to the watermain and residence including the copper water service, tap, saddle, corp stop, fittings, buffalo box and connection to the new main. Corporation stops will be a Mueller H-15025 or approved equal. A stainless-steel saddle shall be provided at all taps. All material shall be as approved by the Owner prior to installation.

Connection of the new water service to the existing water service is included. The existing water service shall be disconnected or crimped on the portion to be abandoned. The removal and abandonment of the existing curb box shall also be included in this item of work. The remaining portion of the existing water service shall be connected to the new water service. The cost for the materials, excavation, trench backfill, service connection, tap, saddle, corp stop, and copper line shall all be included at the contract unit price bid per EACH for 1" WATER SERVICE, (LONG).

SANITARY SEWER SERVICE ADJUSTMENT

This item shall include the adjustments of any sanitary sewer services, as well as any sewer lines less than 12" diameter, encountered by the construction of the proposed water main. The Contractor shall make every attempt possible to avoid these facilities, and, if in the opinion of the Engineer, the facilities are damaged due to carelessness by the Contractor, no compensation will be made for the replacement of same.

If adjustment of certain services is necessary, the work shall be done in a workmanlike fashion, minimizing the downtime of the residents' services, and shall include all necessary labor and materials to properly complete the adjustment. All sanitary services shall be replaced with ductile iron pipe for 10 feet on either side of the water main. Non-shear mission couplings shall be used. This work shall be paid for at the contract unit price per EACH for SANITARY SEWER SERVICE ADJUSTMENT and shall include all labor, material, equipment, pipe, joint materials, bedding, trench backfill, and any other appurtenances necessary required to complete the work as specified herein or on the plans.

STEEL SLEEVE-OPEN CUT INSTALLATION

This work shall consist of furnishing spiral welded, steel casing of the thickness listed in the table below and of the outer diameter specified on the plans or as directed by the Engineer. The sleeve shall meet ASTM A139 and ANSI/AWWA C200 (AWWA Standard for Steel Water Pipe—6 in. (150 mm) and Larger), Grade B, minimum yield strength of 35,000 psi. Sleeves shall extend at least ten feet (10') beyond the outer edge of the existing pavement or sewer pipe, as indicated in the detail drawings, unless otherwise approved by the Engineer. All work shall be done in accordance with Section 552 of the Standard Specifications.

After installation of the steel sleeve is completed, the proposed water main shall be constructed in place within the sleeve. The water main shall be inserted and centered by use of model CCS stainless steel casing spacers as manufactured by Cascade Waterworks Mfg. Co. of Yorkville, IL or approved equal at a maximum spacing of 10 feet. Casing spacers shall be bolt on style with a two-piece shell made from T-304 stainless steel of a minimum 14-gauge thickness. Each shell section shall have bolt flanges formed with ribs for added strength. Each connecting flange shall have a minimum of three 5/16" T-304 bolts. The shell shall be lined with a ribbed PVC extrusion with a retaining section that overlaps the edge of the shell and prevents slippage. Bearing surfaces (runners) made from UHMW polymer with a static coefficient of friction of 0.11-0.13 shall be attached to support structures (risers) at appropriate positions to properly support the carrier within the casing and to ease installation. The runners shall be attached mechanically by T-304 threaded fasteners inserted through the punched riser section and TIG welded for strength. Risers shall be made of T-304 14 gauge stainless steel. All risers over two inches (2") in height shall be reinforced. Risers shall be MIG welded to the shell. All metal surfaces shall be fully passivated. The ends of the sleeve shall be sealed using a method approved by the Engineer.

The cost for casing spacers, filling of the annular space (if required), and furnishing and installing the steel sleeve shall be incidental to the contract unit price for the steel sleeve. Unless otherwise shown on the plans, steel sleeves [casings] shall be of the size and thickness shown in the table below:

Standard Sizes of Steel Sleeves Used As Casings*

Carrier Pipe ID in Inches	Casing Wall Thickness in Inches	Casing Outside Diameter in Inches
6	0.344	14
8	0.344	16
12	0.375	20
16	0.469	24
20	0.563	30
24	0.625	36
30	0.719	42
36	0.781	48
42	0.875, 0.938	60, 66
48	1.000	72

The cost of furnishing and installation of the steel sleeve, and all incidental work necessary for its installation, including casing spacers, will be paid for at the contract unit price per FOOT for [SPECIFIED SIZE] DIAMETER STEEL SLEEVE, [SPECIFIED SIZE] WALL THICKNESS, OPEN CUT INSTALLATION. The cost for water main constructed within the sleeves will be paid for at its unit price.

REMOVE AND REPLACE STORM SEWER WITH WATER MAIN QUALITY PIPE

This work consists of the removal and replacement of storm sewer with water main quality pipe as shown on the plan or as directed by the Engineer. At locations where sewers will cross the proposed water main, the sewer must be water main quality pipe. At locations where the sewers will not cross the proposed water main and/or proper horizontal separation between water and sewer utilities can be maintained, the sewer material may be gasketed reinforced concrete pipe. Sewer installations shall be completed in accordance with Sections 550 and 563 of the Standard Specifications.

The method and materials to be used for the reconnection to the sewer shall be approved by the Engineer. Trench backfill required for storm sewer installation shall be considered incidental to the proposed storm sewer. Connections of the proposed storm sewer to existing storm sewer shall be made with a concrete collar and are incidental to the storm sewer cost. Measurement shall be made along the centerline of sewer installed.

The cost for furnishing all labor, materials and equipment necessary for excavation, installation and backfilling of water main quality storm sewers will be paid for at the contract unit price bid per FOOT for REMOVE AND REPLACE [SPECIFIED DIAMETER] STORM SEWER WITH WATER MAIN QUALITY PIPE.

STORM SEWERS, TYPE 1, WATER MAIN QUALITY PIPE, 12"

This work consists of the installation of storm sewers with water main quality pipe as shown on the plans or as directed by the Engineer. At locations where existing and/or proposed storm sewers cross the proposed water main, the sewer must be water main quality pipe. The sewer material shall be gasketed reinforced

concrete pipe. This work shall be done in accordance with applicable portions of Section 550 and 563 of the Standard Specifications.

Trenches falling within 2' of paved surfaces shall be backfilled in accordance with the special provision for Trench Backfill.

This work shall be paid for at the contract unit price per FOOT for STORM SEWERS, TYPE 1, WATER MAIN QUALITY PIPE, 12" and shall include all excavation, materials, equipment, and labor, etc. required to complete the work as specified herein.

PROPOSED MANHOLE/CATCH BASIN CONNECTION OVER EXISTING STORM SEWER

This work shall include the installation of a new manhole or catch basin over an existing storm sewer at a location shown on the plans or as directed by the Engineer.

The existing sewer pipe shall be sawcut and removed as necessary to fit the proposed manhole or catch basin structure. The existing pipes shall be extended such that the pipes may be grouted into openings in the new structure with non-shrink mortar. All pipe joints shall be grouted in accordance with Section 550 of the Standard Specifications.

This work shall be paid for at the contract unit price per EACH for PROPOSED MANHOLE/CATCH BASIN CONNECTION OVER EXISTING STORM SEWER and shall include all excavation, materials, equipment, and labor, etc. required to complete the work as specified herein. The manhole or catch basin structure shall be paid for separately.

TOPSOIL FURNISH AND PLACE, 4" (SPECIAL)

This work shall consist of the furnishing and placing of four inches (4") of pulverized topsoil. 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 in all disturbed areas following construction 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 must 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.

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

SODDING, SPECIAL

A Professional Landscaping Company, approved by the Engineer prior to the start of work, must perform all permanent restoration procedures. This work shall be in accordance with Sections 211 and 252 of the Standard Specifications except as modified herein.

Sodding limits are required to be approved by the Engineer. Existing areas not disturbed by construction that are in good condition as determined by the Engineer shall not be removed. These areas shall remain in place and new sod planted adjacent to it.

All construction debris shall be removed before topsoil and sod are placed.

A minimum four inches (4") of topsoil must be used to restore lawn areas disturbed by construction. The quality of the delivered topsoil shall be certified per IDOT specification 1081.05 (a). Removal of existing soils required to place the 4" of topsoil shall be considered included in the cost of this pay item.

Sod: Use top quality, 12 to 18-month-old bluegrass sod consisting of a minimum of 3 varieties of Bluegrass evenly blended, such as Adelphi, Rugby, Glade, Parade or equivalent. Sod shall be ¾-inch thick and 18 inches wide (minimum) with each piece being of uniform size and thickness for proper installation.

Sod shall be properly moist at the time of cutting and shall be laid within 24 hours of cutting to prevent excessive heat buildup. **The minimum width of restoration shall be 18"**. Lay sod with ends staggered by a minimum of 1-foot. Adjust the sod so seams are firmly butted together and curled edges are laid flat. Water thoroughly until subsoil is wet and whenever sod shows signs of drying or wilting. Sprinklers or nozzle hoses are acceptable. Continue watering until the project is accepted. Watering shall be in accordance with Section 252. Fertilize immediately prior to placement. Fertilizer shall be in accordance with article 252.03 and shall be applied via mechanical spreader. Sod operations shall be repeated until a satisfactory uniform stand of grass is obtained as determined by the Engineer.

A well-made lawn is desired and the Contractor must perform the Work in accordance with the best lawn making practice. In the absence of rain, all sodded areas must be watered thoroughly. The Contractor must supply a watering truck at no additional cost to the Contract. Contractor shall furnish all hoses, meters, back flow preventers, and any other connections necessary to perform watering needs. The direct use of Tinley Park Hydrants shall not be permitted for acquiring water for watering the restoration. Water must be obtained at the hydrant at Public Works Annex and Garage located at 7980 W. 183rd Street and shall be coordinated through the Village Public Works Department.

This work shall be paid for at the contract unit price, per SQUARE YARD, for SODDING, SPECIAL, which price shall include all labor, material and equipment to perform the work specified above.

PERIMETER EROSION BARRIER

This work shall consist of constructing silt filter fence at locations shown in the contract drawings and/or as directed by the Engineer for the purposes of preventing erosion of construction site materials into drainage ways. All work shall be performed in accordance with the applicable articles of Section 280 of the Standard Specifications, and in accordance with the detail drawings and notes on the erosion control plans.

Silt Fence shall be installed as shown on the plans and as directed by the resident engineer.

The Contractor shall be responsible for monitoring the condition of all silt fences as the construction proceeds, and shall maintain them in proper working order for the duration of the project. All silt fences shall be removed and properly disposed of, and excavated areas restored to their original condition, after the sewer construction and backfill operations are completed.

Measurement for payment for silt fence shall be along the centerline of fence installed. The cost for all work required, including excavation of post holes, fence posts, geotextile fabric, fabric anchorage materials, and fence maintenance and removal shall be included in the contract unit price bid per FOOT for PERIMETER EROSION BARRIER.

TREE PLANTING IN VILLAGE PARKWAYS

This work shall consist of furnishing and installing tree(s) scheduled on the plans to be replaced or trees that will be sufficiently damaged and/or killed as a result of construction operations at the locations directed by the Engineer.

Replacement tree species shall be in accordance with parkway trees approved by the Village of Tinley Park and homeowners. A list of recommended tree species for planting including maple, oak, locust, and linden trees is available with the Village. Tree species shall be varied and not all the same. The Contractor shall submit a planting plan with tree species and location to be reviewed and approved by the Village prior to planting. Work shall be performed in accordance with Section 253 of the Standard Specifications.

This work will be paid for at the contract unit price per EACH for TREE PLANTING IN VILLAGE PARKWAYS, which shall include equipment and labor required to install the new tree.

GENERAL ELECTRICAL REQUIREMENTS

This special provision replaces Articles 801.01 – 801.07, 801.09 – 801-16 of the Standard Specifications.

Definition. Codes, standards, and industry specifications cited for electrical work shall be by definition the latest adopted version thereof, unless indicated otherwise.

Materials by definition shall include electrical equipment, fittings, devices, motors, appliances, fixtures, apparatus, all hardware and appurtenances, and the like, used as part of, or in connection with, electrical installation.

Standards of Installation. Materials shall be installed according to the manufacturer's recommendations, the NEC, OSHA, the NESC, and AASHTO's Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.

All like materials shall be from the same manufacturer. Listed and labeled materials shall be used whenever possible. The listing shall be according to UL or an approved equivalent.

Safety and Protection. Safety and protection requirements shall be as follows.

Safety. Electrical systems shall not be left in an exposed or otherwise hazardous condition. All electrical boxes, cabinets, pole handholes, etc. which contain wiring, either energized or non-energized, shall be closed or shall have covers in place and be locked when possible, during nonworking hours.

Protection. Electrical raceway or duct openings shall be capped or otherwise sealed from the entrance of water and dirt. Wiring shall be protected from mechanical injury.

Equipment Grounding Conductor. All electrical systems, materials, and appurtenances shall be grounded. Good ground continuity throughout the electrical system shall be assured, even though every detail of the requirements is not specified or shown. Electrical circuits shall have a continuous insulated equipment grounding conductor. When metallic conduit is used, it shall be bonded to the equipment grounding conductor, but shall not be used as the equipment grounding conductor.

Where connections are made to painted surfaces, the paint shall be scraped to fully expose metal at the connection point. After the connection is completed, the paint system shall be repaired to the satisfaction of the Engineer.

Bonding of all boxes and other metallic enclosures throughout the wiring system to the equipment grounding conductor shall be made using a splice and pigtail connection. Mechanical connectors shall have a serrated washer at the contact surface.

All connections to structural steel or fencing shall be made with exothermic welds. Care shall be taken not to weaken load carrying members. Where connections are made to epoxy coated reinforcing steel, the epoxy coating shall be sufficiently removed to facilitate a mechanical connection. The epoxy coating shall be

repaired to the satisfaction of the Engineer. Where connections are made to insulated conductors, the connection shall be wrapped with at least four layers of electrical tape extended 6 in. (150 mm) onto the conductor insulation.

Submittals. At the preconstruction meeting, the Contractor shall submit a written listing of manufacturers for all major electrical and mechanical items. The list of manufacturers shall be binding, except by written request from the Contractor and approval by the Engineer. The request shall include acceptable reasons and documentation for the change.

Major items shall include, but not limited to the following:

Type of Work (discipline)	Item
All Electrical Work	Electric Service Metering Transformers Cable Unit Duct Splices Conduit Surge Suppression System
Lighting	Pole Luminaire Foundation

The Engineer will review the submittals for conformance with the design concept of the project according to Article 105.04 and the following. The Engineer will stamp the drawings indicating their status as "Approved", "Approved as Noted", "Disapproved", or "Information Only". Since the Engineer's review is for conformance with the design concept only, it shall be the Contractor's responsibility to coordinate the various items into a working system as specified. The Contractor shall not be relieved from responsibility for errors or omissions in the shop, working, or layout drawings by the Engineer's approval thereof. The Contractor shall still be in full compliance with contract and specification requirements.

All submitted items reviewed and marked "Disapproved" or "Approved as Noted" shall be resubmitted by the Contractor in their entirety, unless otherwise indicated within the submittal comments.

Work shall not begin until the Engineer has approved the submittal. Material installed prior to approval by the Engineer, will be subject to removal and replacement at no additional cost to the municipality.

Unless otherwise approved by the Engineer, all the above items shall be submitted to the Engineer at the same time. Each item shall be properly identified by route, and project number.

Certifications. When certifications are specified and are available prior to material manufacture, the certification shall be included in the submittal information. When specified and only available after manufacture, the submittal shall include a statement of intent to furnish certification. All certificates shall be complete with all appropriate test dates and data.

Authorized Project Delay. See Article 801.08

Inspection of electrical work. Inspection of electrical work shall be according to Article 105.12 and the following.

Before any splice, tap, or electrical connection is covered in handholes, junction boxes, light poles, or other enclosures, the Contractor shall notify and make available such wiring for the Engineer's inspection.

Maintenance and Responsibility During Construction.

Lighting Operation and Maintenance Responsibility. The scope of work shall include the assumption of responsibility for the continuing operation and maintenance of the proposed lighting system and all appurtenances affected by the work as specified elsewhere herein. Maintenance of lighting systems is specified elsewhere.

Energy and Demand Charges. The payment of basic energy and demand charges by the electric utility for existing lighting which remains in service will continue as a responsibility of the Owner, unless otherwise indicated. Unless otherwise indicated or required by the Engineer duplicate lighting systems (such as temporary lighting and proposed new lighting) shall not be operated simultaneously at the Owner's expense and lighting systems shall not be kept in operation during long daytime periods at the Owner's expense. Upon written authorization from the Engineer to place a proposed new lighting system in service, whether the system has passed final acceptance or not, (such as to allow temporary lighting to be removed), the Owner will accept responsibility for energy and demand charges for such lighting, effective the date of authorization. All other energy and demand payments to the utility shall be the responsibility of the Contractor until final acceptance.

Damage to Electrical Systems. Should damage occur to any existing electrical systems through the Contractor's operations, the Engineer will designate the repairs as emergency or non-emergency in nature.

Emergency repairs shall be made by the Contractor, or as determined by the Engineer, the municipality, or its agent. Non-emergency repairs shall be performed by the Contractor within six working days following discovery or notification. All repairs shall be performed in an expeditious manner to assure all electrical systems are operational as soon as possible. The repairs shall be performed at no additional cost to the municipality.

Lighting. An outage will be considered an emergency when three or more lights on a circuit or three successive lights are not operational. Knocked down materials, which result in a danger to the motoring public, will be considered an emergency repair.

Temporary aerial multi-conductor cable, with grounded messenger cable, will be permitted if it does not interfere with traffic or other operations, and if the Engineer determines it does not require unacceptable modification to existing installations.

Testing. Before final inspection, the electrical work shall be tested. Tests may be made progressively as parts of the work are completed, or may be made when the work is complete. Tests shall be made in the presence of the Engineer. Items which fail to test satisfactorily shall be repaired or replaced. Tests shall include checks of control operation, system voltages, cable insulation, and ground resistance and continuity.

The forms for recording test readings will be available from the Engineer in electronic format. The Contractor shall provide the Engineer with a written report of all test data including the following:

- Voltage Tests
- Amperage Tests
- Insulation Resistance Tests
- Continuity tests

Lighting systems. The following tests shall be made.

(1) Voltage Measurements. Voltages in the cabinet from phase to phase and phase to neutral, at no load and at full load, shall be measured and recorded. Voltage readings at the last termination of each circuit shall be measured and recorded.

(2) Insulation Resistance. Insulation resistance to ground of each circuit at the cabinet, with all loads connected, shall be measured and recorded.

On tests of new cable runs, the readings shall exceed 50 megohms for phase and neutral conductors with a connected load over 20 A, and shall exceed 100 megohms for conductors with a connected load of 20 A or less.

On tests of cable runs which include cables which were existing in service prior to this contract, the resistance readings shall be the same or better than the readings recorded at the maintenance transfer at the beginning of the contract. Measurements shall be taken with a megohm meter approved by the Engineer.

(3) Loads. The current of each circuit, phase main, and neutral shall be measured and recorded. The Engineer may direct reasonable circuit rearrangement. The current readings shall be within ten percent of the connected load based on material ratings.

(4) Ground Continuity. Resistance of the system ground as taken from the farthest extension of each circuit run from the controller (i.e. check of equipment ground continuity for each circuit) shall be measured and recorded. Readings shall not exceed 2.0 ohms, regardless of the length of the circuit.

(5) Resistance of Grounding Electrodes. Resistance to ground of all grounding electrodes shall be measured and recorded. Measurements shall be made with a ground tester during dry soil conditions as approved by the Engineer. Resistance to ground shall not exceed 10 ohms.

All test results shall be furnished to the Engineer seven working days before the date the inspection is scheduled.

Record Drawings. Alterations and additions to the electrical installation made during the execution of the work shall be neatly and plainly marked in red by the Contractor on the full-size set of record drawings kept at the Engineer's on site. These drawings shall be updated on a daily basis and shall be available for inspection by the Engineer during the course of the work. The record drawings shall include the following:

- Cover Sheet
- Summary of Quantities, electrical items only
- Legends, Schedules and Notes
- Plan Sheet
- Pertinent Details

- Single Line Diagram
- Other useful information useful to locate and maintain the systems.

Any modifications to the details shall be indicated. Final quantities used shall be indicated on the Summary of Quantities. Foundation depths used shall also be listed.

As part of the record drawings, the Contractor shall inventory all materials, new or existing, on the project and record information on inventory sheets provided by the Engineer.

The inventory shall include:

- Location of Equipment, including rack, chassis, slot as applicable.
- Designation of Equipment
- Equipment manufacturer
- Equipment model number
- Equipment Version Number
- Equipment Configuration
- Equipment Serial Number

The following electronic inventory forms are available from the Engineer:

- Lighting Controller Inventory
- Lighting Inventory

The information shall be entered in the forms; handwritten entries will not be acceptable; except for signatures. Electronic file shall also be included in the documentation.

When the work is complete, and seven days before the request for a final inspection, the set of contract drawings, stamped "**RECORD DRAWINGS**", shall be submitted to the Engineer for review and approval and shall be stamped with the date and the signature of the Contractor's supervising Engineer or electrician. The record drawings shall be submitted in PDF format on CDROM as well as hardcopies for review and approval.

In addition to the record drawings, PDF copies of the final catalog cuts which have been Approved and Approved as Noted with applicable follow-up shall be submitted along with the record drawings. The PDF files shall clearly indicate either by filename or PDF table of contents the respective pay item number. Specific part or model numbers of items which have been selected shall be clearly visible. Hard copies of the catalog are not required with this submittal.

The Contractor shall provide two sets of electronically produced drawings in a moisture proof pouch to be kept on the inside door of the controller cabinet or other location approved by the Engineer. These drawings shall show the final as-built circuit orientation(s) of the project in the form of a single line diagram with all luminaires numbered and clearly identified for each circuit.

Final documentation shall be submitted as a complete submittal package, i.e. record drawings, test results, inventory, etc. shall be submitted at the same time. Partial piecemeal submittals will be rejected without review. A total of two hardcopies and CDROMs of the final documentation shall be submitted.

Acceptance. Acceptance of electrical work will be given at the time when the municipality assumes the responsibility to protect and maintain the work according to Article 107.30 or at the time of final inspection.

When the electrical work is complete, tested, and fully operational, the Contractor shall schedule an inspection for acceptance with the Engineer no less than seven working days prior to the desired inspection date. The Contractor shall furnish the necessary labor and equipment to make the inspection.

A written record of the test readings taken by the Contractor according to Article 801.13 shall be furnished to the Engineer seven working days before the date the inspection is scheduled. Inspection will not be made until after the delivery of acceptable record drawings, specified certifications, and the required guarantees.

Final Acceptance Documentation Checklist

LOCATION	
Route	Common Name
Limits	Section
Contract #	County
Controller Designation(s)	

ITEM	**Contractor (Verify)**	**Resident Engineer (Verify)**
Record Drawings		
-Four hardcopies (11" x 17")	☐	☐
-Scanned to two CD-ROMs	☐	☐
Field Inspection Tests		
-Voltage	☐	☐
-Amperage	☐	☐
-Cable Insulation Resistance	☐	☐
-Continuity	☐	☐
-Controller Ground Rod Resistance	☐	☐
Job Warranty Letter	☐	☐
Catalog Cut Submittals		
-Approved & Approved as Noted (Scanned to two CD's)	☐	☐

Four Hardcopies & scanned to two CD's shall be submitted for all items above. The CD ROM shall be labeled as shown in the example contained herein.

General Notes:

Record Drawings – The record drawings should contain contract cover sheet, summary of quantities showing all lighting pay item sheets, proposed lighting plans and lighting detail sheets. Submit hardcopies 11 x 17 size. Include the original "red-ink" copy. The red-ink markup should be neatly drawn. Record drawings copies should be legible. Blurred copies will not be acceptable. Temporary lighting plans and removal lighting plans should not be part of the set.

Field Inspection Tests – Testing should be done for proposed cables. Testing shall be per standard specifications. Forms shall be neatly filled out.

Job Warranty Letter – See standard specifications.

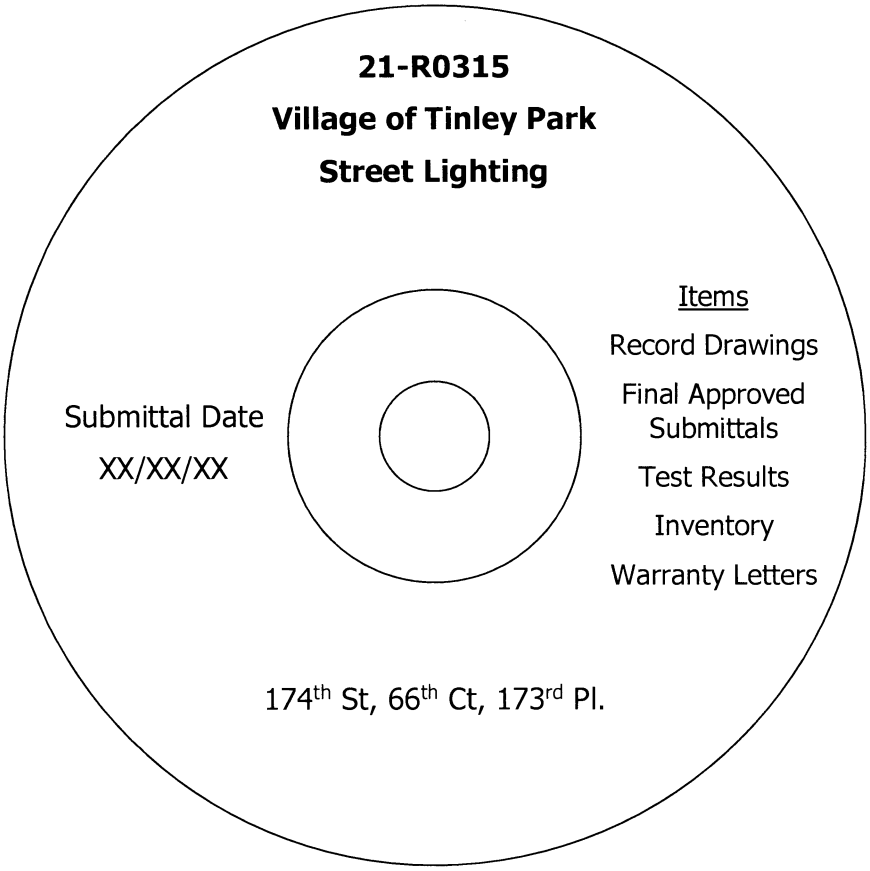
Cutsheet Submittal – See special provisions "General Electrical Requirements". Scan Approved and Approved as Noted cutsheets.

Lighting Inventory Form – Inventory form should include only proposed light poles, proposed light towers, proposed combination (traffic/light pole) lighting and proposed underpass luminaires.

Lighting Controller Inventory Form – Form should be filled out for only proposed lighting controllers.

CD LABEL FORMAT TEMPLATE.

Label must be printed; hand written labels are unacceptable and will be rejected.



UNDERGROUND RACEWAYS

Revise Article 810.04 of the Standard Specifications to read:

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

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

"Underground raceways shall be installed via trenchless methods where possible to minimize the need for restoration. If the Contractor chooses to trench the items in these areas, the restoration

and trench backfill costs will not be paid for separately but shall be considered incidental to the pay item."

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

Add the following to Article 810.04 of the Standard Specifications:

"All raceways which extend outside of a structure or duct bank but are not terminated in a cabinet, junction box, pull box, handhole, post, pole, or pedestal shall extend a minimum or 300 mm (12") or the length shown on the plans beyond the structure or duct bank. The end of this extension shall be capped and sealed with a cap designed for the conduit to be capped.

The ends of rigid metal conduit to be capped shall be threaded, the threads protected with full galvanizing, and capped with a threaded galvanized steel cap.

The ends of rigid nonmetallic conduit and coilable nonmetallic conduit shall be capped with a rigid PVC cap of not less than 3 mm (0.125") thick. The cap shall be sealed to the conduit using a room-temperature-vulcanizing (RTV) sealant compatible with the material of both the cap and the conduit. A washer or similar metal ring shall be glued to the inside center of the cap with epoxy, and the pull cord shall be tied to this ring."

WIRE AND CABLE

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

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

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

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

Revise the second paragraph of Article 1066.05 to read:

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

MAINTENANCE OF LIGHTING SYSTEMS

Replace Article 801.11 and 801.12 of the Standard Specifications with the following:

Effective the date the Contractor's activities (electrical or otherwise) at the job site begin, the Contractor shall be responsible for the proper operation and maintenance of all proposed or existing lighting systems which are part of, or which may be affected by the work until final acceptance or as otherwise determined by the Engineer.

Maintenance of Proposed Lighting Systems

Proposed Lighting Systems. Proposed lighting systems shall be defined as any lighting system or part of a lighting system, temporary or permanent, which is to be constructed under this contract.

The Contractor shall be fully responsible for maintenance of all items installed under this contract. Maintenance shall include, but not be limited to, any equipment failures or malfunctions as well as equipment damage either by the motoring public, Contractor operations, vandalism, or other means. The potential cost of replacing or repairing any malfunctioning, damaged, or vandalized equipment shall be included in the bid price of this item and will not be paid for separately.

Lighting System Maintenance Operations

The Contractor's responsibility shall include all applicable responsibilities of the Village of Sauk Village. These responsibilities shall include the maintenance of existing and proposed lighting units, cable runs and lighting controls affected by this project. In the case of a pole knockdown or sign light damage, the Contractor shall promptly clear the lighting unit and circuit discontinuity and restore the system to service.

If the equipment damaged by normal vehicular traffic, not Contractor operations, is beyond repair and cannot be re-set, the Contractor shall replace the equipment in kind with payment made for such equipment under Article 109.04. If the equipment damaged by any construction operations, not normal vehicular traffic, is beyond repair and cannot be re-set, the Contractor shall replace the equipment in kind and the cost of the equipment shall be included in the cost of this pay item and shall not be paid for separately.

Basis of Payment. Maintenance of proposed lighting systems will not be paid for separately, but shall be considered incidental to the new lighting items. Maintenance of existing lighting systems affected by the work included in this contract shall not be paid for separately, but shall be considered included in the cost of the various pay items included in this contact.

ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 4

This work shall consist of the furnishing, connections, and installation of electric cable in accordance with Section 810 except as modified herein.

The new cable shall be pulled through existing 1 ¼" schedule 40 unit duct at the locations shown on the plans. Splice connections to existing and proposed circuits will not be paid for separately, but shall be considered included in the cost of the cable.

This work shall be paid at the contract unit price per FOOT for ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 4 which shall be payment in full for the material and work described herein.

LIGHT POLE FOUNDATION, 20" DIAMETER

This work shall consist of the construction of steel reinforced concrete foundations, 20 inches in diameter, complete with raceways, all as indicated in the Contract Drawings, and in accordance with Section 836 of the Standard Specifications.

Foundations will be paid for at the contract unit price per FOOT for LIGHT POLE FOUNDATION, 20" DIAMETER.

LIGHT POLE, ALUMINUM, 25 FT. M.H., 8 FT. MAST ARM

This work shall consist of the furnishing and installing light poles in accordance with Section 830. The light poles shall be as shown on the plans.

This work shall be paid at the contract unit price per EACH for LIGHT POLE, ALUMINUM, 25 FT. M.H., 8 FT. MAST ARM, which shall be payment in full for the material and work described herein.

UNIT DUCT, 600V, 3-1C NO. 4, 1/C NO. 6 GROUND, (XLP-TYPE USE), 1 ½" DIA. POLYETHELYNE

This work shall consist of the furnishing, connections, and installation of conductors in plastic duct accordance with Section 816 except as modified herein.

Revise the first paragraph of Article 810.04 to read:

> "The unit duct shall be installed at a minimum depth of 30-inches (760 mm) unless otherwise directed by the Engineer."
>
> "Unit duct shall be installed via trenchless methods where possible to minimize the need for restoration. If the Contractor chooses to trench the items in these areas, the restoration and trench backfill costs will not be paid for separately but shall be considered incidental to the pay item."

Revise Article 1088.01(c) to read:

> "(c) Coilable Nonmetallic Conduit.
>
> General:
>
> The duct shall be a plastic duct which is intended for underground use and which can be manufactured and coiled or reeled in continuous transportable lengths and uncoiled for further processing and/or installation without adversely affecting its properties of performance.
>
> The duct shall be made of high density polyethylene which shall meet the requirements of ASTM D 2447, for schedule 40. The duct shall be composed of black high density polyethylene meeting the requirements of ASTM D 3350, Class C, Grade P33. The wall thickness shall be in accordance with Table 2 for ASTM D 2447.
>
> The duct shall be UL Listed per 651-B for continuous length HDPE coiled conduit. The duct shall also comply with NEC Article 354.100 and 354.120.
>
> Dimensions:

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

Marking:

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

This work shall be paid at the contract unit price per FOOT for UNIT DUCT, 600V, 3-1C NO. 4, 1/C NO. 6 GROUND, (XLP-TYPE USE), 1 ½" DIA. POLYETHELYNE which shall be payment in full for the material and work described herein.

LIGHTING UNIT COMPLETE, SPECIAL

This work shall consist of the furnishing and installation of complete decorative lighting units as shown on the plans and described herein.

The sole source manufacturer for this work is Sternberg. The luminaire shall be PT-6130CLED-MOD-4ARC22T3-MDL03-SV1-SRR7-SC-5AFUSE/BKT.

A GE Lightgrid node shall be included with the luminaire. The cost of the node, installation, and commissioning the node into the Village's system will not be paid for separately but shall be considered included in the cost of the luminaire.

The lighting unit shall be wired as shown on the plans so that the surge protection, fusing, and GFI circuit all work properly with the Lightgrid controller. This work and associated materials shall be considered included in the cost of the lighting unit.

Luminaire warranty shall be of the minimum of 10 years and shall cover maintained integrity and functionality of the following:

1. Luminaire housing, wiring, and connections including the optical assembly, reflector system, internal control devices, surge protection devices, internal wiring, terminal blocks, and connections
2. Defects in material and workmanship that result in deterioration of the finish in the form of blistering, cracking, or peeling affecting more than 15% of the total finished surface area.
3. LED light source(s)
   Negligible light output from more than 10 percent of the LED packages constitutes luminaire failure.

   Excessive lumen depreciation as defined by L70 defined as 70% of the manufacturer published luminous flux data as required to be included herein.
4. LED driver(s)

The warranty period shall begin on the date of final acceptance of the lighting work as documented in the Resident Engineer's project notes.

The pole shall be Sternberg 2227/1112FP5-.250/2-HH/1-GFI/LPIUC/1-FH/BK. The pole shall include all accessories as shown on the plans. The entire assembly shall be factory black textured powdercoat, including all hardware and bracketry. There shall be no exposed silver, bare aluminum, or bare steel shown.

This work shall be paid at the contract unit price EACH for LIGHTING UNIT COMPLETE, SPECIAL which shall be payment in full for the material and work described herein.

LUMINAIRE, LED, HORIZONTAL MOUNT, LOW WATTAGE

This work shall consist of the furnishing and installation of luminaires as shown on the plans and in accordance with IDOT BDE Special Provision "Luminaires, LED (BDE)" except as modified herein. This work shall include all labor, materials and equipment necessary for the proper installation.

The sole source luminaire for this installation is the GE Evolve ERL1-0-12-B5-40-A-GRAY-T

A GE Lightgrid node shall be included with the luminaire. The cost of the node, installation, and commissioning the node into the Village's system will not be paid for separately but shall be considered included in the cost of the luminaire.

Warranty shall be of the minimum of 10 years and shall cover maintained integrity and functionality of the following:

5. Luminaire housing, wiring, and connections including the optical assembly, reflector system, internal control devices, surge protection devices, internal wiring, terminal blocks, and connections
6. Defects in material and workmanship that result in deterioration of the finish in the form of blistering, cracking, or peeling affecting more than 15% of the total finished surface area.
7. LED light source(s)
   Negligible light output from more than 10 percent of the LED packages constitutes luminaire failure.

   Excessive lumen depreciation as defined by L70 defined as 70% of the manufacturer published luminous flux data as required to be included herein.
8. LED driver(s)

The warranty period shall begin on the date of final acceptance of the lighting work as documented in the Resident Engineer's project notes.

This item shall be paid at the contract unit price EACH for LUMINAIRE, LED, HORIZONTAL MOUNT, LOW WATTAGE which shall be payment in full for the material and work described herein.

LUMINAIRE, LED, HORIZONTAL MOUNT, MEDIUM WATTAGE

This work shall consist of the furnishing and installation of luminaires as shown on the plans and in accordance with IDOT BDE Special Provision "Luminaires, LED (BDE)" except as modified herein. This work shall include all labor, materials and equipment necessary for the proper installation.

The sole source luminaire for this installation is the GE Evolve ERL1-0-15-C5-40-A-GRAY-T

A GE Lightgrid node shall be included with the luminaire. The cost of the node, installation, and commissioning the node into the Village's system will not be paid for separately but shall be considered included in the cost of the luminaire.

Warranty shall be of the minimum of 10 years and shall cover maintained integrity and functionality of the following:

1. Luminaire housing, wiring, and connections including the optical assembly, reflector system, internal control devices, surge protection devices, internal wiring, terminal blocks, and connections
2. Defects in material and workmanship that result in deterioration of the finish in the form of blistering, cracking, or peeling affecting more than 15% of the total finished surface area.
3. LED light source(s)
   Negligible light output from more than 10 percent of the LED packages constitutes luminaire failure.

   Excessive lumen depreciation as defined by L70 defined as 70% of the manufacturer published luminous flux data as required to be included herein.

4. LED driver(s)

The warranty period shall begin on the date of final acceptance of the lighting work as documented in the Resident Engineer's project notes.

This item shall be paid at the contract unit price EACH for LUMINAIRE, LED, HORIZONTAL MOUNT, MEDIUM WATTAGE which shall be payment in full for the material and work described herein.

LIGHT POLE FOUNDATION, 20" DIAMETER, OFFSET

This work shall consist of the construction of steel reinforced concrete offset light pole foundations, 20 inches in diameter, with offset construction as indicated, complete with raceways, all as indicated in the Contract Drawings, and in accordance with Section 836 of the Standard Specifications.

Offset foundations will be used as necessary based on field conditions and the presence of utility conflicts that may be identified during exploratory excavation. The Contractor is hereby notified that there may need to be zero or more than one offset foundation needed.

Offset foundations will be paid for at the contract unit price per FOOT for LIGHT POLE FOUNDATION, 20" DIAMETER, OFFSET.

LIGHT POLE FOUNDATION, 24" DIAMETER, OFFSET

This work shall consist of the construction of steel reinforced concrete offset light pole foundations, 24 inches in diameter, with offset construction as indicated, complete with raceways, all as indicated in the Contract Drawings, and in accordance with Section 836 of the Standard Specifications.

Offset foundations will be used as necessary based on field conditions and the presence of utility conflicts that may be identified during exploratory excavation. The Contractor is hereby notified that there may need to be zero or more than one offset foundation needed.

Offset foundations will be paid for at the contract unit price per FOOT for LIGHT POLE FOUNDATION, 24" DIAMETER, OFFSET.

BOLLARDS

This work shall consist of installing steel light pole protection bollards in concrete foundations, including any required excavation and pavement removal necessary as shown in the detail drawings and as described herein. All work shall be in accordance with the applicable portions of Sections 503 and 1006 of the Standard Specifications. The Village will notify the contractor at the preconstruction meeting which lighting units will require protective bollards. The Contractor is hereby notified that there may need to be zero or more than one light pole location with protection needed.

Prior to excavating for the foundation, any pavement or concrete shall be sawcut according to the Special Provision for "Saw Cut Joints" or cored using a method approved by the Engineer. Materials removed or generated from the foundation excavation shall be disposed of off-site by the Contractor. After excavation, the shaft shall be cleaned of sediment or debris to the satisfaction of the Engineer.

The concrete foundation shall be constructed of non-reinforced Class SI Portland Cement Concrete in accordance with Section 503 of the Standard Specifications. The top of the concrete foundation shall be constructed flush with the finished grade of the adjacent pavement. The concrete encasement of the steel

pipe shall be furnished with a "concrete cap" to prevent water from ponding within the pipe as shown in the detail drawings.

The steel pipe shall be installed plumb according to the detail drawings. The pipe shall be schedule 40 steel pipe, painted black, and manufactured in accordance with Section 1006 of the Standard Specifications. The Contractor shall guarantee the painted finish of the supplied pipe shall remain corrosion free for a minimum of 5-years from the time of final acceptance as documented in the Engineer's project notes. Should the finish of the pipe corrode within the 5-year period specified, it shall be either replaced or repainted by the Contractor to the satisfaction of the Engineer at no additional cost to the Owner.

This work shall be paid for at the contract unit price per EACH for BOLLARDS which price shall be full compensation for all labor, equipment, and material to complete the work, as specified in these special provisions.

POTENTIAL LEAD SERVICE REPLACEMENT – ROUNDWAY TO METER

Should an existing lead water service be identified during construction and the Village has received authorization for replacement from the property owner, this item shall include the installation of new water services via trenchless methods and the connections of the new water service to the water meter inside the building and the curb stop valve.

RESIDENT INTERACTION

It will be the Village's responsibility to secure permission for the Contractor to enter any home and to allow the Contractor to complete the necessary work.

The hours allowed for private property access shall be 7 a.m. to 7 p.m. Monday through Sunday.

Once the property owner has notified the Contractor that they are ready to schedule the work, the Contractor shall make an appointment promptly. The first appointment shall be to survey the water meter location and establish the best possible method for water service replacement. The Contractor shall also verify the presence of a lead water service on the interior of the building at this time. During the first appointment, the Contractor and the property owner shall come to an understanding on the work to be performed and the restoration associated, including the possibility of electrical re-grounding. The Engineer shall be contacted if any resolution is required. At the first appointment or promptly after, the Contractor shall give the property owner a four-hour maximum time window on the selected day to arrive at the property to do the work. After the work appointment is made, the Contractor shall call the property owner 24 hours in advance to the scheduled appointment to confirm and tell the property owner the name of the installer for this work.

The Contractor will be responsible for providing only licensed plumbers in the State of Illinois for installation of the private water services. All employees of the Contractor entering a building (either licensed plumber or additional apprentice) shall be 18 years of age or older and shall provide photo identification. It will be required that all of the Contractor's staff present themselves in a professional manner and appearance. The Contractor's staff appearance shall include some sort of uniform shirt with a company logo identifying this staff member as an employee of the Contractor. The vehicle the Contractor and staff use for this project shall be clearly marked with the Contractor's company name.

The installation staff shall be considerate to the owner and their property. For interior work, installation staff are to protect their shoes with new disposable covers for every installation. The Contractor shall minimize tracking or spreading of foreign materials within the building. All CDC and local health regulations shall be adhered to by the Contractor, and the Contractor shall also consult with the occupants as to their desired health and safety protocols.

If it appears that any of the property will be damaged with the installation of the water service, the property owner and Village shall be contacted before the installation. The disturbed areas within the building shall be left clean and flush to facilitate the restoration by the property owner. The Contractor shall perform in a workmanlike manner. Any disturbance within the property shall be minimized. Any unnecessary infringement of new water piping or appurtenances into the usable space of the building shall also be kept to a minimum. The property owner or occupant shall be notified of the proposed water piping location prior to construction. No debris or water is to be left behind once the installation is complete. Any incidental damage inside the building shall be replaced in kind and considered incidental to the lead water service replacement work.

The Contractor shall notify the Engineer if the interior of the building is not suitable for the work to be performed.

PARKING NOTIFICATION

The Contractor shall barricade the areas needed for lead water service construction 24 hours prior to starting

excavation to eliminate infringement by vehicles or other obstacles. If a vehicle is parked in the area 24 hours prior to commencing work, the Contractor shall provide a written notice to move the vehicle. The Contractor shall contact the Village if any vehicles remain infringing on the work area on the day of construction.

HORIZONTAL DIRECTIONAL DRILLING

The Contractor may submit alternative trenchless methods to replace the lead water services, which will be evaluated as submittals. The Contractor will be held to the bid price for this pay item regardless of method. The Contractor shall proceed with caution when drilling in sensitive areas or areas with a known high probability of dense underground utilities.

General Requirements

This work shall consist of horizontal directional drilling of copper pipe for water services at locations as directed by the Village/Engineer. The Contractor, property owner, Village and Engineer will determine the best method of penetrating the building for water service installation during the initial appointment.

All directionally drilled water service piping shall be in accordance with Sections 41-2.11c and 41-2.12 of the "Standard Specifications for Water and Sewer Main Construction in Illinois, Latest Edition." This item shall include all excavation necessary for approach and receiving pits.

Copper tubing for non-buried use shall be Type L, hard drawn copper tubing, meeting the requirements of ASTM B88. Copper tubing for buried use shall be soft drawn, Type K, meeting the requirements of ASTM B88.

Fittings for copper tubing shall be of the streamlined solder joint type, meeting the requirements of ANSI B16.22. Solder shall be 95TA (95 percent tin and 5 percent antimony).

The Contractor shall submit manufacturer's drilling fluids data. Data shall include material specifications, handling procedures, method of mixing and special precautions. Pipe design calculations shall be submitted to the Engineer for review and approval. Drilling fluid shall be bentonite clay mixture. The Contractor may use a polymer additive at Contractor's option. Fluid and additives shall not be hazardous to the environment or any adjacent protected areas.

The Contractor shall examine the site(s) indicated. The Contractor shall be responsible for locating the borehole and receiving hole sufficiently back from the limits of excavation to allow connection to the

horizontally drilled pipe. Pits shall be of length and width as necessary to install pipes and sized to fit area available for work.

Equipment

The directional drilling equipment shall consist of a directional drilling rig of sufficient capacity to perform the bore and pullback the pipe, a drilling fluid mixing and delivery system of sufficient capacity to successfully complete the crossing, a guidance system to accurately guide boring operations and trained competent personnel to operate the system. All equipment shall be in good, safe operating condition with sufficient supplies, materials and spare parts on hand to maintain the system in good working order for the duration of this project.

The directional drilling machine shall consist of a hydraulically powered system to rotate, push and pull hollow drill pipe into the ground at a variable angle while delivering a pressurize fluid mixture to guidable drill (bore) head. The machine shall be anchored to the ground to withstand the pulling, pushing and rotating pressure required to complete the installation. The hydraulic power system shall be self-contained with sufficient pressure and volume to power drilling operations. Hydraulic system shall be free of leaks. Rig shall have a system to monitor and record maximum pullback pressure during pullback operations. The rig shall be grounded during drilling and pullback operations.

The drill head shall be steerable by changing its rotation and shall provide the necessary cutting surfaces and drilling fluid jets.

GENERAL INSTALLATION

Service Installation

The Contractor shall avoid underground obstructions by steering around them. Pipe may be installed at greater depths to facilitate the installation if the proposed greater depth is reviewed and approved by the Village/Engineer before installation. No additional compensation shall be allowed for piping or related structures installed at greater depths.

No additional compensation shall be provided for damages on the exterior or interior of the resident's property or for the number of setups required to install the water services. All damages shall be restored at the Contractor's expense within 30 days. All setups shall be restored at the Contractor's expense.

The Contractor shall provide adequate protection of the water services when the services are subject to IEPA horizontal and vertical separation requirements, including providing water main quality casings, if necessary.

Excavations to find the existing water main and corporation stop shall be backfilled once work is completed. If located in the roadway, backfill shall be to grade to provide a driving surface until the excavation is patched per the plans and specifications.

Any underground or above ground utilities in need of support from the excavation shall be properly supported.

The Contractor shall be responsible for locating any possible conflicting utilities. All excavations to expose/locate existing utilities shall be considered incidental to this pay item.

The Contractor shall install new connection fittings, corporation stop (Mueller No. B-25008N, H-15008N or approved equal), copper pipe, curb stop (Mueller H15155N, B25155N or approved equal), curb box – extension type with stationary rods (Mueller No. H10300, Mueller H10350 for 2-1/2" service or approved equal), bedding, and trench backfill with CA-6 or CA-7 as required within the installation limits. No recycled material or slag will be allowed for use as trench backfill. The Contractor shall remove and replace any size/type of existing curb box according to the standard details/special provisions at no additional cost. All

water service replacements shall match the size of the existing water service, unless noted otherwise by the Village/Engineer. Restoration shall be as described in the standard details/special provisions and considered incidental to this pay item.

Curb stops shall be installed in the parkway and in no case shall be positioned in a sidewalk or driveway or buried underground unless told otherwise by the Village/Engineer. A cement or brick block shall be placed under each curb stop to ensure stability. All material shall be as approved by the Village prior to installation.

A full clamp (Smith Blair 372 Service Saddle) is required when tapping cast iron water main. This work shall be considered incidental to this pay item.

Backfill

All materials used for trench backfill under and within three feet (3') of paved areas, including streets, sidewalks and driveways shall meet the requirements of Section 208 of the Standard Specifications except as modified herein. No recycled material or slag will be allowed for use as trench backfill.

The Contractor shall take great care while jetting and tamping during backfilling operations to ensure proper compaction of materials, including areas under unpaved surfaces. All trenches shall be backfilled to the proper subgrade elevation in accordance with Section 208 of the Standard Specifications.

If trench settlement occurs, the Contractor shall, at his own expense, perform all additional work, including further jetting, tamping and/or placement of additional aggregate, necessary to ensure both proper compaction of the trench and proper safety for motorists and pedestrians. Should trench settlement occur after surface restoration, the Contractor shall, at his own expense, remove the newly constructed pavement, driveway and/or sidewalk (by straight saw cut joint) and perform all work required to properly compact the trench and prevent further settling. Restoration of the parkway and additional sodding shall also be performed as necessary.

Abandon Existing

The Contractor shall abandon the existing buried water service in-place if using horizontal directional drilling. If using another method, as much of the lead water services as practicable shall be removed. When abandoning, the service shall be cut at the corporation stop, and the existing corporation stop shall be capped.

The existing water service inside the building shall be cut flush with the basement wall and plugged with non-shrink grout. The section of lead pipe from the building penetration to the meter shall be removed from the property and disposed of by the Contractor.

Outdoor Restoration

It is the Contractor's responsibility to minimize the disturbance/damage of the surrounding area during the lead water service replacement work. As determined by the Village/Engineer in the field, items that are disturbed/damaged shall be replaced in kind. All items restored shall adhere to local, state and federal standards. If replacing an item in kind does not meet government standards, the applicable standards shall supersede existing conditions unless specified otherwise by the Village/Engineer in the field. Restoration of disturbed areas shall be completed within 14 calendar days of initial disturbance for paving and 7 calendar days of initial disturbance for all other items.

Outdoor special/hardscape/decorative restoration is not anticipated at each service replacement location. The restoration of special/decorative landscaping and hardscaping items (e.g. mulch, landscaping fabric, railroad ties, lava rock, landscaping stone, landscaping accessories, etc.) may be restored at specific locations as determined necessary by the Village/Engineer in the field. Existing items shall be removed and

reinstalled whenever practicable. Use of existing items must be approved by the Engineer prior to reinstallation.

Restoration work may include but is not limited to the following items.

- Removal and replacement of planter boxes/vegetation
- Removal and replacement of culverts under driveways
- Removal and replacement of driveways (e.g. HMA, PCC, aggregate, etc.)- whole apron shall be replaced.
- Removal and replacement of driveway pavers
- Removal and replacement of sidewalks, service walks, concrete stairs, and brick pavers
- Removal and replacement of detectable warning plates
- Removal and replacement of shoulders (e.g. HMA, PCC, aggregate, etc.)
- Removal and replacement of curb and gutter
- Removal and replacement or avoidance of fences
- Removal and replacement or avoidance of light/flag poles
- Structure adjustments and reconstructions (e.g. sanitary, storm, water, etc.)
- Relocation of drainage structures
- Hot mix asphalt pavement patches
- Pavement markings
- Drainage and inlet protection
- Topsoil, Fertilizer and Sod

Special care to minimize the amount of disturbance is required. The above list does not encompass all restoration items and any additional items encountered during construction shall be considered incidental to the replacement of lead water services. Restoration shall adhere to the special provisions and design drawings contained herein and local/state/federal standards. The condition of the restoration shall be that of existing conditions or better.

INTERIOR WORK

Prior to beginning the work of connecting the new service inside the building, the water supply to the water service and the property owner shall be shut off to avoid release of particulate lead into the property owner's premises.

The Contractor shall include furnishing and installing all materials required to connect to the existing water service on the interior of the building to the building's water meter. The Contractor shall core drill a sufficient diameter hole through the existing foundation wall to allow for penetration by the water service pipe. The Contractor may also elect to enter the building through the basement floor by saw cutting the floor and hand excavating to the proposed water service.

Connection to the existing water meter shall include replacement of existing valves to ensure full functionality, and installation of new valves as necessary to meet Illinois Plumbing Code standards.

The interior and exterior of a cored hole through the basement wall or floor shall be completely sealed with hydraulic cement to prevent water infiltration. The Contractor shall exercise caution to prevent damage to the existing foundation. The Contractor shall be responsible for repairing any damage to the foundation and floor caused by the coring operation or floor excavation.

After all connections have been completed, the Contractor shall flush the water from an outside connection (such as a hose bibb or hose leading from the building side of the meter) to remove any particles in the water service. Flush shall be at full velocity for at least 30 minutes. The Contractor shall then advise the property owner to flush the interior premise plumbing in accordance with the instructions provided in the Village-provided informational material. This work shall be conducted in accordance with AWWA C810-17 – Replacement and Flushing of Lead Water Services.

Indoor restoration shall be done at each service replacement location. The restoration of indoor items (e.g. piping, concrete, drywall, tile, wood paneling, carpet, etc.) shall be restored in kind and be that of existing conditions or better. The Contractor shall hire subcontractors as necessary to complete indoor restoration in a workmanlike manner.

Electrical Grounding

The Contractor shall be responsible for hiring and coordinating with a Licensed Electrical Subcontractor to maintain a proper grounding for the building after the lead water service has been removed.

DOCUMENTATION

For each lead water service replacement, the Contractor shall provide the Village with the following documentation:

1. Digital Photographs *(each photo shall be named with the address and description in the file name)*
    a. Photos of each building with address clearly visible
    b. Photos of water main and meter connection locations showing new pipe and old pipe in the same location
    c. Photos of the exterior and interior pre-installation and post-installation conditions on private property to show the extent of restoration
    d. Photo of wall or floor penetration
    e. Photos of the installation at the meter, a close up photo and a photo capturing all work performed
    f. Video of preconstruction conditions inside the room where work is performed, including ingress and egress
    g. Other digital photos as needed
2. Customer Account Information (*Supplied by the Village*)
    a. Account #
    b. Account Name
    c. Address
3. Lead Service Line Replacement (LSLR) Information
    a. Water Service Length (ft)
    b. Water Service Size (Inch)

c. Water Service Material
d. Method of Installation
e. Date of Water Service Replacement
f. Property Owner Rep. Accepting Pitcher & Filters
g. Name of Licensed Plumber
h. Licensed Plumber Number
i. LSLR Flushing Time
j. LSLR Flushing Location

MEASUREMENT AND PAYMENT

The cost for the labor and materials, work associated with trenchless installation of the service and connection to water meter, b-box, and water main; installation of new valves; excavation, bracing and supporting all utilities exposed by the excavations; trench backfill, application of topsoil and sod, pavement restoration, and all other restoration to original conditions; property owner interaction; abandonment of existing pipes, valves, and boxes; flushing, documentation, and other tasks included in this special provision shall be included in the contract unit price per EACH for POTENTIAL LEAD SERVICE REPLACEMENT – ROUNDWAY TO METER.

LEAD FILTER PITCHER WITH THREE MONTHS OF FILTER CARTRIDGES

Prior to completion of the work, the Contractor shall provide each address that received a new water service with a Point of Use water filter that meets both NSF/ANSI 42 and 53 certifications for lead reduction with a minimum pitcher capacity of 0.5 gallons and three months of replacement cartridges or a minimum of 150 gallons of filtration. The Contractor shall have the resident provide a signature to acknowledge receipt of the filter on a form provided by the Village. The cost for the materials and work associated with providing the lead filter pitcher and three months of lead filter cartridges will be included in the cost for the POTENTIAL LEAD SERVICE REPLACEMENT – ROUNDWAY TO METER pay item.

PREVAILING WAGES

Cook County Prevailing Wage Rates posted on 4/26/2022

Trade Title	Rg	Type	C	Base	Foreman	Overtime M-F	Sa	Su	Hol	H/W	Pension	Vac	Trng	Other Ins
ASBESTOS ABT-GEN	All	ALL		45.90	46.90	1.5	1.5	2.0	2.0	16.55	14.71	0.00	0.90	
ASBESTOS ABT-MEC	All	BLD		38.85	41.96	1.5	1.5	2.0	2.0	14.42	12.61	0.00	0.82	
BOILERMAKER	All	BLD		52.61	57.34	2.0	2.0	2.0	2.0	6.97	22.34	0.00	1.40	
BRICK MASON	All	BLD		48.56	53.42	1.5	1.5	2.0	2.0	11.70	21.06	0.00	1.03	
CARPENTER	All	ALL		50.86	52.86	1.5	1.5	2.0	2.0	11.79	24.76	0.00	0.79	
CEMENT MASON	All	ALL		47.50	49.50	2.0	1.5	2.0	2.0	16.75	20.74	0.00	1.00	
CERAMIC TILE FINISHER	All	BLD		42.80	42.80	1.5	1.5	2.0	2.0	11.45	14.27	0.00	0.94	
COMMUNICATION ELECTRICIAN	All	BLD		46.26	49.06	1.5	1.5	2.0	2.0	11.60	13.83	1.25	1.55	0.50
ELECTRIC PWR EQMT OP	All	ALL		56.55	62.05	1.5	1.5	2.0	2.0	12.94	19.11	0.00	3.17	
ELECTRIC PWR GRNDMAN	All	ALL		44.11	62.05	1.5	1.5	2.0	2.0	10.10	14.91	0.00	2.48	
ELECTRIC PWR LINEMAN	All	ALL		56.55	62.05	1.5	1.5	2.0	2.0	12.94	19.11	0.00	3.17	
ELECTRICIAN	All	ALL		51.00	54.00	1.5	1.5	2.0	2.0	16.49	17.82	1.25	1.87	1.50
ELEVATOR CONSTRUCTOR	All	BLD		60.42	67.97	2.0	2.0	2.0	2.0	15.87	19.31	4.83	0.64	
FENCE ERECTOR	All	ALL		45.67	47.67	1.5	1.5	2.0	2.0	13.68	16.39	0.00	0.65	
GLAZIER	All	BLD		47.60	49.10	1.5	2.0	2.0	2.0	14.99	23.55	0.00	1.43	
HEAT/FROST INSULATOR	All	BLD		51.80	54.91	1.5	1.5	2.0	2.0	14.42	15.36	0.00	0.82	
IRON WORKER	All	ALL		54.51	56.51	2.0	2.0	2.0	2.0	15.40	25.06	0.00	0.44	
LABORER	All	ALL		45.90	46.65	1.5	1.5	2.0	2.0	16.55	14.71	0.00	0.90	
LATHER	All	ALL		50.86	52.86	1.5	1.5	2.0	2.0	11.79	24.76	0.00	0.79	
MACHINIST	All	BLD		50.68	53.18	1.5	1.5	2.0	2.0	8.93	8.95	1.85	1.47	
MARBLE FINISHER	All	ALL		37.00	50.10	1.5	1.5	2.0	2.0	11.70	19.10	0.00	0.93	
MARBLE MASON	All	BLD		47.71	52.48	1.5	1.5	2.0	2.0	11.70	20.53	0.00	1.02	
MATERIAL TESTER I	All	ALL		35.90		1.5	1.5	2.0	2.0	16.55	14.71	0.00	0.90	
MATERIALS TESTER II	All	ALL		40.90		1.5	1.5	2.0	2.0	16.55	14.71	0.00	0.90	
MILLWRIGHT	All	ALL		50.86	52.86	1.5	1.5	2.0	2.0	11.79	24.76	0.00	0.79	
OPERATING ENGINEER	All	BLD	1	53.60	57.60	2.0	2.0	2.0	2.0	21.40	18.60	2.00	2.40	
OPERATING ENGINEER	All	BLD	2	52.30	57.60	2.0	2.0	2.0	2.0	21.40	18.60	2.00	2.40	
OPERATING ENGINEER	All	BLD	3	49.75	57.60	2.0	2.0	2.0	2.0	21.40	18.60	2.00	2.40	
OPERATING ENGINEER	All	BLD	4	48.00	57.60	2.0	2.0	2.0	2.0	21.40	18.60	2.00	2.40	
OPERATING ENGINEER	All	BLD	5	57.35	57.60	2.0	2.0	2.0	2.0	21.40	18.60	2.00	2.40	
OPERATING ENGINEER	All	BLD	6	54.60	57.60	2.0	2.0	2.0	2.0	21.40	18.60	2.00	2.40	

OPERATING ENGINEER	All	BLD	7	56.60	57.60	2.0	2.0	2.0	2.0	21.40	18.60	2.00	2.40
OPERATING ENGINEER	All	FLT	1	59.35	59.35	1.5	1.5	2.0	2.0	20.90	17.85	2.00	2.15
OPERATING ENGINEER	All	FLT	2	57.85	59.35	1.5	1.5	2.0	2.0	20.90	17.85	2.00	2.15
OPERATING ENGINEER	All	FLT	3	51.50	59.35	1.5	1.5	2.0	2.0	20.90	17.85	2.00	2.15
OPERATING ENGINEER	All	FLT	4	42.80	59.35	1.5	1.5	2.0	2.0	20.90	17.85	2.00	2.15
OPERATING ENGINEER	All	FLT	5	60.85	59.35	1.5	1.5	2.0	2.0	20.90	17.85	2.00	2.15
OPERATING ENGINEER	All	FLT	6	41.00	59.35	1.5	1.5	2.0	2.0	20.90	17.85	2.00	2.15
OPERATING ENGINEER	All	HWY	1	51.80	55.80	1.5	1.5	2.0	2.0	21.40	18.60	2.00	2.40
OPERATING ENGINEER	All	HWY	2	51.25	55.80	1.5	1.5	2.0	2.0	21.40	18.60	2.00	2.40
OPERATING ENGINEER	All	HWY	3	49.20	55.80	1.5	1.5	2.0	2.0	21.40	18.60	2.00	2.40
OPERATING ENGINEER	All	HWY	4	47.80	55.80	1.5	1.5	2.0	2.0	21.40	18.60	2.00	2.40
OPERATING ENGINEER	All	HWY	5	46.60	55.80	1.5	1.5	2.0	2.0	21.40	18.60	2.00	2.40
OPERATING ENGINEER	All	HWY	6	54.80	55.80	1.5	1.5	2.0	2.0	21.40	18.60	2.00	2.40
OPERATING ENGINEER	All	HWY	7	52.80	55.80	1.5	1.5	2.0	2.0	21.40	18.60	2.00	2.40
ORNAMENTAL IRON WORKER	All	ALL		52.13	54.63	2.0	2.0	2.0	2.0	14.23	23.99	0.00	1.25
PAINTER	All	ALL		49.30	55.46	1.5	1.5	1.5	2.0	13.01	14.74	0.00	1.87
PAINTER - SIGNS	All	BLD		41.55	46.67	1.5	1.5	2.0	2.0	3.04	3.90	0.00	0.00
PILEDRIVER	All	ALL		50.86	52.86	1.5	1.5	2.0	2.0	11.79	24.76	0.00	0.79
PIPEFITTER	All	BLD		52.00	55.00	1.5	1.5	2.0	2.0	11.60	21.85	0.00	2.92
PLASTERER	All	BLD		45.50	48.23	1.5	1.5	2.0	2.0	16.75	19.04	0.00	1.25
PLUMBER	All	BLD		52.80	55.95	1.5	1.5	2.0	2.0	16.45	16.75	0.00	1.47
ROOFER	All	BLD		46.70	50.70	1.5	1.5	2.0	2.0	11.58	14.56	0.00	0.96
SHEETMETAL WORKER	All	BLD		47.50	51.30	1.5	1.5	2.0	2.0	12.90	27.64	0.00	0.95
SIGN HANGER	All	BLD		34.07	36.80	1.5	1.5	2.0	2.0	6.45	4.30	0.00	0.00
SPRINKLER FITTER	All	BLD		52.25	55.00	1.5	1.5	2.0	2.0	14.20	18.60	0.00	0.75
STEEL ERECTOR	All	ALL		54.51	56.51	2.0	2.0	2.0	2.0	15.40	25.06	0.00	0.44
STONE MASON	All	BLD		48.56	53.42	1.5	1.5	2.0	2.0	11.70	21.06	0.00	1.03
TERRAZZO FINISHER	All	BLD		44.54	44.54	1.5	1.5	2.0	2.0	11.45	16.64	0.00	0.97
TERRAZZO MASON	All	BLD		48.38	51.88	1.5	1.5	2.0	2.0	11.45	18.10	0.00	1.00
TILE MASON	All	BLD		49.75	53.75	1.5	1.5	2.0	2.0	11.45	17.98	0.00	1.02
TRAFFIC SAFETY WORKER I	All	HWY		38.50	40.10	1.5	1.5	2.0	2.0	8.90	8.90	0.00	0.90
TRAFFIC SAFETY WORKER II	ALL	HWY		39.50	41.10	1.5	1.5	2.0	2.0	8.90	8.90	0.00	0.90
TRUCK DRIVER	E	ALL	1	39.25	39.90	1.5	1.5	2.0	2.0	11.40	14.70	0.00	0.15
TRUCK DRIVER	E	ALL	2	39.50	39.90	1.5	1.5	2.0	2.0	11.40	14.70	0.00	0.15
TRUCK DRIVER	E	ALL	3	39.70	39.90	1.5	1.5	2.0	2.0	11.40	14.70	0.00	0.15
TRUCK DRIVER	E	ALL	4	39.90	39.90	1.5	1.5	2.0	2.0	11.40	14.70	0.00	0.15

TRUCK DRIVER	W	ALL	1	39.88	40.43	1.5	1.5	2.0	2.0	10.20	13.86	0.00	0.15
TRUCK DRIVER	W	ALL	2	40.03	40.43	1.5	1.5	2.0	2.0	10.20	13.86	0.00	0.15
TRUCK DRIVER	W	ALL	3	40.23	40.43	1.5	1.5	2.0	2.0	10.20	13.86	0.00	0.15
TRUCK DRIVER	W	ALL	4	40.43	40.43	1.5	1.5	2.0	2.0	10.20	13.86	0.00	0.15
TUCKPOINTER	All	BLD		48.25	49.25	1.5	1.5	2.0	2.0	8.79	20.47	0.00	1.01

Legend
Rg Region
Type Trade Type - All,Highway,Building,Floating,Oil & Chip,Rivers
C Class
Base Base Wage Rate
OT M-F 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.
OT Sa Overtime pay required for every hour worked on Saturdays
OT Su Overtime pay required for every hour worked on Sundays
OT Hol Overtime pay required for every hour worked on Holidays
H/W Health/Welfare benefit
Vac Vacation
Trng Training
Other Ins Employer hourly cost for any other type(s) of insurance provided for benefit of worker.

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 Worker I

Traffic Safety Worker I - work associated with the delivery, installation, pick-up and servicing of safety devices during periods of roadway construction, including such work as set-up and maintenance of barricades, barrier wall reflectors, drums, cones, delineators, signs, crash attenuators, glare screen and other such items, and the layout and application or removal of conflicting and/or temporary roadway markings utilized to control traffic in construction zones, as well as flagging for these operations.

TRAFFIC SAFETY WORKER II

Work associated with the installation and removal of permanent pavement markings and/or pavement markers including both installations performed by hand and installations performed by truck.

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".

PLAN SHEETS

SECTION 30, TOWNSHIP 36, RANGE 13

VILLAGE *of* TINLEY PARK, ILLINOIS

174TH STREET, 66TH COURT AND 173RD PLACE
ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT

LEGEND

- EXISTING POWER POLE
- EXISTING POWER POLE W/LIGHT
- EXISTING POWER POLE ANCHOR
- EXISTING BUFFALO BOX
- EXISTING FIRE HYDRANT
- EXISTING VALVE
- EXISTING MANHOLE
- EXISTING CATCH BASIN
- EXISTING INLET
- EXISTING SIGN
- EXISTING STEEL POST/BOLLARD
- EXISTING DECIDUOUS TREE
- R.O.W. EXISTING RIGHT OF WAY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING CURB & GUTTER
- EXISTING AGGREGATE STONE
- EXISTING TREE LINE/BUSH LINE
- EXISTING FENCE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING WATER MAIN (SIZE NOT SPECIFIED)
- EXISTING GAS MAIN (SIZE NOT SPECIFIED)
- EXISTING BURIED ELECTRIC LINE
- EXISTING BURIED CABLE TELEVISION LINE
- EXISTING BURIED TELEPHONE LINE

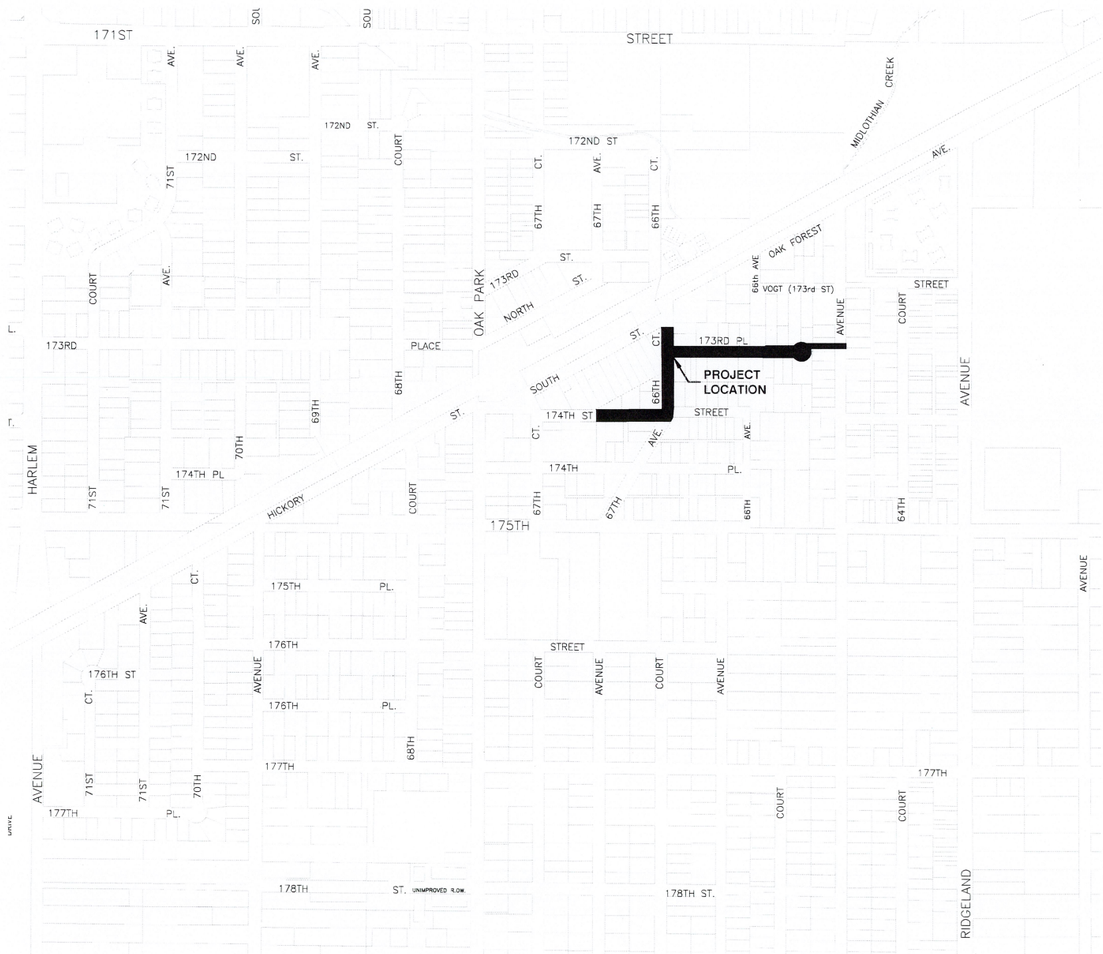
BENCH MARKS:

BENCH MARK
SPIKENAIL SET IN EAST FACE OF POWERPOLE WEST SIDE OF 65TH AVE
ELEV=698.07

SPIKENAIL IN N FACE OF PPWLT SOUTH SIDE OF 173RD PLACE
ELEV=698.03

SPIKENAIL IN EAST FACE OF WOOD LT POLE ON WEST SIDE OF 66TH CT, 1ST WOOD LT POLE SOUTH OF SOUTH ST
ELEV=696.78

SPIKENAIL IN EAST FACE OF PP W/LIGHT AT NORTHWEST COR OF 66TH CT & 174TH ST
ELEV=694.85



N

INDEX OF SHEETS

1. COVER SHEET
2. SUMMARY OF QUANTITIES
3. GENERAL NOTES & TYPICAL SECTIONS
4.-6. EXISTING CONDITIONS AND REMOVALS
7.-11. ROADWAY PLAN AND PROFILE
12.-16. PROPOSED WATER MAIN & UTILITIES
17.-19. STREET LIGHTING
20.-25. CONSTRUCTION DETAILS
26.-29. STREET LIGHTING DETAILS
30.-31. CROSS SECTIONS

PREPARED BY OR UNDER THE DIRECT SUPERVISION OF:

04-27-22

VAN CALOMBARIS 62-50084 REGISTERED PROFESSIONAL ENGINEER STATE OF ILLINOIS

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LOCATION MAP

- INDICATES PROPOSED IMPROVEMENT

PREPARED BY:

Robinson ENGINEERING

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ILLINOIS DESIGN FIRM REGISTRATION NO. 184001128.

PROJECT NO. 21-R0315

SHEET NO. 1 OF 31

21R0315-COVR-01 - C01

BASE BID ITEMS

ITEM NO.	ITEMS	UNIT	QUANTITY
1	CONTINGENCY	L SUM	1
2	CONCRETE TRUCK WASHOUT	EACH	1
3	CLEARING AND GRUBBING	ACRE	0.01
4	EARTH EXCAVATION	CU YD	700
5	PAVEMENT REMOVAL	SQ YD	700
6	DRIVEWAY PAVEMENT REMOVAL	SQ YD	800
7	SIDEWALK REMOVAL	SQ FT	2,400
8	RELOCATE SIGN PANEL AND POST	EACH	3
9	COMBINATION CURB AND GUTTER REMOVAL	FOOT	15
10	CURB REMOVAL	FOOT	50
11	AGGREGATE SHOULDER REMOVAL	CU YD	40
12	WATER MAIN REMOVAL, 6"	FOOT	103
13	WATER MAIN REMOVAL, 10"	FOOT	10
14	FENCE REMOVAL AND REINSTALLATION	FOOT	100
15	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	23
16	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	21
17	TREE ROOT PRUNING	EACH	8
18	FIRE HYDRANTS TO BE REMOVED	EACH	6
19	6" CUT AND CAP	EACH	7
20	10" CUT AND CAP	EACH	2
21	6" LINE STOP	EACH	2
22	10" LINE STOP	EACH	1
23	12" LINE STOP	EACH	2
24	WATER VALVE BOXES TO BE ABANDONED	EACH	2
25	VALVE VAULTS TO BE ABANDONED	EACH	6
26	EXPLORATION TRENCH, SPECIAL	FOOT	250
27	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	FOOT	550
28	CONCRETE CURB, TYPE B	FOOT	50
29	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 7 INCH	SQ YD	150
30	HOT-MIX ASPHALT DRIVEWAY PAVEMENT, 6"	SQ YD	750
31	CLASS D PATCHES, 6 INCH	SQ YD	800
32	PREPARATION OF BASE	SQ YD	800
33	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	210
34	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50	TON	80
35	BITUMINOUS MATERIALS (PRIME COAT)	POUND	3,950
36	BITUMINOUS MATERIALS (TACK COAT)	POUND	370
37	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SQ FT	4,500
38	AGGREGATE BASE COURSE, TYPE B 8"	SQ YD	910
39	TACTILE/DETECTABLE WARNING SURFACE	SQ FT	30
40	AGGREGATE SHOULDERS, TYPE B 6"	SQ YD	5
41	6" DUCTILE IRON WATER MAIN WITH POLYETHYLENE ENCASEMENT	FOOT	13
42	8" DUCTILE IRON WATER MAIN WITH POLYETHYLENE ENCASEMENT	FOOT	973
43	12" DUCTILE IRON WATER MAIN WITH POLYETHYLENE ENCASEMENT	FOOT	847
44	8" VALVE AND VALVE VAULT, TYPE A, 4' DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	2
45	10" VALVE AND VALVE VAULT, TYPE A, 4' DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1
46	12" VALVE AND VALVE VAULT, TYPE A, 5' DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	5
47	8" X 8" TAPPING SLEEVE AND VALVE IN VALVE VAULT, TYPE A, 5' DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1
48	6" X 6" TAPPING SLEEVE AND VALVE IN VALVE VAULT, TYPE A, 5' DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1
49	DUCTILE IRON WATER MAIN FITTINGS	POUND	6,520
50	NON-PRESSURE CONNECTION TO EXISTING WATER MAIN, 10"	EACH	1
51	NON-PRESSURE CONNECTION TO EXISTING WATER MAIN, 12"	EACH	2
52	FIRE HYDRANT WITH AUXILIARY VALVE, VALVE BOX AND TEE	EACH	7
53	1" WATER SERVICE (SHORT)	EACH	15
54	1" WATER SERVICE, (LONG)	EACH	14
55	SANITARY SEWER SERVICE ADJUSTMENT	EACH	14
56	20" DIAMETER STEEL SLEEVE, 0.344" WALL THICKNESS, OPEN CUT INSTALLATION	FOOT	86
57	24" DIAMETER STEEL SLEEVE, 0.375" WALL THICKNESS, OPEN CUT INSTALLATION	FOOT	43
58	REMOVE AND REPLACE 6" STORM SEWER WITH WATER MAIN QUALITY PIPE	FOOT	36
59	REMOVE AND REPLACE 12" STORM SEWER WITH WATER MAIN QUALITY PIPE	FOOT	29
60	STORM SEWERS, TYPE 1, WATER MAIN QUALITY PIPE, 12"	FOOT	25
61	PROPOSED MANHOLE/CATCH BASIN CONNECTION OVER EXISTING STORM SEWER	EACH	1
62	MANHOLES, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1
63	INLETS, TYPE A, TYPE 11 FRAME AND GRATE	EACH	2
64	TRENCH BACKFILL	CU YD	1,500
65	TOPSOIL FURNISH AND PLACE, 4" (SPECIAL)	SQ YD	2,300
66	SODDING, SPECIAL	SQ YD	2,300
67	PERIMETER EROSION BARRIER	FOOT	850
68	TREE PLANTING IN VILLAGE PARKWAYS	EACH	7
69	TEMPORARY INLET PROTECTION	EACH	16
70	POTENTIAL LEAD SERVICE REPLACEMENT - ROUNDWAY TO METER	EACH	6

ALTERNATE BID ITEMS

ITEM NO.	ITEMS	UNIT	QUANTITY
1	TOPSOIL FURNISH AND PLACE, 4" (SPECIAL)	SQ YD	600
2	SODDING, SPECIAL	SQ YD	600
3	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2" DIA.	FOOT	96
4	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 4	FOOT	280
5	LIGHT POLE FOUNDATION, 20" DIAMETER	FOOT	24
6	LIGHT POLE FOUNDATION, 24" DIAMETER	FOOT	32
7	LIGHT POLE, ALUMINUM, 25 FT. M.H., 8 FT. MAST ARM	EACH	5
8	LUMINAIRE, LED, HORIZONTAL MOUNT, LOW WATTAGE	EACH	2
9	LUMINAIRE, LED, HORIZONTAL MOUNT, MEDIUM WATTAGE	EACH	3
10	UNIT DUCT, 600V, 3-1C NO.4, 1/C NO.6 GROUND, (XLP-TYPE USE), 1 1/2" DIA. POLYETHYLENE	FOOT	1,625
11	LIGHTING UNIT COMPLETE, SPECIAL	EACH	4
12	LIGHT POLE FOUNDATION, 20" DIAMETER, OFFSET	FOOT	10
13	LIGHT POLE FOUNDATION, 24" DIAMETER, OFFSET	FOOT	10
14	BOLLARDS	EACH	36

DATE = 04-27-22	DESIGNED — MP	REVISED —	
SCALE = NONE	CHECKED — VC	REVISED —	
PROJECT NO = 21-R0315	DRAWN — RG	REVISED —	
FILE NAME = 21R0315-QUAN-01	CHECKED — AG	REVISED —	

Robinson ENGINEERING

174TH STREET, 66TH COURT AND 173RD PLACE
ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT
SUMMARY OF QUANTITIES

VILLAGE of TINLEY PARK

GENERAL NOTES

THE CONSTRUCTION OF THE WATER MAIN SHALL BE PERFORMED ACCORDING TO THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS.

BOTH THE ROBINSON ENGINEERING, LTD. FIELD OFFICE (708-331-6700) AND **THE VILLAGE OF TINLEY PARK** PUBLIC WORKS DEPARTMENT (708-444-5500) SHALL BE NOTIFIED TWO (2) WORKING DAYS BEFORE CONSTRUCTION BEGINS.

WHEN IN THE CONSTRUCTION OPERATION, ANY LOOSE MATERIAL DEPOSITED IN THE FLOW LINE OF DITCHES, GUTTERS OR OTHER DRAINAGE STRUCTURES SO THAT THE NATURAL FLOW OF WATER IS OBSTRUCTED SHALL BE REMOVED AT THE CLOSE OF EACH DAY BY THE CONTRACTOR AT HIS EXPENSE. AT THE CONCLUSION OF THE CONSTRUCTION OPERATION, ALL DRAINAGE STRUCTURES SHALL BE FREE FROM ALL DEBRIS. THIS WORK SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

EXISTING DRAINAGE FACILITIES SHALL NOT BE UNNECESSARILY DISTURBED. THE CONTRACTOR SHALL PROVIDE TEMPORARY DRAINAGE FACILITIES WHEREVER NECESSARY TO MAINTAIN EXISTING DRAINAGE OUTLETS. THIS WORK SHALL BE INCIDENTAL TO THE CONTRACT.

AREAS DISTURBED BY CONSTRUCTION SHALL BE KEPT TO A MINIMUM. ALL AREAS DISTURBED UNNECESSARILY SHALL BE RESTORED AS REQUIRED IN THE SPECIAL PROVISIONS AT THE CONTRACTOR'S EXPENSE.

THE REMOVAL AND/OR REPLACEMENT OF DRIVEWAYS, PAVEMENT, CURB, SIDEWALK, ETC., SHALL BE ACCOMPLISHED BY MEANS OF A SAW CUT JOINT, AT THE DIRECTION OF THE ENGINEER. THE SAW CUTS SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS ITEMS.

COST OF TREE PROTECTION IS CONSIDERED INCIDENTAL TO THE CONTRACT.

AT THE END OF EACH WORKING DAY, THE CONTRACTOR SHALL PROVIDE STEEL PLATE BARRICADES, WARNING TAPE AND ANY OTHER SAFETY MEASURES DEEMED NECESSARY BY THE VILLAGE/ENGINEER SOVER THE EXCAVATED AREAS SO THAT TRAFFIC, PARKING, OR ACCESS IS NOT IMPEDED DURING NON-WORKING HOURS. THE COST FOR MATERIALS AND TRAFFIC CONTROL ITEMS NECESSARY TO MEET THESE REQUIREMENTS SHALL BE INCLUDED IN THE COST OF THE VARIOUS ITEMS.

THE APPROXIMATE LOCATION OF KNOWN PUBLIC UTILITIES ARE PROVIDED FOR THE CONTRACTOR'S USE, AND ARE BASED UPON INFORMATION AVAILABLE AT THE TIME OF THE ADVERTISEMENT FOR BIDS. THE OWNER AND ENGINEER DO NOT GUARANTEE THE ACCURACY OF UTILITIES INFORMATION. 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.

CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A VIDEO DETAILING ALL SURFACE CONDITIONS WITHIN THE PROJECT AREA PRIOR TO EXCAVATION. ALL RESTORATION SHALL BE COMPLETED TO THE SATISFACTION OF THE OWNER AND ENGINEER.

THE VILLAGE OF TINLEY PARK SHALL OPERATE THE OPENING OR CLOSING OF ALL WATER VALVES, FIRE HYDRANTS, AND/OR OTHER WATER SYSTEM APPURTENANCES. PROVIDE 48 HOURS ADVANCE NOTICE TO THE VILLAGE OF TINLEY PARK PUBLIC WORKS DEPARTMENT (708-444-5500).

CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES FOR TRAFFIC CONTROL AND PROTECTION IN ACCORDANCE WITH IDOT STANDARD SPECIFICATIONS ADOPTED JANUARY 1, 2022, THE LATEST EDITION OF THE ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, AND THE SPECIAL PROVISIONS.

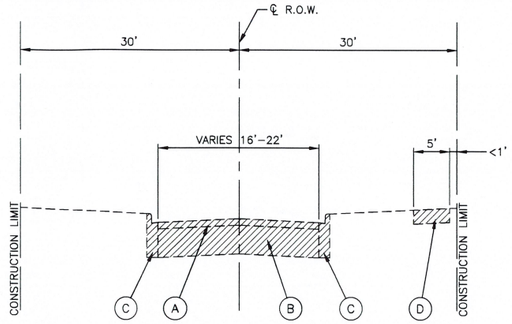
THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ENSURING THAT ALL TRAFFIC CONTROL DEVICES ARE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE APPLICABLE STANDARDS.

THE TOP OF ALL STRUCTURES SHALL BE FLUSH WITH THE ADJACENT SURFACE. FRAMES ON ALL NEW STRUCTURES SHALL BE ADJUSTED TO THE FINAL SURFACE ELEVATIONS AS PART OF THE NEW STRUCTURE COST. NO INVERTED FRAMES SHALL BE ALLOWED.

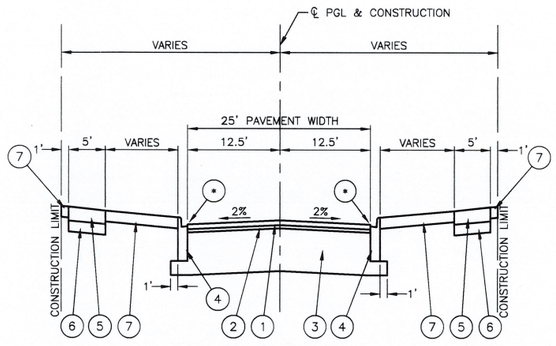
ITEMS OF WORK LISTED IN THE SUMMARY OF QUANTITIES NOT SPECIFICALLY CALLED OUT ON THE PLANS SHALL BE PERFORMED AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL KEEP AN "AS BUILT" SET OF DRAWINGS WHICH WILL SHOW ANY CHANGES MADE IN THE FIELD WHICH ARE DIFFERENT THAN WHAT IS SHOWN ON THE DRAWINGS. TWO (2) COPIES OF THE "AS BUILT" DRAWINGS ARE TO BE SUBMITTED TO THE ENGINEER BEFORE THE PROJECT IS ACCEPTED BY THE OWNER.

A MINIMUM OF 3 FEET OF PROTECTIVE COVER SHALL BE CONSTRUCTED PRIOR TO RUNNING HEAVY EQUIPMENT OVER EXISTING OR NEWLY INSTALLED PIPES.



EXISTING TYPICAL SECTION
174TH STREET



PROPOSED TYPICAL SECTION
174TH STREET

(*) FINISHED PAVEMENT SURFACE SHALL BE 1/4" ABOVE TOP OF GUTTER.

EXISTING LEGEND

- (A) PAVEMENT REMOVAL
- (B) EARTH EXCAVATION, INCLUDES REMOVAL OF EXISTING AGGREGATE BASE PER SPECIFICATIONS
- (C) COMBINATION CURB AND GUTTER REMOVAL
- (D) SIDEWALK REMOVAL (AS DIRECTED BY THE ENGINEER)
- ITEMS TO BE REMOVED (AS DIRECTED BY THE ENGINEER)

PROPOSED LEGEND

- (1) HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N50, 1.5"
- (2) HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50, 4"
- (3) AGGREGATE BASE COURSE, TYPE B, 8"
- (4) COMBINATION CURB AND GUTTER, TYPE B-6.12
  NOTE: 4" AGGREGATE BASE IS INCIDENTAL TO THE CURB AND GUTTER PER SPECIFICATIONS
- (5) PORTLAND CEMENT CONCRETE SIDEWALK 5" OR (PORTLAND CEMENT CONCRETE SIDEWALK, 7" AT DRIVEWAYS INCIDENTAL TO PORTLAND CEMENT CONCRETE SIDEWALK 5") (TO BE REPLACED AS DIRECTED BY THE ENGINEER)
- (6) AGGREGATE BASE COURSE, TYPE B 4". INCIDENTAL TO PCC SIDEWALK.
- (7) TOPSOIL, FURNISH AND PLACE, 4" WITH SODDING

HOT-MIX ASPHALT MIXTURE REQUIREMENTS

MIXTURE TYPE	AIR VOIDS @NDES	QMP
FULL DEPTH PAVEMENT		
HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N50 (1 1/2")	4% @ 50 Gyr.	LR 1030-2
HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50 (4" MIN.)	4% @ 50 Gyr.	LR 1030-2
CLASS D PATCHES, 6 INCH		
HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N50 (2")	4% @ 50 Gyr.	LR 1030-2
HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50 (4")	4% @ 50 Gyr.	LR 1030-2
HOT-MIX ASPHALT DRIVEWAY PAVEMENT		
HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N50 (2")	4% @ 50 Gyr.	LR 1030-2
HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50 (4")	4% @ 50 Gyr.	LR 1030-2
QMP DESIGNATIONS: QUALITY CONTROL/QUALITY ASSURANCE (QC/QA) PER LOCAL ROADS SPECIFICATION 1030-2		

NOTE:
UNIT WEIGHT USED TO CALCULATE ALL HMA SURFACE MIXTURE QUANTITIES IS 112 LBS/SQ YD/IN.

THE "AC TYPE" FOR POLYMERIZED HMA MIXES SHALL BE "SBS/SBR PG 76-22" AND FOR NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64-22" UNLESS MODIFIED BY DISTRICT 1 SPECIAL PROVISIONS. FOR USE OF RECYCLED MATERIALS SEE SPECIAL PROVISIONS.

QUALITY MANAGEMENT PROGRAM (QMP) IDENTIFIES THE PARTICULAR QUALITY CONTROL SPECIFICATION THAT APPLIES TO THE HMA MIXTURE.

DATE = 04-27-22	DESIGNED — MP	REVISED —	
SCALE = NONE	CHECKED — VC	REVISED —	
PROJECT NO = 21-R0315	DRAWN — RG	REVISED —	
FILE NAME = 21R0315-TYPX-01	CHECKED — AG	REVISED —	

Robinson ENGINEERING

174TH STREET, 66TH COURT AND 173RD PLACE
ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT
GENERAL NOTES AND TYPICAL SECTIONS

VILLAGE of TINLEY PARK

N

174TH STREET

MATCHLINE STA 24+00
SEE SHEET 5

VALVE VAULTS TO BE ABANDONED

RELOCATE SIGN PANEL AND POST

AGGREGATE SHOULDER REMOVAL

6" CUT & CAP

WATER MAIN REMOVAL 6", 39 LF

BENCHMARK
SPIKENAIL IN EAST FACE OF PP W/LIGHT AT NORTHWEST COR OF 66TH CT & 174TH ST
ELEV=694.85

AGGREGATE SHOULDER REMOVAL

6" CUT & CAP

RELOCATE SIGN PANEL AND POST

67TH AVENUE

66TH COURT

MATCHLINE STA 5+00
SEE SHEET 5

RELOCATE SIGN PANEL AND POST

STA 25+00 174TH STREET=
STA 3+02.59 67TH AVENUE

VALVE VAULTS TO BE ABANDONED

STA 25+00 174TH STREET=
STA 3+18.73 66TH COURT

VALVE VAULTS TO BE ABANDONED

VALVE VAULTS TO BE ABANDONED

6" CUT & CAP

AGGREGATE SHOULDER REMOVAL

BIT DR

BRICK WALK

STONE

1+00

2+00

3+00

4+00

5+00

25+00

26+00

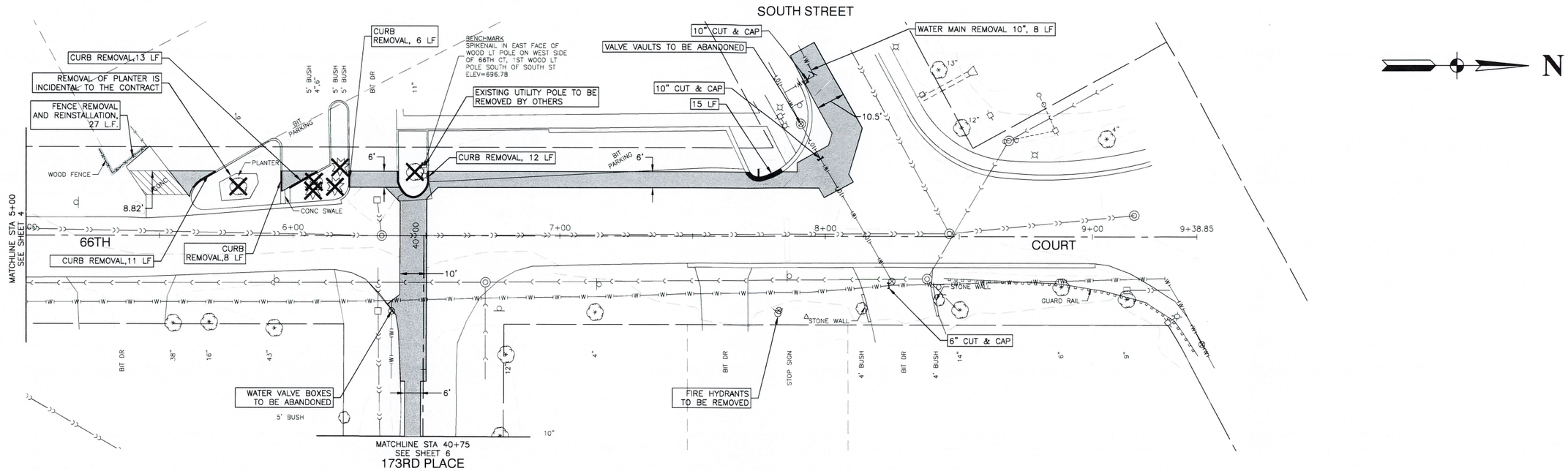
13°19"

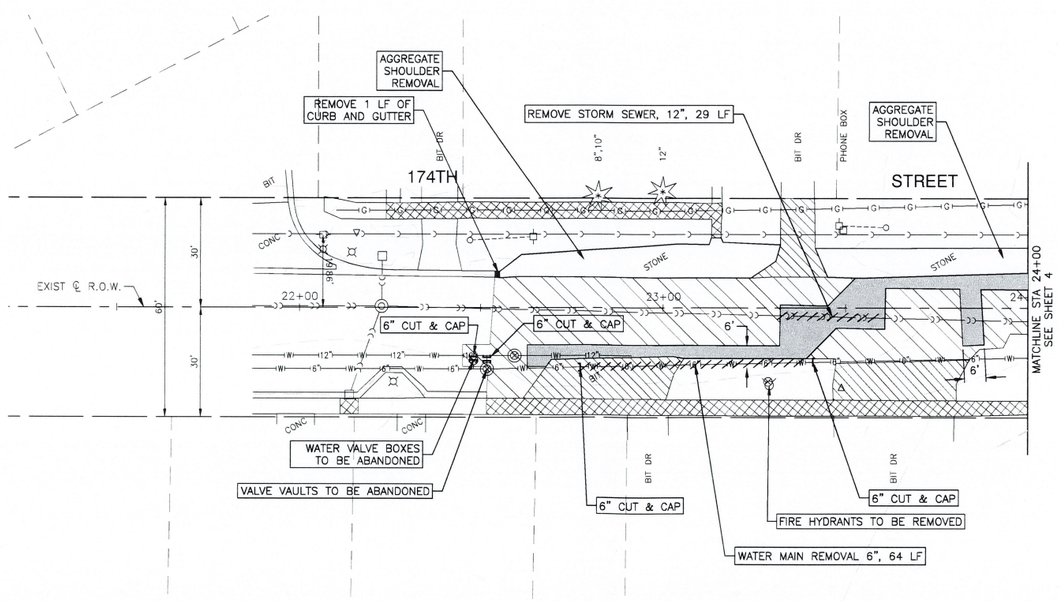
31"

LEGEND

- TREE REMOVAL
- WATER MAIN REMOVAL
- COMBINATION CURB AND GUTTER REMOVAL AND REPLACEMENT
- CURB REMOVAL AND REPLACEMENT
- PAVEMENT REMOVAL
- DRIVEWAY PAVEMENT REMOVAL
- PCC SIDEWALK REMOVAL AND REPLACEMENT
- CLASS D PATCHES, 6"

DATE = 04-27-22	DESIGNED — MP	REVISED —	Robinson ENGINEERING	67TH AVENUE ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT EXISTING CONDITIONS & REMOVAL PLAN	VILLAGE of TINLEY PARK	SHEET NO. 4 of 31
SCALE = 1"=20'	CHECKED — VC	REVISED —				
PROJECT NO = 21-R0315	DRAWN — BG/RG	REVISED —				
FILE NAME = 21R0315-RMVL-01	CHECKED — AG	REVISED —				

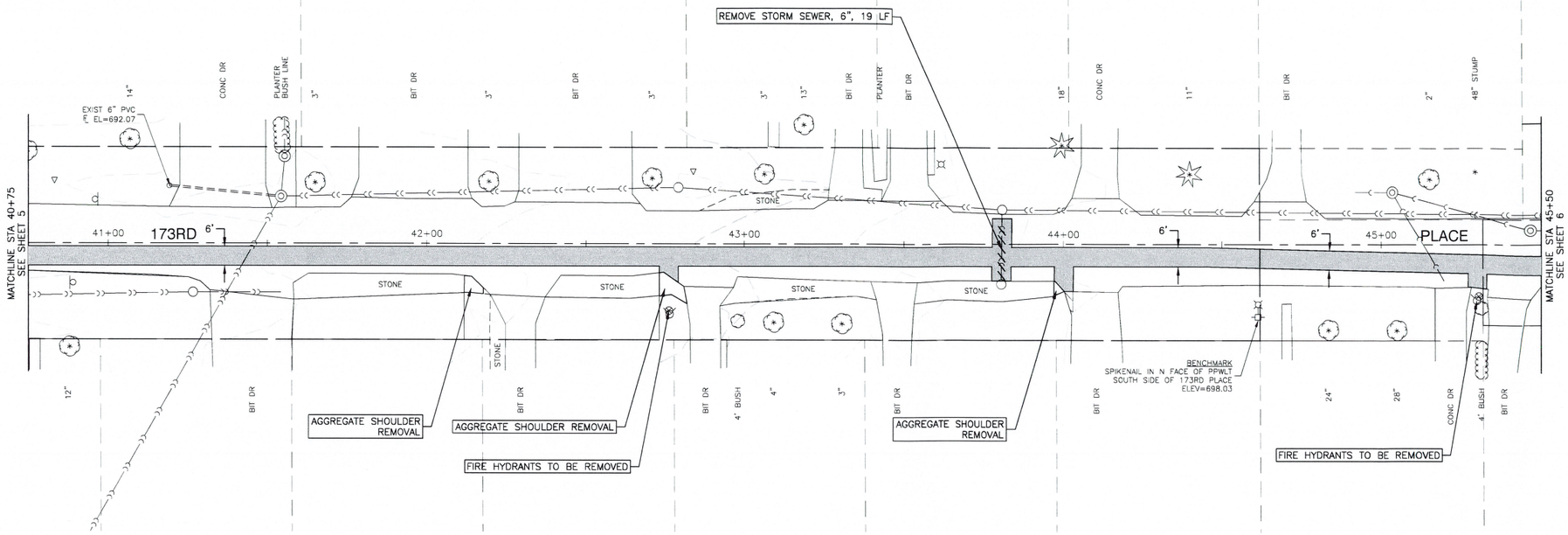


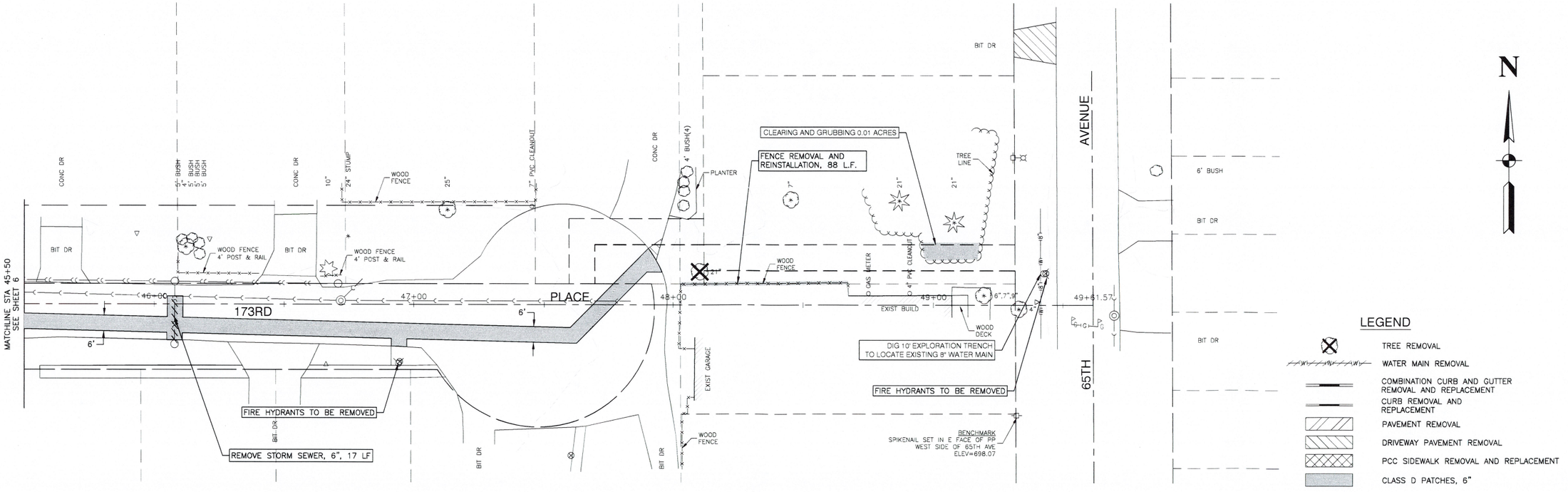


LEGEND

- TREE REMOVAL
- WATER MAIN REMOVAL
- COMBINATION CURB AND GUTTER REMOVAL AND REPLACEMENT
- CURB REMOVAL AND REPLACEMENT
- PAVEMENT REMOVAL
- DRIVEWAY PAVEMENT REMOVAL
- PCC SIDEWALK REMOVAL AND REPLACEMENT
- CLASS D PATCHES, 6"

DATE	= 04-27-22	DESIGNED — MP	REVISED —	Robinson ENGINEERING	66TH COURT ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT EXISTING CONDITIONS & REMOVAL PLAN
SCALE	= 1"=20'	CHECKED — VC	REVISED —		VILLAGE of TINLEY PARK
PROJECT NO	= 21-R0315	DRAWN — BG/RG	REVISED —		SHEET NO. 5 of 31
FILE NAME	= 21R0315-RMVL-01	CHECKED — AG	REVISED —		





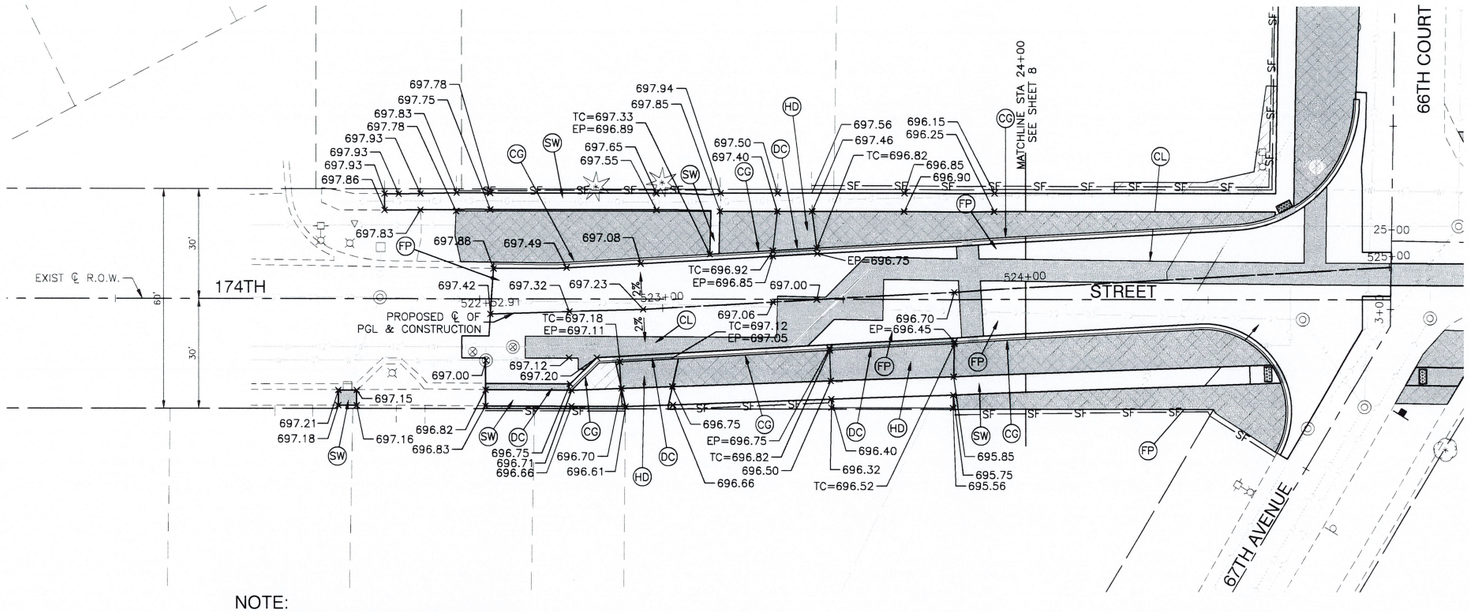
DATE = 04-27-22	DESIGNED — MP	REVISED —	
SCALE = 1"=20'	CHECKED — VC	REVISED —	
PROJECT NO = 21-R0315	DRAWN — BG/RG	REVISED —	
FILE NAME = 21R0315-RMVL-01	CHECKED — AG	REVISED —	

Robinson ENGINEERING

173RD PLACE
ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT
EXISTING CONDITIONS & REMOVAL PLAN

VILLAGE of TINLEY PARK

SHEET NO. 6 of 31



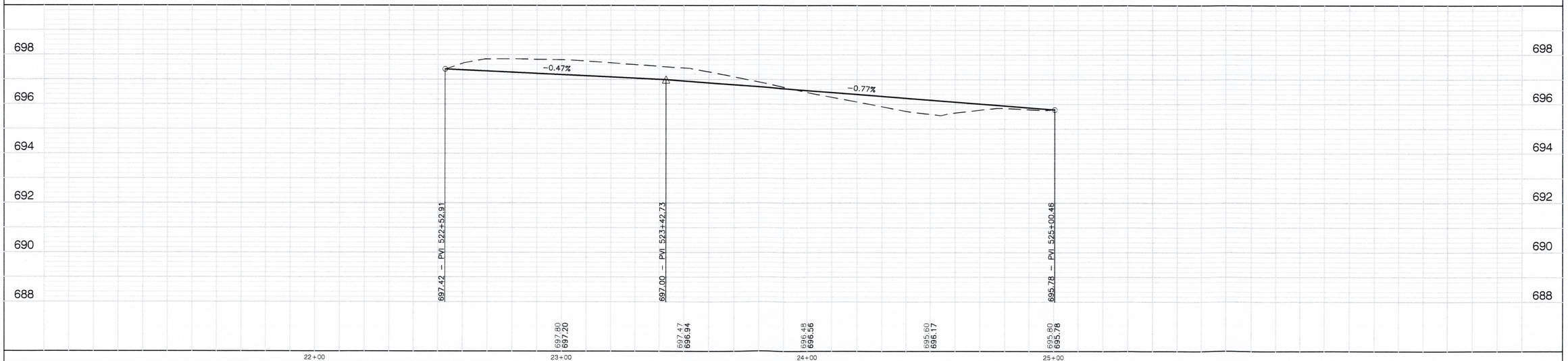
NOTE:

NO CROWN IN PROPOSED PAVEMENT IN TRANSITION AREA TO EXISTING PAVEMENT. EXISTING PAVEMENT SLOPES NORTH TO SOUTH WITH NO CROWN. BEGIN NORMAL PROPOSED PAVEMENT CROSS SECTION AT STATION 22+95.

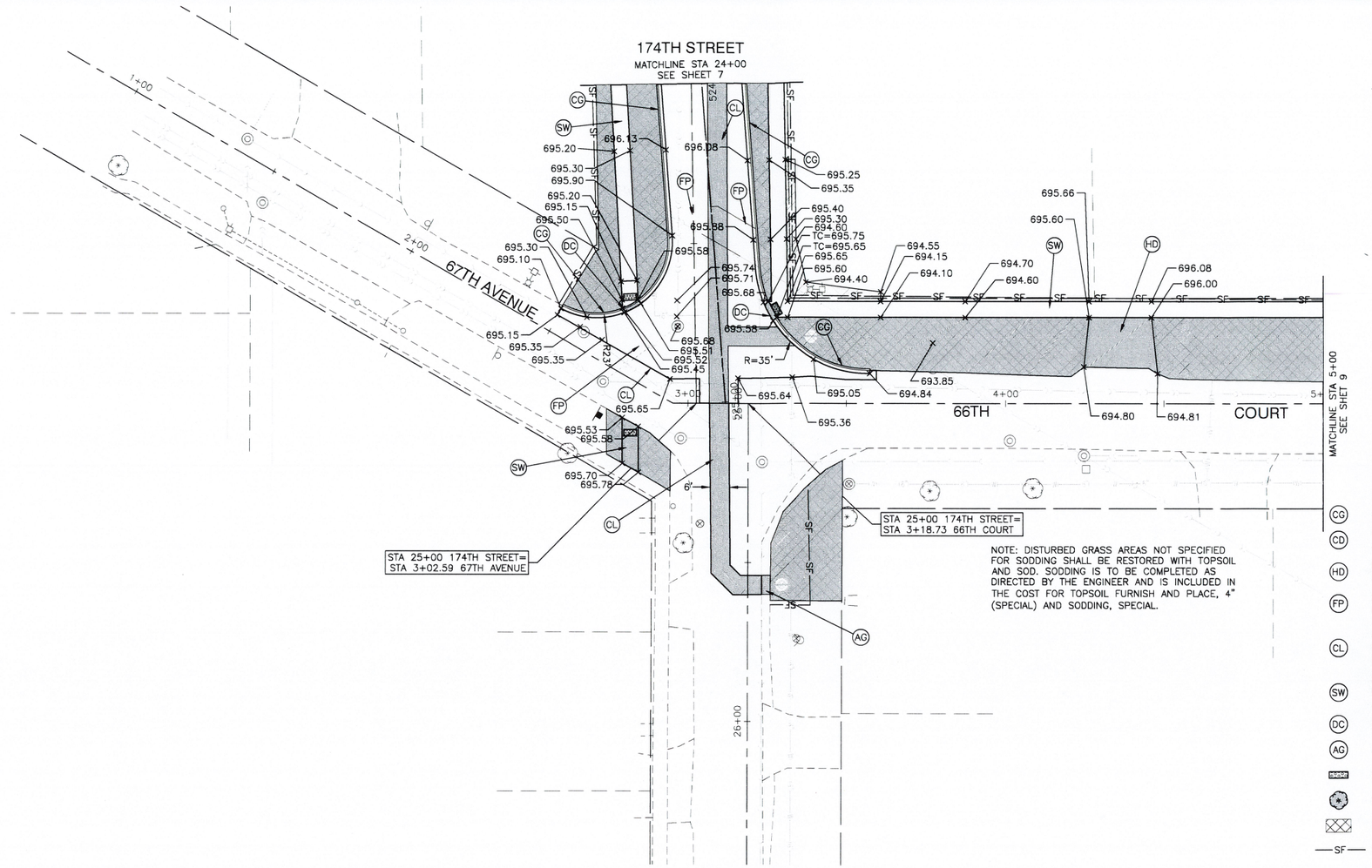
N

LEGEND

- (CG) COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12
- (CD) PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 7 INCH
  AGGREGATE BASE COURSE, TYPE B, 4" (INCLUDED IN CONCRETE DRIVEWAY)
- (HD) HOT-MIX ASPHALT DRIVEWAY PAVEMENT, 6"
  AGGREGATE BASE COURSE, TYPE B, 6" (INCLUDED IN HMA DRIVEWAY)
- (FP) HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70, 1.5"
  HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70, 4"
- (CL) CLASS D PATCHES
  HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50, 2"
  HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50, 4"
- (SW) PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH
  PORTLAND CEMENT CONCRETE SIDEWALK 7 INCH THROUGH DRIVEWAYS (INCIDENTAL)
  AGGREGATE BASE COURSE, TYPE B, 4" (INCLUDED IN SIDEWALK)
- (DC) DEPRESSED CURB
- (AG) AGGREGATE SHOULDER, TYPE B, 6"
- DETECTABLE WARNINGS
- PROPOSED TREE
- TOPSOIL, FURNISH AND PLACE, 4" (SPECIAL) AND SODDING, SPECIAL
- —SF— SILT FENCE

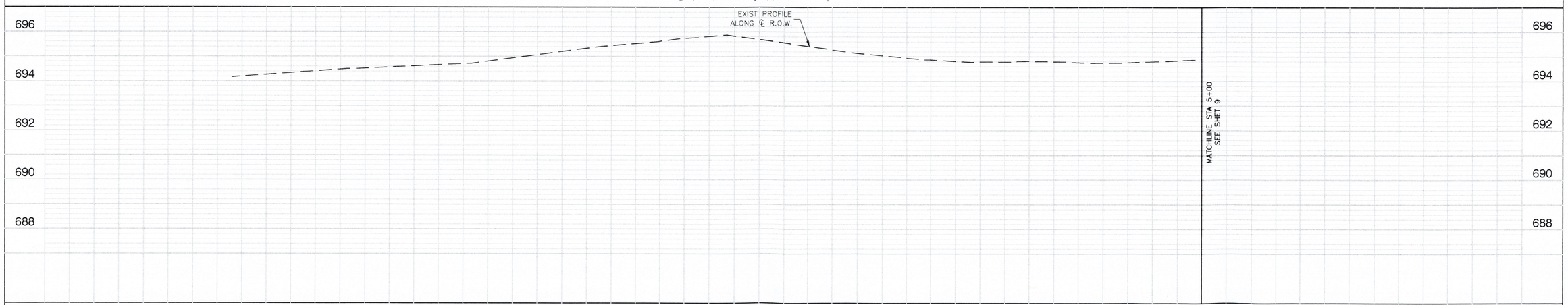


DATE	= 04-27-22	DESIGNED — MP	REVISED —	Robinson ENGINEERING	174TH STREET ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT PLAN & PROFILE
SCALE	= 1"=20'	CHECKED — VC	REVISED —		VILLAGE of TINLEY PARK
PROJECT NO	= 21-R0315	DRAWN — BG/RG	REVISED —		SHEET NO. 7 of 31
FILE NAME	= 21R0315-PLPR-01	CHECKED — AG	REVISED —		



LEGEND

- (CG) COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12
- (CD) PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 7 INCH
  AGGREGATE BASE COURSE, TYPE B, 4" (INCLUDED IN CONCRETE DRIVEWAY
- (HD) HOT-MIX ASPHALT DRIVEWAY PAVEMENT, 6"
  AGGREGATE BASE COURSE, TYPE B, 6" (INCLUDED IN HMA DRIVEWAY)
- (FP) HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50, 1.5"
  HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50, 4"
- (CL) CLASS D PATCHES
  HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70, 2"
  HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70, 4"
- (SW) PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH
  PORTLAND CEMENT CONCRETE SIDEWALK 7 INCH THROUGH DRIVEWAYS (INCIDENTAL)
  AGGREGATE BASE COURSE, TYPE B, 4" (INCLUDED IN SIDEWALK)
- (DC) DEPRESSED CURB
- (AG) AGGREGATE SHOULDER, TYPE B, 6"
- DETECTABLE WARNINGS
- PROPOSED TREE
- TOPSOIL, FURNISH AND PLACE, 4" (SPECIAL) AND SODDING, SPECIAL
- —SF— SILT FENCE



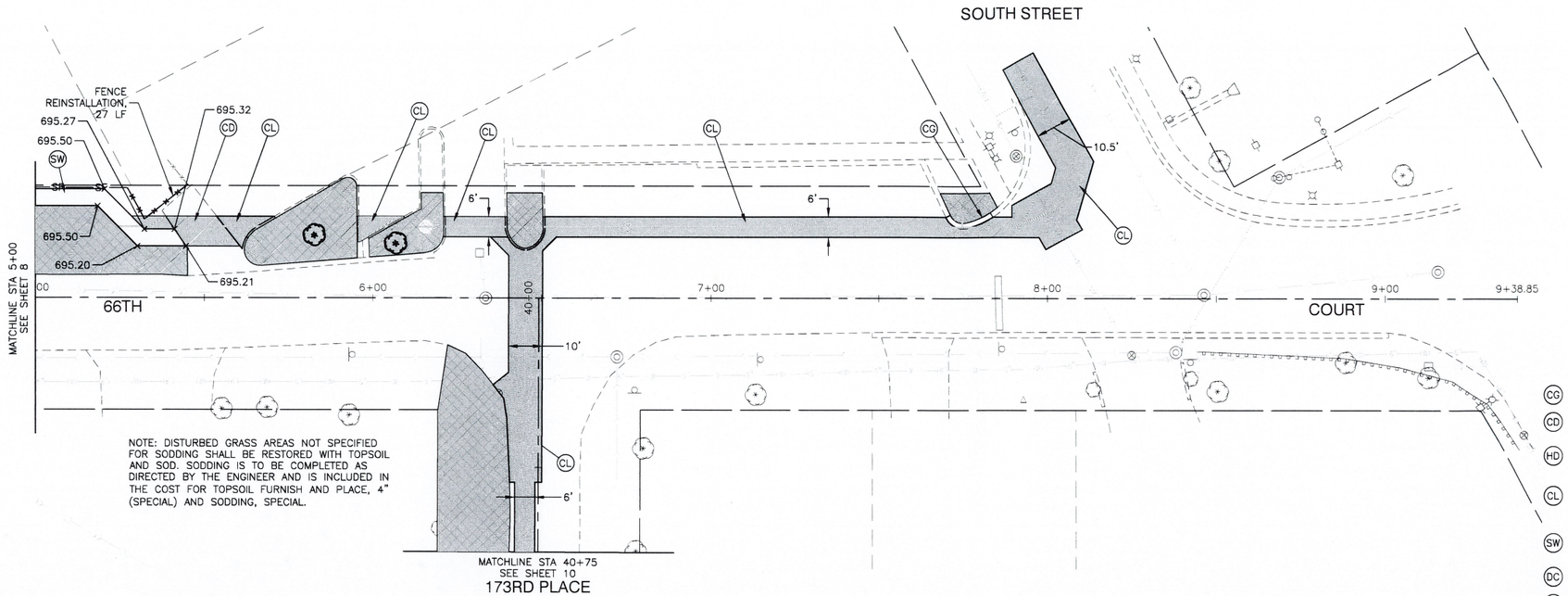
DATE = 04-27-22	DESIGNED — MP	REVISED —	
SCALE = 1"=20'	CHECKED — VC	REVISED —	
PROJECT NO = 21-R0315	DRAWN — BG/RG	REVISED —	
FILE NAME = 21R0315-PLPR-01	CHECKED — AG	REVISED —	

Robinson ENGINEERING

67TH AVENUE
ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT
PLAN & PROFILE

VILLAGE of TINLEY PARK

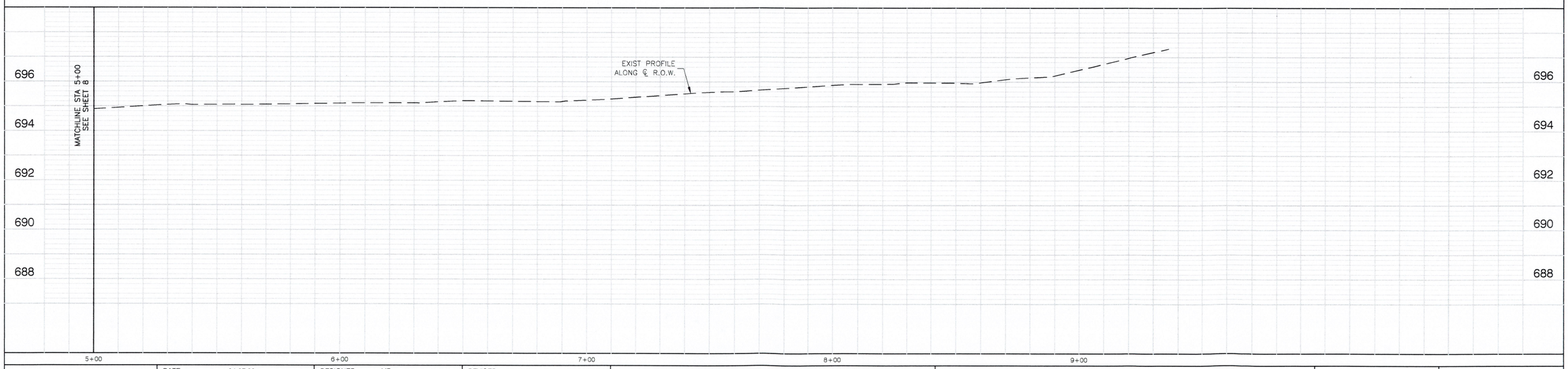
SHEET NO. 8 of 31



N

LEGEND

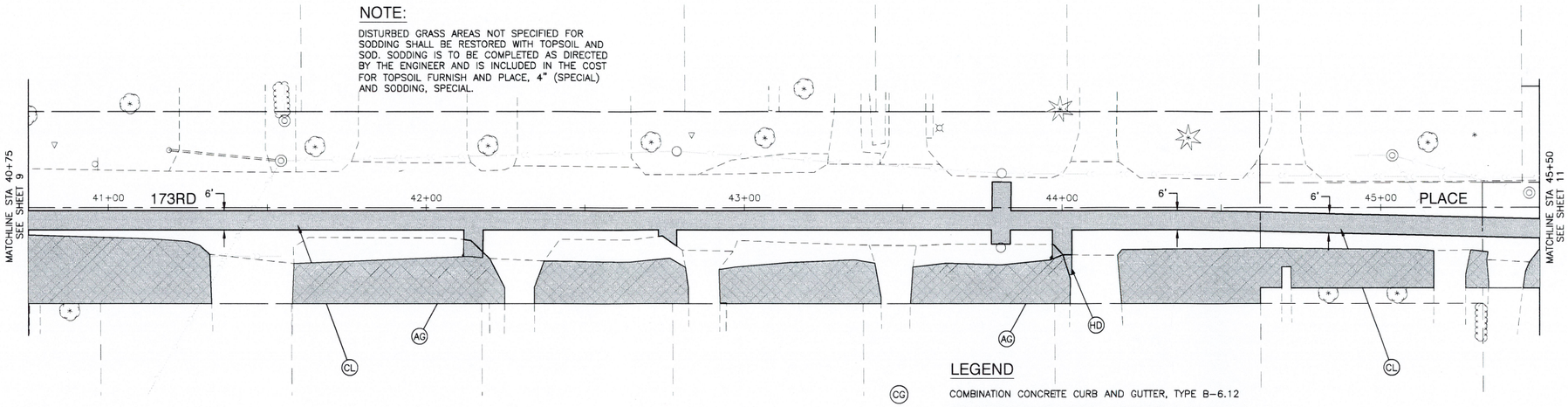
CG	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12
CD	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 7 INCH AGGREGATE BASE COURSE, TYPE B, 4" (INCLUDED IN CONCRETE DRIVEWAY)
HD	HOT-MIX ASPHALT DRIVEWAY PAVEMENT, 6" AGGREGATE BASE COURSE, TYPE B, 6" (INCLUDED IN HMA DRIVEWAY)
CL	CLASS D PATCHES HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50, 2" HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50, 4"
SW	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH PORTLAND CEMENT CONCRETE SIDEWALK 7 INCH THROUGH DRIVEWAYS (INCIDENTAL) AGGREGATE BASE COURSE, TYPE B, 4" (INCLUDED IN SIDEWALK)
DC	DEPRESSED CURB
AG	AGGREGATE SHOULDER, TYPE B, 6"
	DETECTABLE WARNINGS
	PROPOSED TREE
	TOPSOIL, FURNISH AND PLACE, 4" (SPECIAL) AND SODDING, SPECIAL
—SF—	SILT FENCE



DATE = 04-27-22	DESIGNED — MP	REVISED —	Robinson ENGINEERING	66TH COURT ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT PLAN & PROFILE	VILLAGE of TINLEY PARK
SCALE = 1"=20'	CHECKED — VC	REVISED —			SHEET NO. 9 of 31
PROJECT NO = 21-R0315	DRAWN — BG/RG	REVISED —			
FILE NAME = 21R0315-PLPR-01	CHECKED — AG	REVISED —			

NOTE:

DISTURBED GRASS AREAS NOT SPECIFIED FOR SODDING SHALL BE RESTORED WITH TOPSOIL AND SOD. SODDING IS TO BE COMPLETED AS DIRECTED BY THE ENGINEER AND IS INCLUDED IN THE COST FOR TOPSOIL FURNISH AND PLACE, 4" (SPECIAL) AND SODDING, SPECIAL.

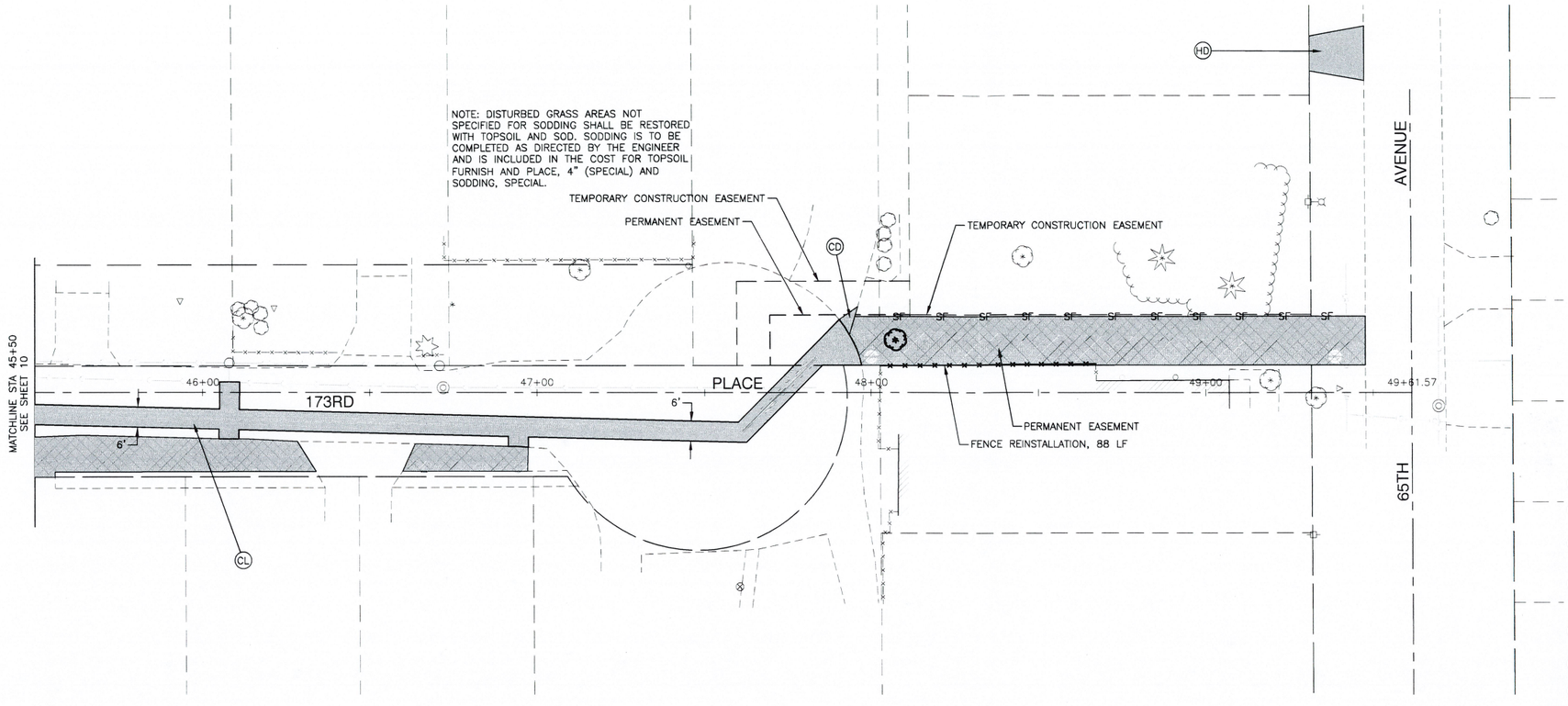


N

LEGEND

(CG)	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12
(CD)	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 7 INCH AGGREGATE BASE COURSE, TYPE B, 4" (INCLUDED IN CONCRETE DRIVEWAY)
(HD)	HOT-MIX ASPHALT DRIVEWAY PAVEMENT, 6" AGGREGATE BASE COURSE, TYPE B, 6" (INCLUDED IN HMA DRIVEWAY)
(CL)	CLASS D PATCHES HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50, 2" HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50, 4"
(SW)	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH PORTLAND CEMENT CONCRETE SIDEWALK 7 INCH THROUGH DRIVEWAYS (INCIDENTAL) AGGREGATE BASE COURSE, TYPE B, 4" (INCLUDED IN SIDEWALK)
(DC)	DEPRESSED CURB
(AG)	AGGREGATE SHOULDER, TYPE B, 6"
	DETECTABLE WARNINGS
	PROPOSED TREE
	TOPSOIL, FURNISH AND PLACE, 4" (SPECIAL) AND SODDING, SPECIAL
—SF—	SILT FENCE

DATE = 04-27-22	DESIGNED — MP	REVISED —	Robinson ENGINEERING	173RD PLACE ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT PLAN & PROFILE	VILLAGE of TINLEY PARK
SCALE = 1"=20'	CHECKED — VC	REVISED —			SHEET NO. 10 of 31
PROJECT NO = 21-R0315	DRAWN — BG/RG	REVISED —			
FILE NAME = 21R0315-PLPR-01	CHECKED — AG	REVISED —			



N

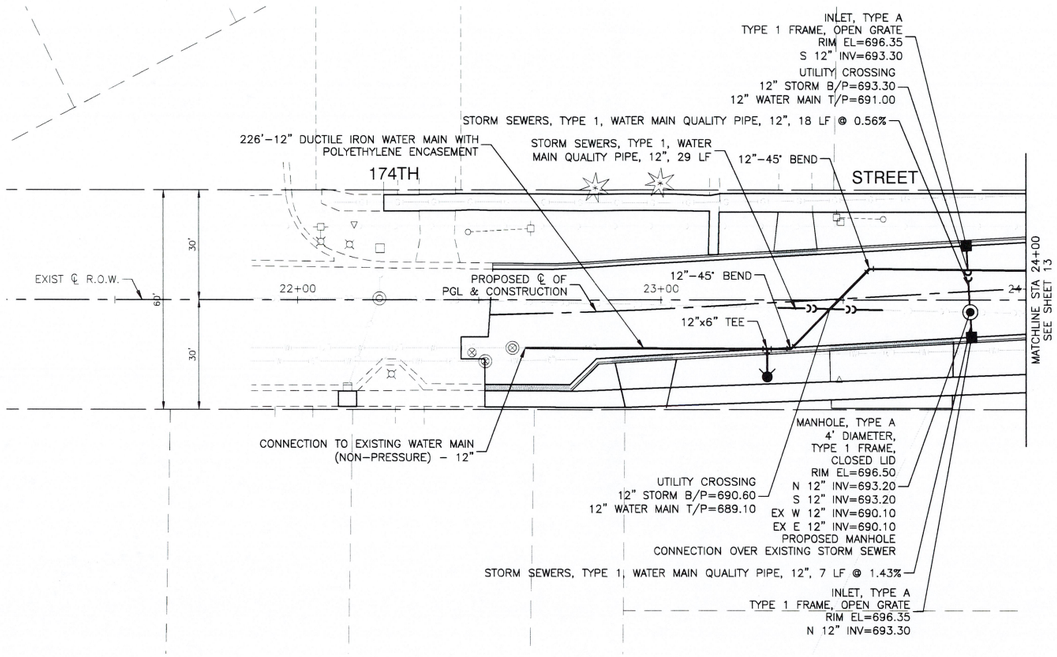
LEGEND

- CG — COMBINATION CONCRETE CURB AND GUTTER, TYPE B–6.12
- CD — PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 7 INCH
  AGGREGATE BASE COURSE, TYPE B, 4" (INCLUDED IN CONCRETE DRIVEWAY)
- HD — HOT–MIX ASPHALT DRIVEWAY PAVEMENT, 6"
  AGGREGATE BASE COURSE, TYPE B, 6" (INCLUDED IN HMA DRIVEWAY)
- CL — CLASS D PATCHES
  HOT–MIX ASPHALT SURFACE COURSE, MIX "D", N50, 2"
  HOT–MIX ASPHALT BINDER COURSE, IL–19.0, N50, 4"
- SW — PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH
  PORTLAND CEMENT CONCRETE SIDEWALK 7 INCH THROUGH DRIVEWAYS (INCIDENTAL)
  AGGREGATE BASE COURSE, TYPE B, 4" (INCLUDED IN SIDEWALK)
- DC — DEPRESSED CURB
- AG — AGGREGATE SHOULDER, TYPE B, 6"
- DETECTABLE WARNINGS
- PROPOSED TREE
- TOPSOIL, FURNISH AND PLACE, 4" (SPECIAL) AND SODDING, SPECIAL
- —SF— SILT FENCE

DATE	= 04-27-22	DESIGNED	— MP	REVISED	—	Robinson ENGINEERING	173RD PLACE ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT PLAN & PROFILE	VILLAGE of TINLEY PARK	SHEET NO. 11 of 31
SCALE	= 1"=20'	CHECKED	— VC	REVISED	—				
PROJECT NO	= 21-R0315	DRAWN	— BG/RG	REVISED	—				
FILE NAME	= 21R0315-PLPR-01	CHECKED	— AG	REVISED	—				

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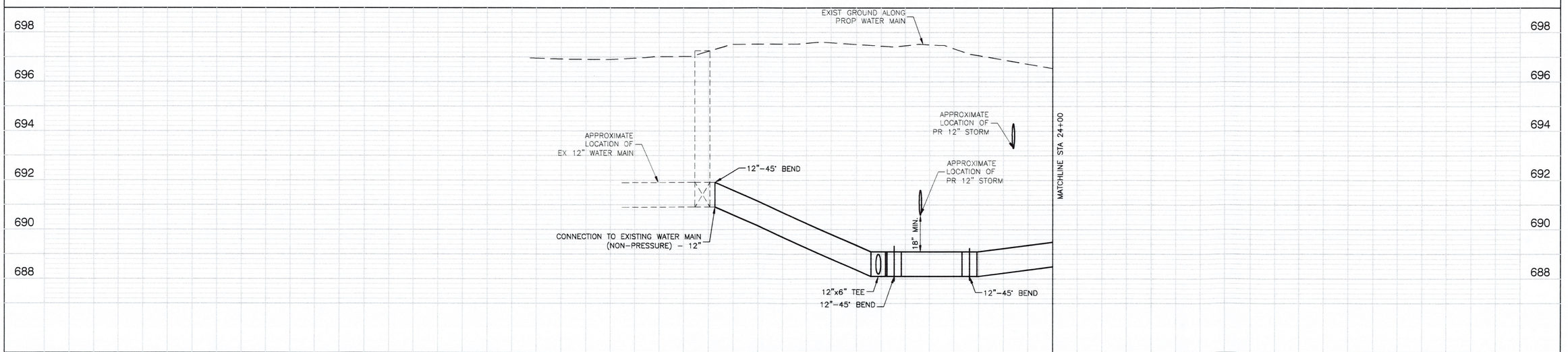
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2. CONTRACTOR TO PROTECT CURB AND SIDEWALK NOT OTHERWISE CALLED OUT FOR REMOVAL AND REPLACEMENT ON PLANS DURING CONSTRUCTION AND WILL BE RESPONSIBLE FOR REPAIRS TO DAMAGED CURB AND SIDEWALK AT NO COST TO THE OWNER.
3. WATER SERVICE B-BOX LOCATIONS AND EXISTING WATER MAIN LOCATIONS ARE APPROXIMATE. WATER SERVICE DEPTHS AND LOCATIONS ARE UNKNOWN, CONTRACTOR TO FIELD VERIFY.
4. ALL WATER SERVICES ARE TO BE REPLACED PER THE DIRECTION OF THE VILLAGE/ENGINEER.
5. EXISTING WATER MAIN, FIRE HYDRANTS AND WATER SERVICES SHALL REMAIN OPERATIONAL UNTIL NEW WATER MAIN IS IN SERVICE.
6. WATER MAIN DEPTH PROPOSED AT 5.5' COVER. FIELD ADJUSTMENTS OF ±0.5' MAY BE NECESSARY DUE TO ELEVATION OF EXISTING UTILITIES.
7. FINAL LOCATIONS FOR CONNECTIONS, CUT AND CAPS AND WATER MAIN ARE TO BE FIELD VERIFIED AND COORDINATED WITH THE VILLAGE/ENGINEER.



N

LEGEND

- PROPOSED HYDRANT WITH AUXILIARY VALVE, VALVE BOX AND TEE
- PROPOSED WATER VALVE IN VAULT
- PROPOSED WATER VALVE BOX
- PROPOSED WATER MAIN
- CUT AND CAP EXISTING WATER MAIN
- PROPOSED STORM MANHOLE
- PROPOSED STORM INLET
- PROPOSED STORM SEWER



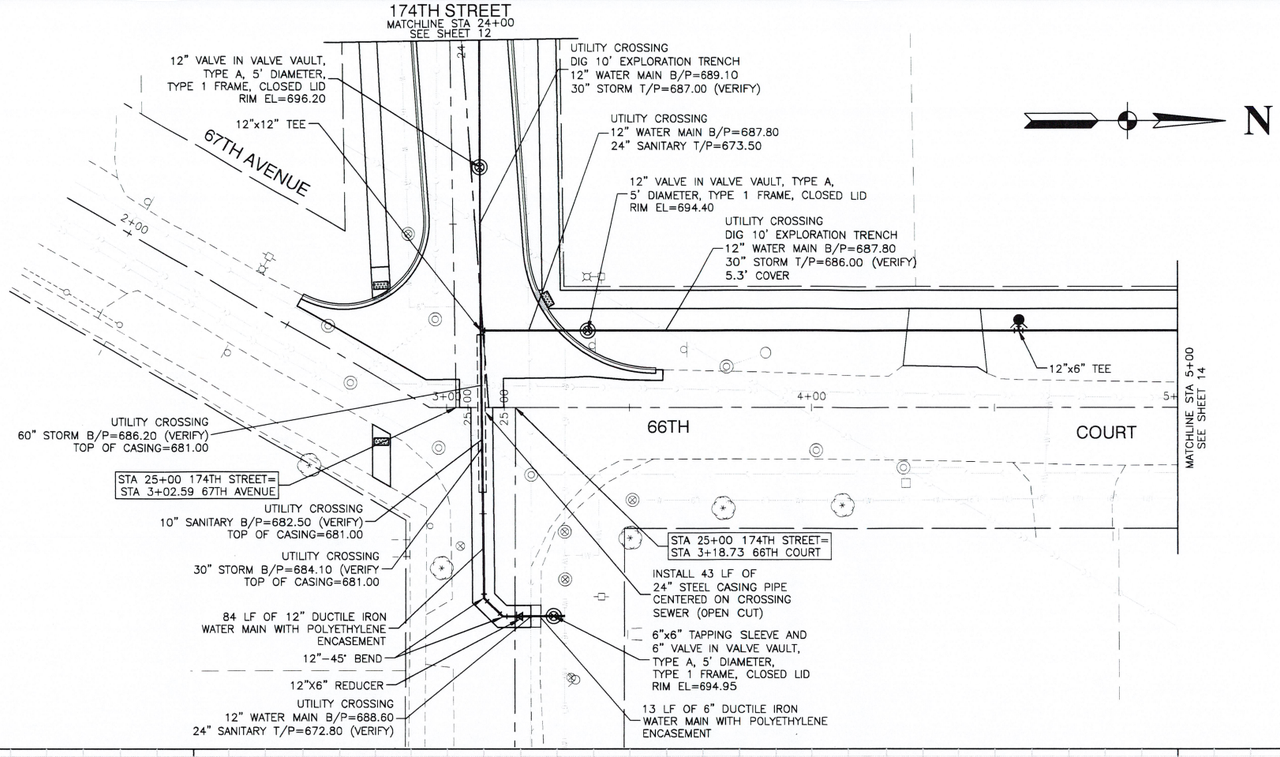
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SCALE	= 1"=20'	CHECKED — VC	REVISED —		VILLAGE of TINLEY PARK
PROJECT NO	= 21-R0315	DRAWN — BG/RG	REVISED —		SHEET NO. 12 of 31
FILE NAME	= 21R0315-UTIL-01	CHECKED — AG	REVISED —		

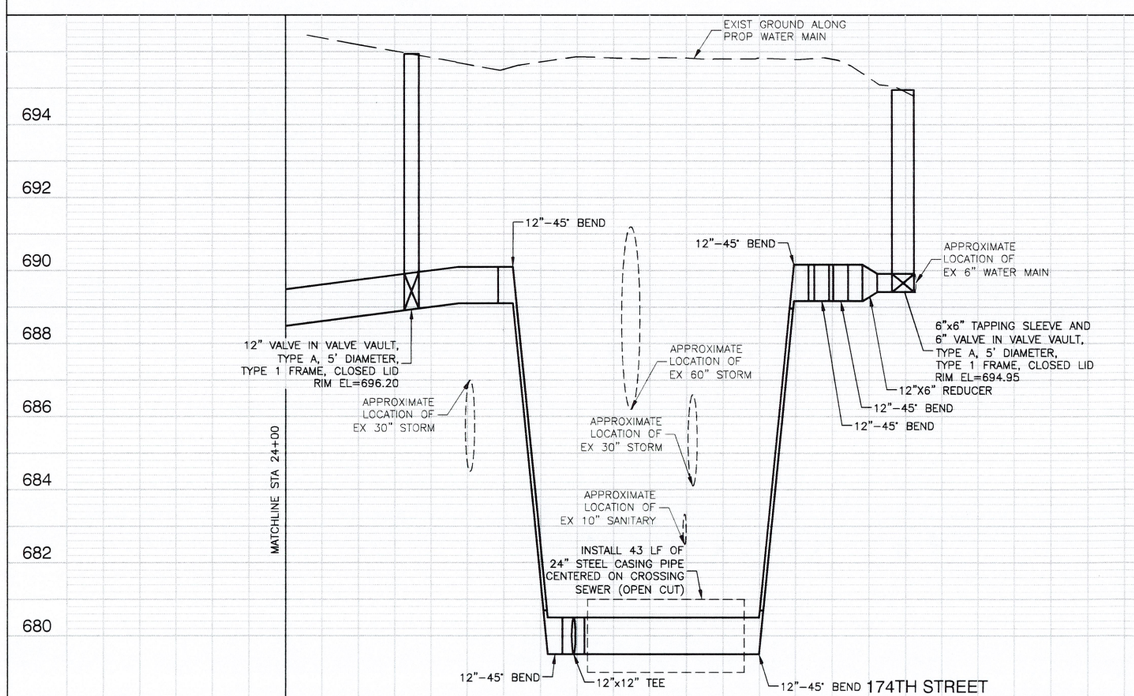
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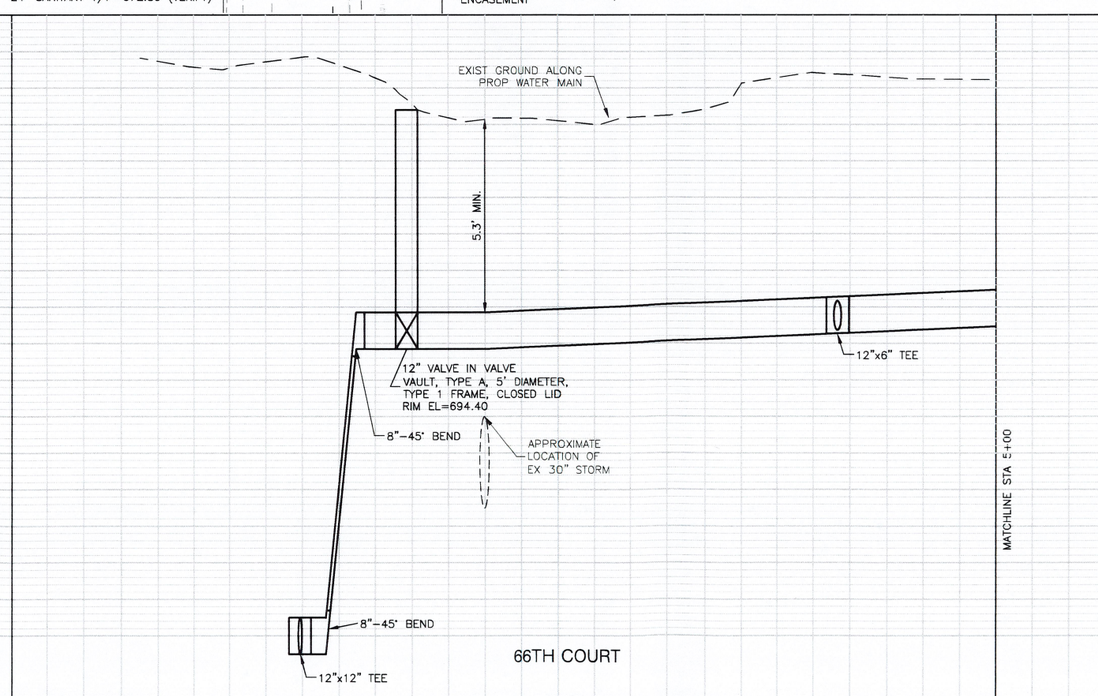
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LEGEND

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- PROPOSED WATER VALVE IN VAULT
- PROPOSED WATER VALVE BOX
- PROPOSED WATER MAIN
- CUT AND CAP EXISTING WATER MAIN
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- PROPOSED STORM INLET
- PROPOSED STORM SEWER







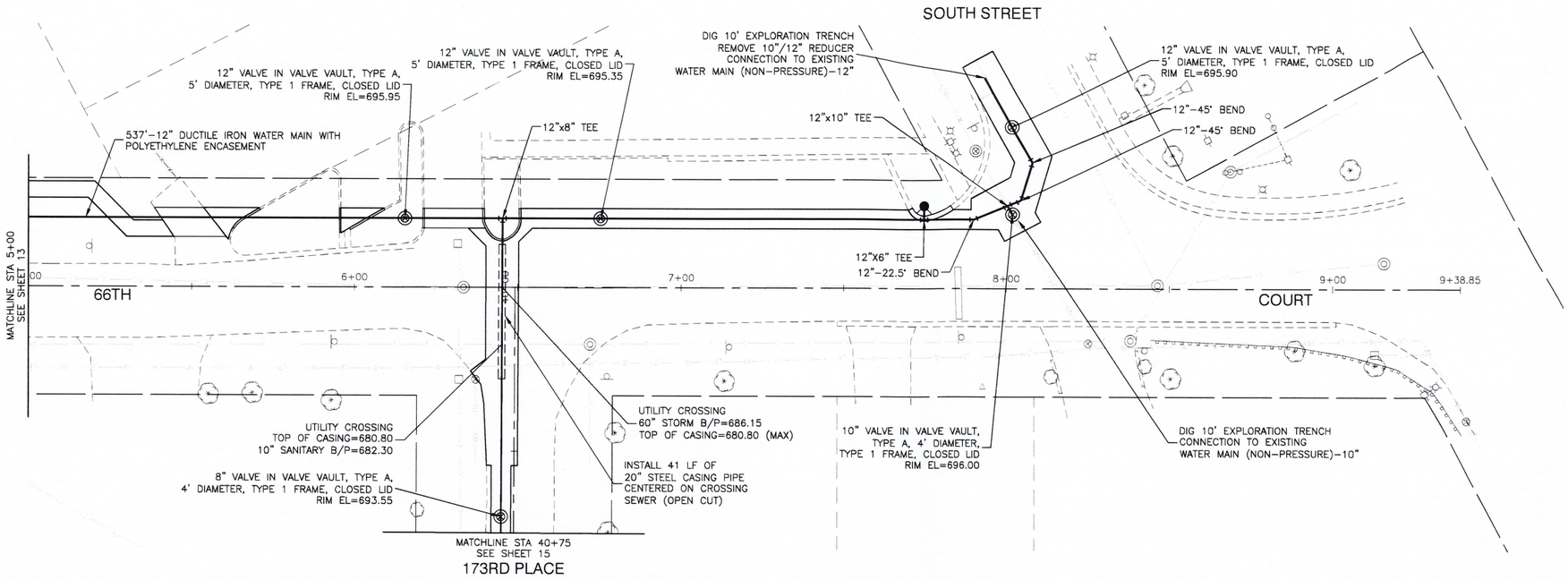
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SCALE = 1"=20'	CHECKED — VC	REVISED —	
PROJECT NO = 21-R0315	DRAWN — BG/RG	REVISED —	
FILE NAME = 21R0315-UTIL-01	CHECKED — AG	REVISED —	

Robinson ENGINEERING

66TH COURT
ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT
PROPOSED WATER MAIN & UTILITIES

VILLAGE of TINLEY PARK

SHEET NO. 13 of 31



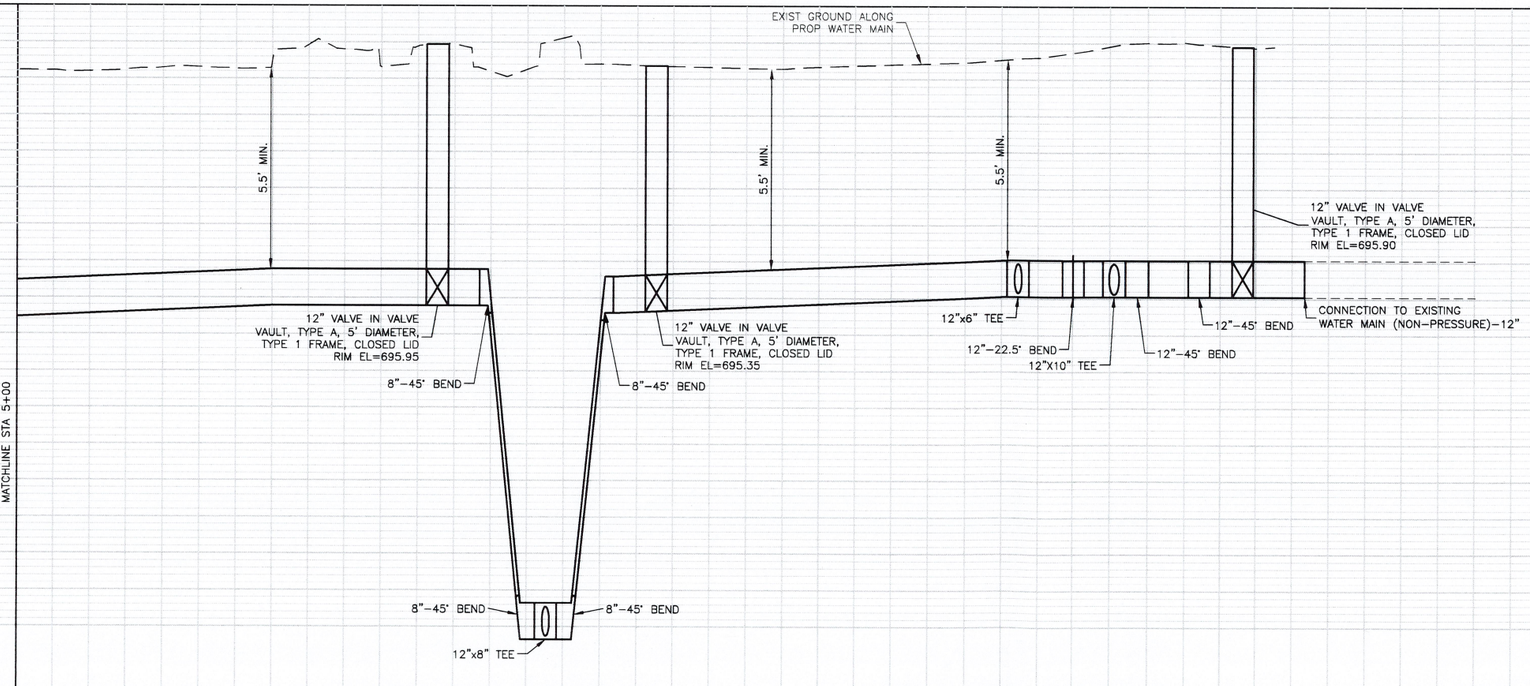
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NOTES:

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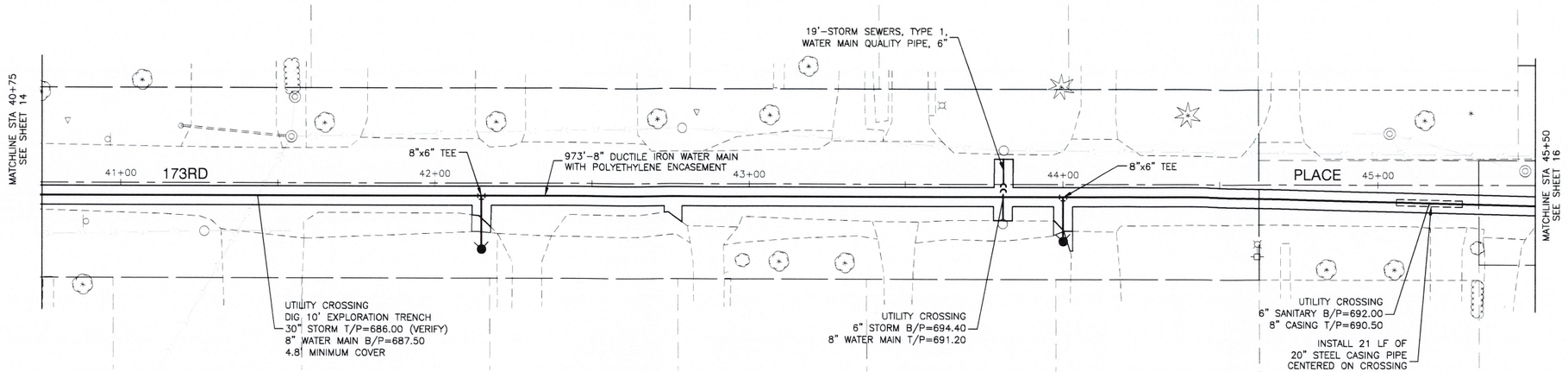
LEGEND

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- PROPOSED WATER VALVE IN VAULT
- PROPOSED WATER VALVE BOX
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- PROPOSED STORM INLET
- PROPOSED STORM SEWER



DATE	= 04-27-22	DESIGNED — MP	REVISED —	Robinson ENGINEERING	66TH COURT ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT PROPOSED WATER MAIN & UTILITIES
SCALE	= 1"=20'	CHECKED — VC	REVISED —		VILLAGE of TINLEY PARK
PROJECT NO	= 21-R0315	DRAWN — BG/RG	REVISED —		SHEET NO. 14 of 31
FILE NAME	= 21R0315-UTIL-01	CHECKED — AG	REVISED —		

66TH COURT



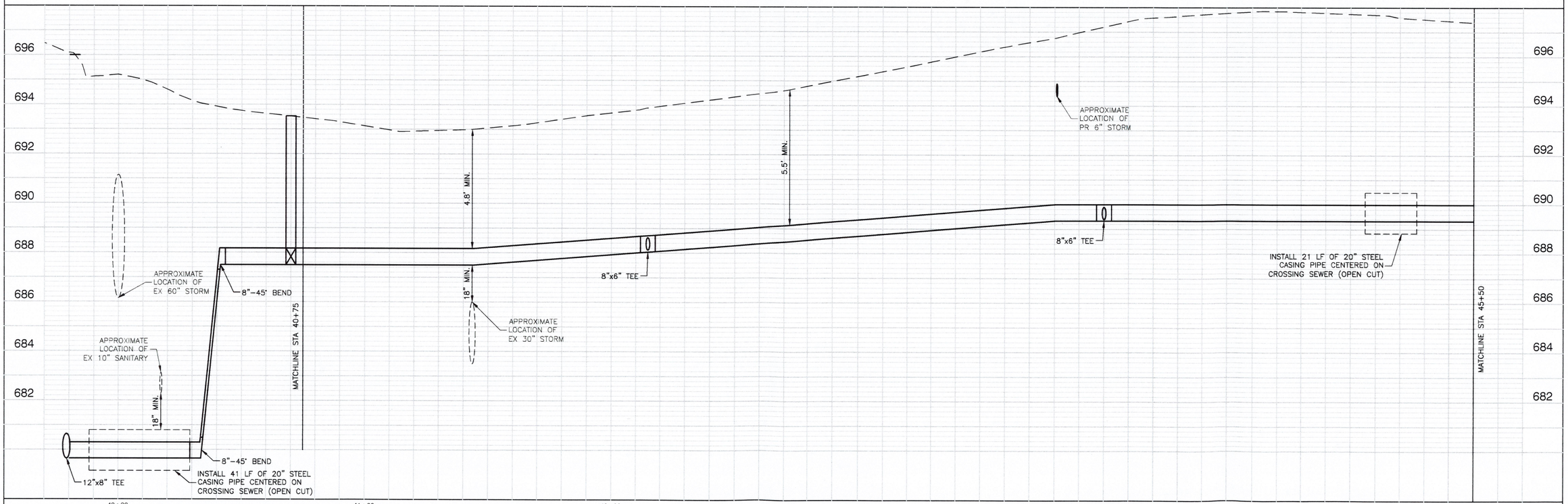
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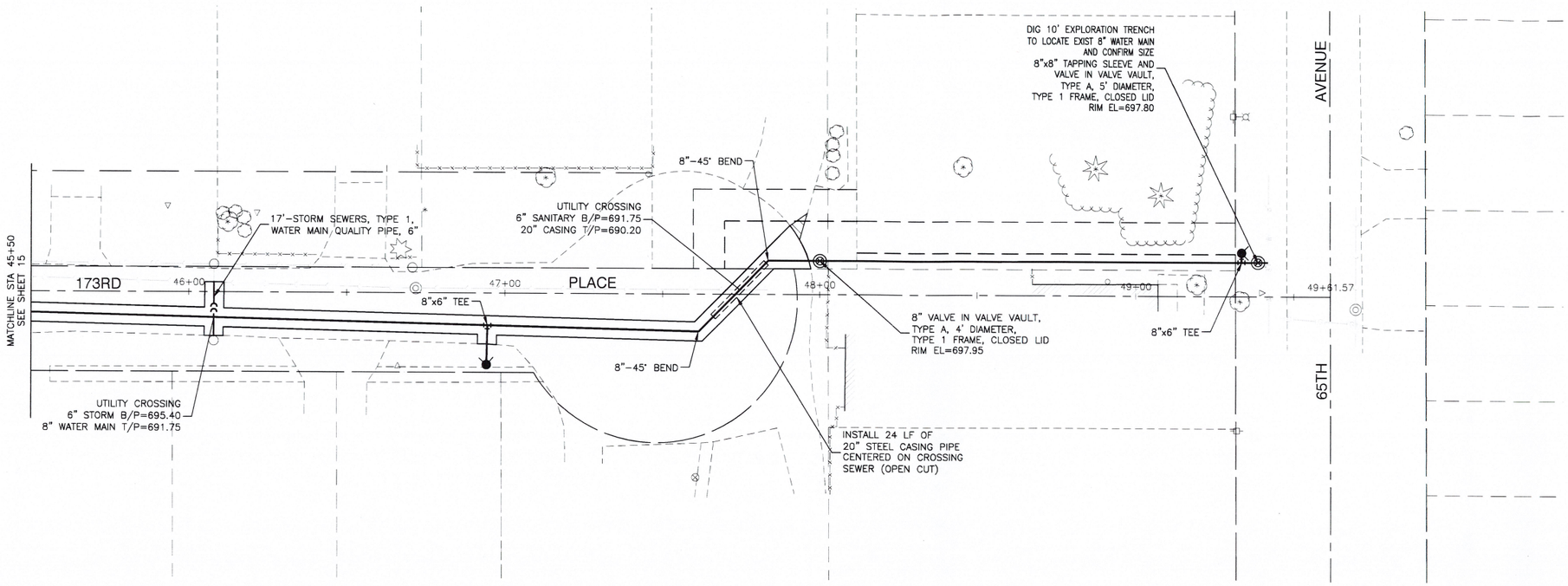
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DATE	= 04-27-22	DESIGNED — MP	REVISED —	Robinson ENGINEERING	173RD PLACE ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT PROPOSED WATER MAIN & UTILITIES
SCALE	= 1"=20'	CHECKED — VC	REVISED —		VILLAGE of TINLEY PARK
PROJECT NO	= 21-R0315	DRAWN — BG/RG	REVISED —		SHEET NO. 15 of 31
FILE NAME	= 21R0315-UTIL-01	CHECKED — AG	REVISED —		



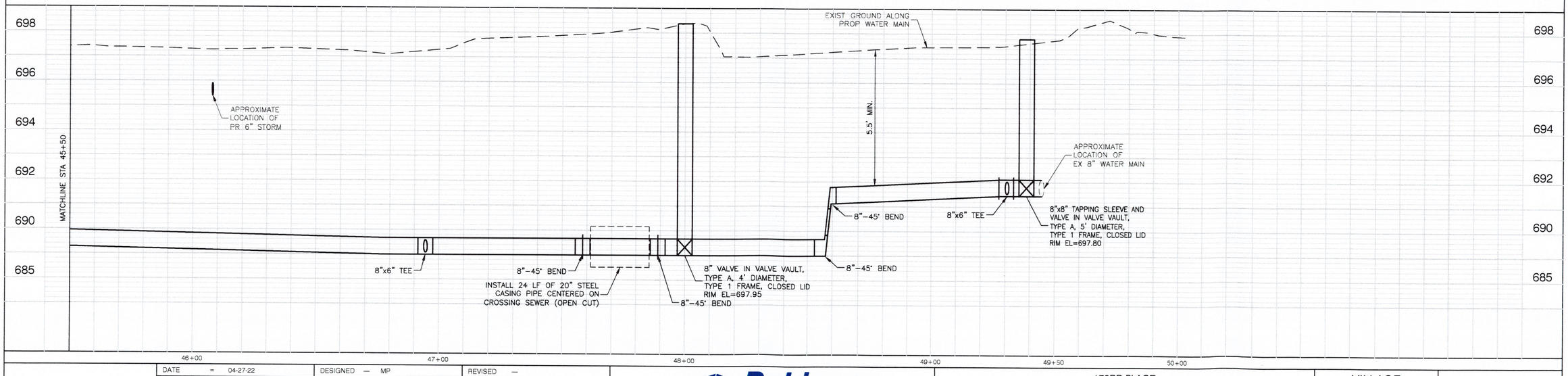
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LEGEND

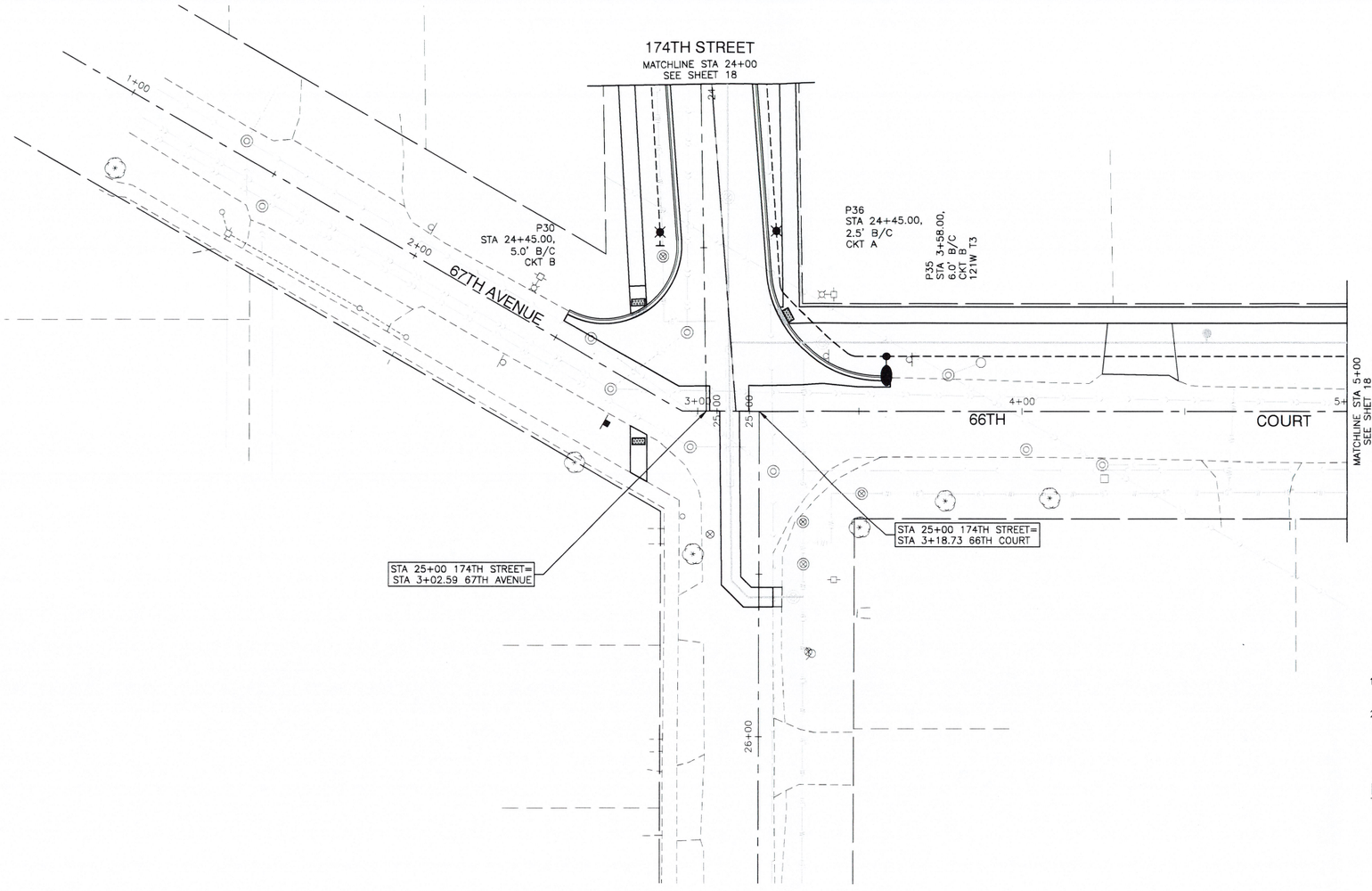
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DATE	= 04-27-22	DESIGNED — MP	REVISED —	Robinson ENGINEERING	173RD PLACE ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT PROPOSED WATER MAIN & UTILITIES
SCALE	= 1"=20'	CHECKED — VC	REVISED —		
PROJECT NO	= 21-R0315	DRAWN — BG/RG	REVISED —		
FILE NAME	= 21R0315-UTIL-01	CHECKED — AG	REVISED —		

VILLAGE of TINLEY PARK

SHEET NO. 16 of 31

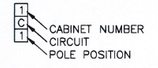


N

NOTES

1. EXISTING CONTROLLER IS APPROXIMATELY 220' WEST OF LIGHTING UNIT P6. REFER TO RECORD DRAWINGS.
2. UNDERGROUND DUCT AND CONDUIT SHALL BE INSTALLED VIA TRENCHLESS METHODS.

POLE IDENTIFICATION



LEGEND:

LT	LEFT
RT	RIGHT
B/C	BACK OF CURB TO CENTER OF POLE
B/EP	BEHIND EDGE OF PAVEMENT TO CENTER OF POLE
UGSC	UNDERGROUND GALVANIZED STEEL CONDUIT
(RO)	REMOVAL OF LIGHTS BY OTHERS
	EXISTING STREET LIGHTING UNIT
—UD—	EXISTING LIGHTING UNIT DUCT
	EXISTING DECORATIVE LIGHTING UNIT
	EXISTING COMED LIGHT
	PROPOSED STREET LIGHTING UNIT
	PROPOSED DECORATIVE LIGHTING UNIT
	UNDERGROUND CONDUIT, GALVANIZED STEEL
	PROPOSED UNIT DUCT, W/ 3-1/C, NO.4 AWG AND 1/C NO.6 GROUND, 600V (XLP TYPE USE) IN 1-1/2" DIAMETER POLYETHYLENE
	CAPPED RACEWAY FOR FUTURE EXPANSION

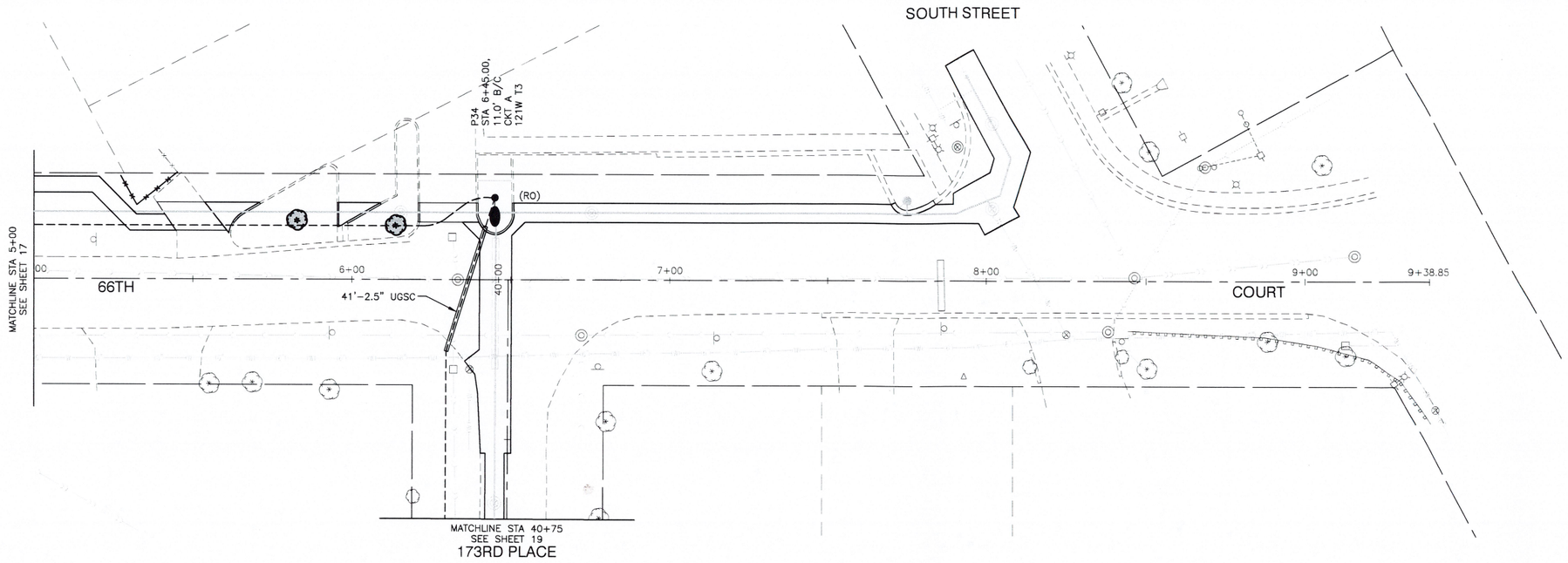
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SCALE = 1" = 20'	CHECKED — VC	REVISED —	
PROJECT NO = 21-R0315	DRAWN — LL	REVISED —	
FILE NAME = 21R0315-LGHT-01	CHECKED — AG	REVISED —	

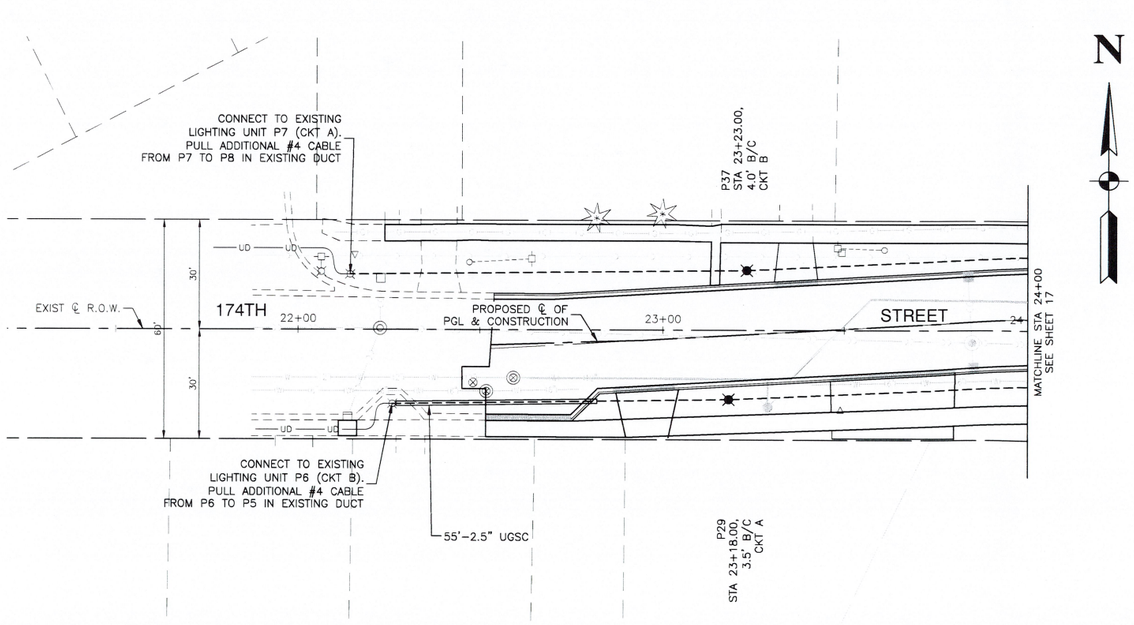
Robinson ENGINEERING

174TH STREET, 66TH COURT AND 173RD PLACE
ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT
STREET LIGHTING

VILLAGE of TINLEY PARK

SHEET NO. 17 of 31



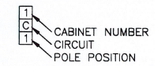




NOTES

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2. UNDERGROUND DUCT AND CONDUIT SHALL BE INSTALLED VIA TRENCHLESS METHODS.

POLE IDENTIFICATION



LEGEND:

LT	LEFT
RT	RIGHT
B/C	BACK OF CURB TO CENTER OF POLE
B/EP	BEHIND EDGE OF PAVEMENT TO CENTER OF POLE
UGSC	UNDERGROUND GALVANIZED STEEL CONDUIT
(RO)	REMOVAL OF LIGHTS BY OTHERS
	EXISTING STREET LIGHTING UNIT
UD	EXISTING LIGHTING UNIT DUCT
	EXISTING DECORATIVE LIGHTING UNIT
	EXISTING COMED LIGHT
	PROPOSED STREET LIGHTING UNIT
	PROPOSED DECORATIVE LIGHTING UNIT
	UNDERGROUND CONDUIT, GALVANIZED STEEL
	PROPOSED UNIT DUCT, W/ 3-1/C, NO.4 AWG AND 1/C NO.6 GROUND, 600V (XLP TYPE USE) IN 1-1/2" DIAMETER POLYETHYLENE
	CAPPED RACEWAY FOR FUTURE EXPANSION

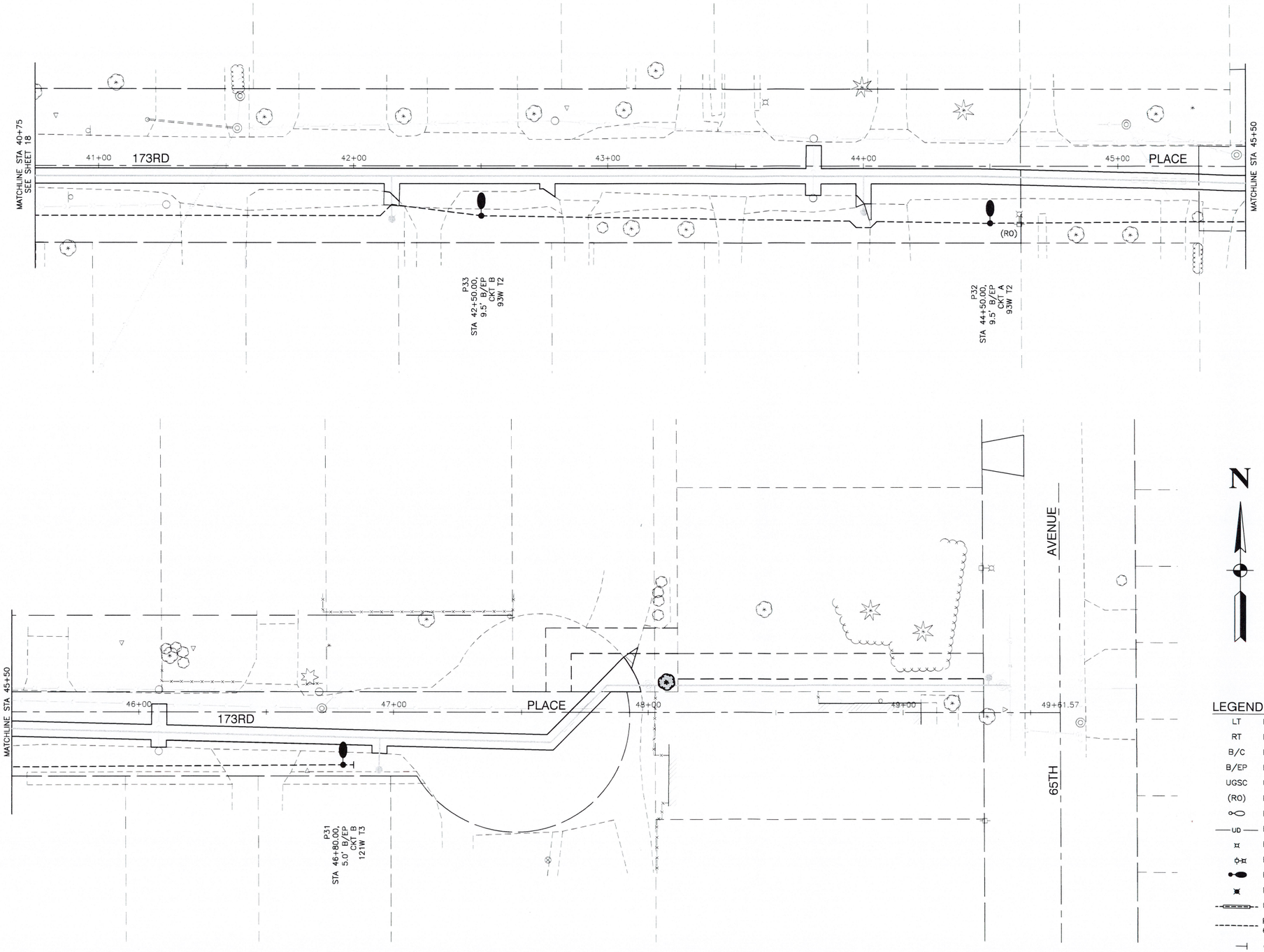
DATE = 04-27-22	DESIGNED — DS	REVISED —	
SCALE = 1" = 20'	CHECKED — VC	REVISED —	
PROJECT NO = 21-R0315	DRAWN — LL	REVISED —	
FILE NAME = 21R0315-LGHT-01	CHECKED — AG	REVISED —	

Robinson ENGINEERING

174TH STREET, 66TH COURT AND 173RD PLACE
ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT
STREET LIGHTING

VILLAGE of TINLEY PARK

SHEET NO. 18 of 31



NOTES

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POLE IDENTIFICATION

1 / C / 1 — CABINET NUMBER, CIRCUIT, POLE POSITION

LEGEND:

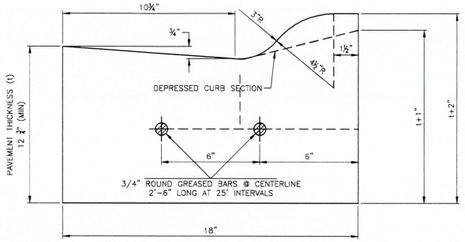
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B/EP	BEHIND EDGE OF PAVEMENT TO CENTER OF POLE
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DATE	= 04-27-22	DESIGNED — DS	REVISED —	Robinson ENGINEERING	174TH STREET, 66TH COURT AND 173RD PLACE ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT STREET LIGHTING
SCALE	= 1" = 20'	CHECKED — VC	REVISED —		
PROJECT NO	= 21-R0315	DRAWN — LL	REVISED —		
FILE NAME	= 21R0315-LGHT-01	CHECKED — AG	REVISED —		

VILLAGE of TINLEY PARK

SHEET NO. 19 of 31

M-3.12 (DEPRESSED) CURB AND GUTTER DETAIL

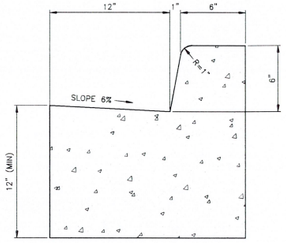


NOTES:

1. FORM SIZES TO BE USED 2"x10" IN FRONT AND 2"x12" IN BACK. ANY UNDERCUT BENEATH THE CURB SHALL BE BROUGHT UP TO GRADE WITH SAND OR STONE SCREENINGS, THE COST OF WHICH SHALL BE BORNE BY THE CONTRACTOR.
2. CURB AND GUTTER SHALL BE CONSTRUCTED ON ALL NEWLY CONSTRUCTED STREETS.
3. ROLL TYPE CURB DEPRESSIONS SHALL BE PROVIDED AT ALL DRIVEWAYS, ENTRANCES AND EXITS.
4. WHEN REPLACING CURB AROUND AN EXISTING STRUCTURE, CONTRACTOR MUST DRILL TWO (2) THREE-QUARTER (3/4) INCH DOWELS INTO EXISTING CURB WITH EPOXY.
5. CURB CONSTRUCTED OVER WATER AND SEWER EXCAVATIONS REQUIRES A MINIMUM TEN (10') FEET OF REBAR INSIDE THE CURB FOR REINFORCEMENT TO PROTECT FROM FUTURE CURB SETTLEMENT.
6. ALL CURB AND GUTTER CONSTRUCTED IN THE PUBLIC RIGHT OF WAY SHALL BE CURED USING A WHITE PIGMENTED, LIQUID MEMBRANE-FORMING COMPOUND. LIQUID FORMING COMPOUNDS SHALL BE APPLIED WITHIN THREE (3) HOURS OF POUR BUT NOT BETWEEN NOVEMBER AND APRIL 15TH.
7. CONCRETE DELIVERY TICKETS IDENTIFYING ALL MATERIALS, WATER, AIR ENTRAINMENT AND ACCELERATORS ALONG WITH TIME STAMP WHEN MIX LEFT THE PLANT AND TIME IT ARRIVED ONSITE.

Village of Tinley Park ILLINOIS

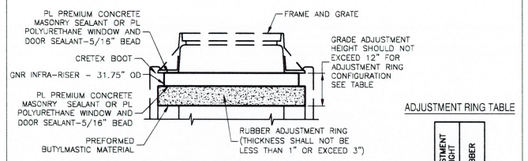
TYPE B-6.12 CURB AND GUTTER DETAIL



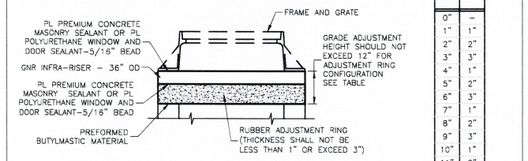
NOTES:

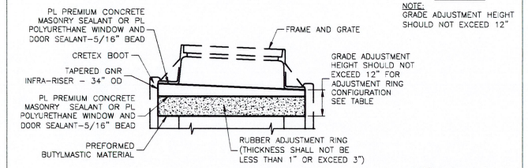
1. FORM SIZES TO BE USED 2"x10" IN FRONT AND 2"x12" IN BACK. ANY UNDERCUT BENEATH THE CURB SHALL BE BROUGHT UP TO GRADE WITH SAND OR STONE SCREENINGS, THE COST OF WHICH SHALL BE BORNE BY THE CONTRACTOR.
2. CURB AND GUTTER SHALL BE CONSTRUCTED ON ALL NEWLY CONSTRUCTED STREETS.
3. ROLL TYPE CURB DEPRESSIONS SHALL BE PROVIDED AT ALL DRIVEWAYS, ENTRANCES AND EXITS.
4. WHEN REPLACING CURB AROUND AN EXISTING STRUCTURE, CONTRACTOR MUST DRILL TWO (2) THREE-QUARTER (3/4) INCH DOWELS INTO EXISTING CURB WITH EPOXY.
5. CURB CONSTRUCTED OVER WATER AND SEWER EXCAVATIONS REQUIRES A MINIMUM TEN (10') FEET OF REBAR INSIDE THE CURB FOR REINFORCEMENT TO PROTECT FROM FUTURE CURB SETTLEMENT.
6. ALL CURB AND GUTTER CONSTRUCTED IN THE PUBLIC RIGHT OF WAY SHALL BE CURED USING A WHITE PIGMENTED, LIQUID MEMBRANE-FORMING COMPOUND. LIQUID FORMING COMPOUNDS SHALL BE APPLIED WITHIN THREE (3) HOURS OF POUR BUT NOT BETWEEN NOVEMBER AND APRIL 15TH.
7. CONCRETE DELIVERY TICKETS IDENTIFYING ALL MATERIALS, WATER, AIR ENTRAINMENT AND ACCELERATORS ALONG WITH TIME STAMP WHEN MIX LEFT THE PLANT AND TIME IT ARRIVED ONSITE.

Village of Tinley Park ILLINOIS



SANITARY SEWER MANHOLE





NON-SANITARY SEWER STRUCTURE IN GU

ADJUSTMENT RING TABLE

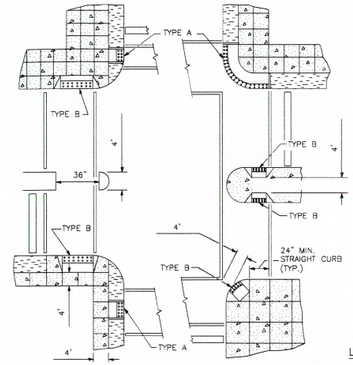
ADJUSTMENT HEIGHT	RUBBER
0"	-
1"	1"
2"	2"
3"	3"
4"	1"
5"	2"
6"	3"
7"	1"
8"	2"
9"	3"
10"	1"
11"	2"
12"	3"

NOTE:
GRADE ADJUSTMENT HEIGHT SHOULD NOT EXCEED 12"

ADJUSTMENT RING DETAIl

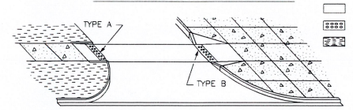
Village of Tinley Park ILLINOIS

SIDEWALK RAMP DETAILS



RECOMMENDED LOCATION OF RAMPS

LEGEND
- SIDEWALK
- RAMP
- DETECTABLE WARNINGS
- NON WALKING AREA

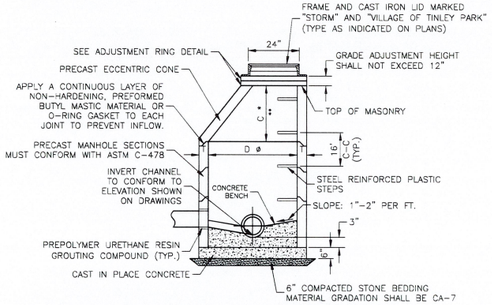


RAMPS AT ALLEYS OR ENTRANCES

NOTES:

1. DETECTABLE WARNINGS SHALL BE 24" X 60" ARMOR-TILE CAST-IN-PLACE INLINE DOME TILE, FEDERAL STANDARD COLOR 30166 BRICK RED. OUTER EDGES OF WARNING PLATES SHALL NOT EXPOSED WHEN INSTALLED ON 5' WIDE WALKS.
2. FOR ADDITIONAL DETAILS, SEE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD DRAWING 424001-10, 424011-03 & 424021-04 CURB RAMPS FOR SIDEWALKS.

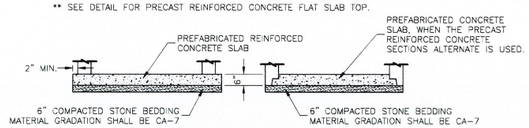
Village of Tinley Park ILLINOIS



ALTERNATE MATERIALS FOR WALLS	D	C	T
PRECAST REINFORCED CONCRETE SECTION	4'-0"	2'-6"	4"
	5'-0"	3'-9"	5"
CAST-IN-PLACE CONCRETE	4'-0"	2'-6"	6"
	5'-0"	3'-9"	6"

* DIMENSION "C" FOR PRECAST REINFORCED CONCRETE SECTION MAY VARY FROM THE DIMENSION GIVEN ±6"

** SEE DETAIL FOR PRECAST REINFORCED CONCRETE FLAT SLAB TOP.

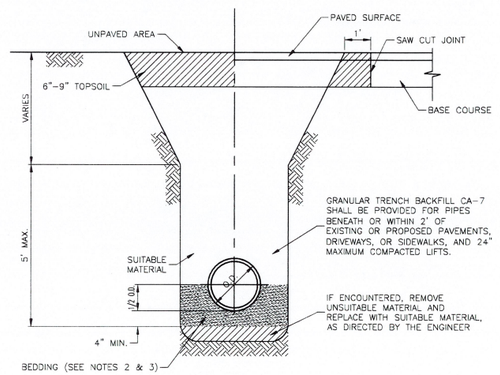


ALTERNATE BOTTOM SLAB

NOTES:

1. ECCENTRIC CONES REQUIRED, UNLESS OTHERWISE INDICATED ON DRAWINGS. FLAT SLAB TOPS PERMITTED ONLY FOR MANHOLES TOO SHALLOW FOR CONES.
2. USE 4'-0"ø FOR SEWER SIZES 8" THRU 21", 5'-0"ø FOR SEWER SIZES 24" THRU 33" UNLESS OTHERWISE NOTED.

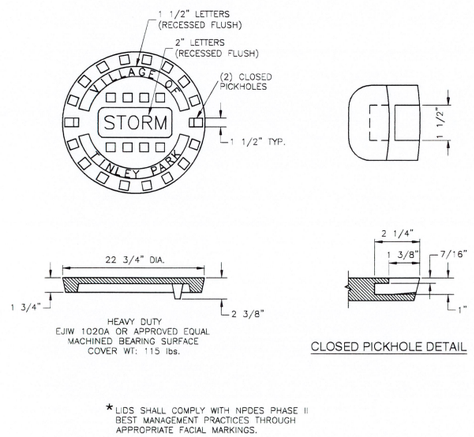
STORM MANHOLE



NOTES:

1. TRENCH SHALL BE IN ACCORDANCE WITH OSHA SAFETY STANDARDS.
2. BEDDING SHALL BE REQUIRED TO BE A MINIMUM THICKNESS EQUAL TO 1/4 OF THE OUTSIDE DIAMETER OF THE PIPE BUT SHALL NOT BE LESS THAN 4". AS A MINIMUM, BEDDING AND HAUNCHING MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION." THE GRADATIONS SHALL BE CA-7.
3. FOR PVC PIPE THE BEDDING MATERIAL SHALL BE PLACED A MINIMUM 12" OVER THE TOP OF THE PIPE AND GRADATION SHALL BE CA-7 AND SHALL BE CAREFULLY PLACED SO AS TO FILL THE SPACE UNDER AND AROUND THE PIPE.

TRENCH BACKFILL DETAIL FOR STORM SEWER

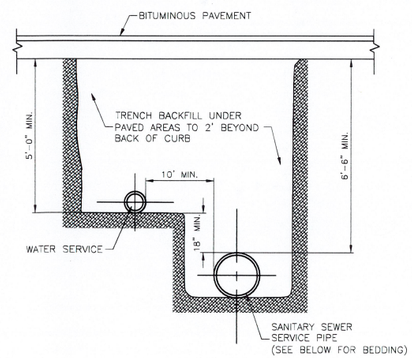


HEAVY DUTY
EJIW 1020A OR APPROVED EQUAL
MACHINED BEARING SURFACE
COVER WT: 115 lbs.

CLOSED PICKHOLE DETAIL

* LIDS SHALL COMPLY WITH NPDES PHASE II BEST MANAGEMENT PRACTICES THROUGH APPROPRIATE FACIAL MARKINGS.

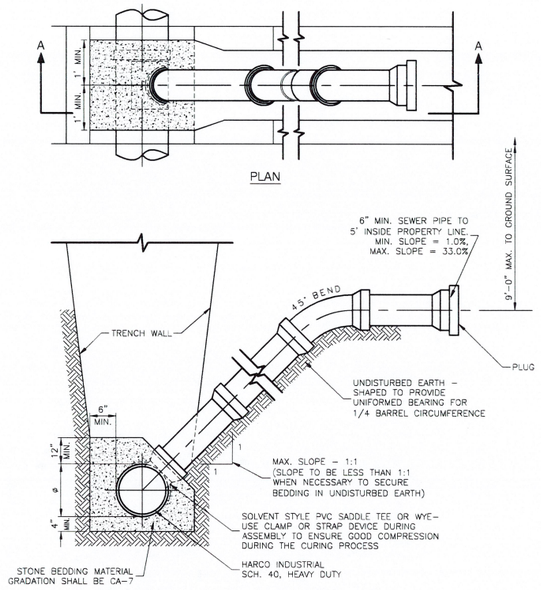
SPECIAL LETTERED STORM MANHOLE LID*



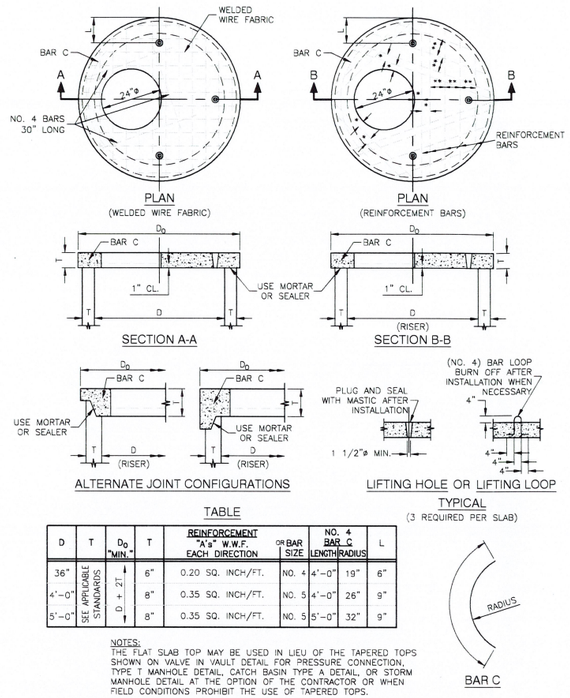
SANITARY SEWER PIPE BEDDING SHALL CONSIST OF GRAVEL, CRUSHED GRAVEL, PEA GRAVEL, CRUSHED STONE OR SLAG, 1/4" TO 3/4" IN SIZE. AS A MINIMUM THE MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF ART. 1004.01 OF THE STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION OF THE STATE OF ILLINOIS.

TRENCH BACKFILL DETAIL FOR SANITARY SEWER & WATER SERVICES

DATE	= 04-27-22	DESIGNED — MP	REVISED —	Robinson ENGINEERING	174TH STREET, 66TH COURT AND 173RD PLACE ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT CONSTRUCTION DETAILS
SCALE	= NONE	CHECKED — VC	REVISED —		VILLAGE of TINLEY PARK
PROJECT NO	= 21-R0315	DRAWN — RG	REVISED —		SHEET NO. 20 of 31
FILE NAME	= 21R0315-DTLS-01	CHECKED — AG	REVISED —		



TYPICAL SANITARY SEWER SERVICE LATERAL



TABLE

D	T	D_O MIN.	T	REINFORCEMENT "A's" W.W.F. EACH DIRECTION	OR BAR SIZE	NO. 4 BAR C LENGTH	RADIUS	L
36"	SEE APPLICABLE STANDARDS	D + 2T	6"	0.20 SQ. INCH/FT.	NO. 4	4'-0"	19"	6"
4'-0"			8"	0.35 SQ. INCH/FT.	NO. 5	4'-0"	26"	9"
5'-0"			8"	0.35 SQ. INCH/FT.	NO. 5	5'-0"	32"	9"

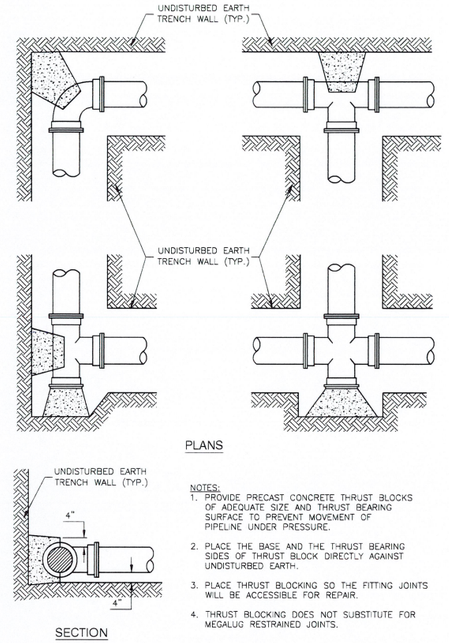
NOTES:
THE FLAT SLAB TOP MAY BE USED IN LIEU OF THE TAPERED TOPS SHOWN ON VALVE IN VAULT DETAIL FOR PRESSURE CONNECTION, TYPE T MANHOLE DETAIL, CATCH BASIN TYPE A DETAIL, OR STORM MANHOLE DETAIL AT THE OPTION OF THE CONTRACTOR OR WHEN FIELD CONDITIONS PROHIBIT THE USE OF TAPERED TOPS.

PRECAST REINFORCED CONCRETE FLAT SLAB TOP

FLAT SLAB TOP NOTES:

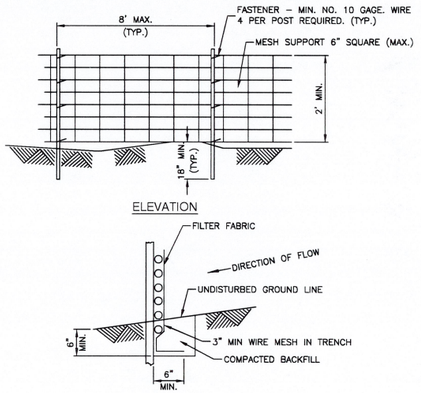
1. CONCRETE SHALL BE CLASS SI FOR CAST-IN-PLACE CONSTRUCTION (OR PC FOR PRECAST) AND MEET THE REQUIREMENTS OF SECTION 1020 OF THE STANDARD SPECIFICATIONS.
2. REINFORCEMENT BARS SHALL HAVE A YIELD STRENGTH OF F_y=60,000 PSI, AND MEET THE REQUIREMENTS OF ARTICLE 1006.10 OF THE STANDARD SPECIFICATIONS.
3. TIE WIRE SHALL BE EPOXY COATED.
4. THE ACCESS HATCHES SHALL BE CAST INTO THE SLABS.
5. BARS SHALL BE FIELD CUT SUCH THAT THERE WILL BE 2" OF COVER FROM THE END OF THE BARS ON THE OUTSIDE EDGES. BARS SHALL BE TRIMMED TO 1/2" FROM HATCH FRAME.
6. IF THE FLAT SLAB TOPS ARE TO BE CAST-IN-PLACE (ON THE EXISTING WET WELL AND PROPOSED VALVE VAULT) THEN POLYETHYLENE SHEETS SHALL BE USED AS BOND-BREAKERS BETWEEN THE BARREL SECTIONS OF THE STRUCTURES AND THE SLABS.
7. THE ANCHOR BOLTS FOR THE UPPER GUIDE RAIL SUPPORTS SHALL BE INSTALLED BETWEEN THE TOP AND BOTTOM REINFORCEMENTS MATS SUCH THAT NO REBAR IS DAMAGED DURING THEIR INSTALLATION.

PRECAST REINFORCED CONCRETE FLAT SLAB TOP NOTES



NOTES:
1. PROVIDE PRECAST CONCRETE THRUST BLOCKS OF ADEQUATE SIZE AND THRUST BEARING SURFACE TO PREVENT MOVEMENT OF PIPELINE UNDER PRESSURE.
2. PLACE THE BASE AND THE THRUST BEARING SIDES OF THRUST BLOCK DIRECTLY AGAINST UNDISTURBED EARTH.
3. PLACE THRUST BLOCKING SO THE FITTING JOINTS WILL BE ACCESSIBLE FOR REPAIR.
4. THRUST BLOCKING DOES NOT SUBSTITUTE FOR MEGALUG RESTRAINED JOINTS.

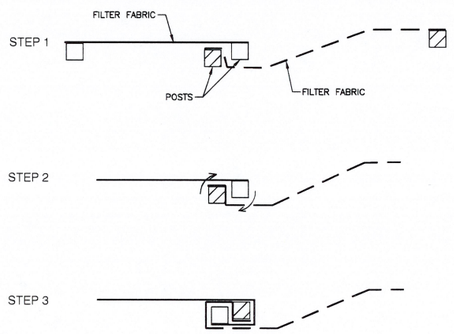
TYPICAL THRUST BLOCK INSTALLATIONS



NOTES:

1. PATROL FENCE WEEKLY, AFTER ½" RAIN INSPECT THE DAY AFTER.
2. WIRES OF MESH SUPPORT SHALL BE MIN. GAGE NO. 12.
3. TEMPORARY SEDIMENT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED. THEY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.
4. FILTER FABRIC SHALL MEET THE REQUIREMENTS OF MATERIAL SPECIFICATION 592 GEOTEXTILE TABLE 1 OR 2, CLASS WITH EQUIVALENT OPENING SIZE OF AT LEAST 30 FOR NONWOVEN AND 50 FOR WOVEN.
5. FENCE POSTS SHALL BE EITHER STANDARD STEEL POST OR WOOD POST WITH A MINIMUM CROSS-SECTIONAL AREA OF 3.0 SQ. IN.

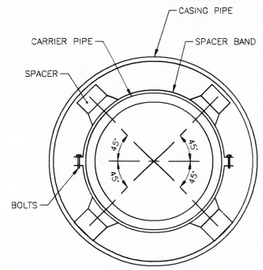
WIRE SUPPORTED SILT FENCE

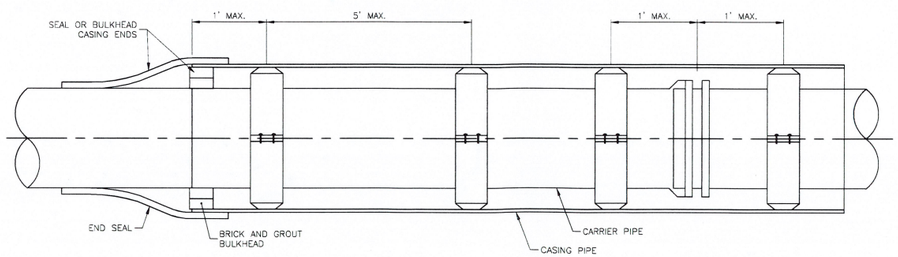


NOTES:

1. PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE.
2. ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL.
3. DRIVE BOTH POSTS A MINIMUM OF 18 INCHES INTO THE GROUND AND BURY THE FLAP.

SILT FENCE ASSEMBLY DETAIL

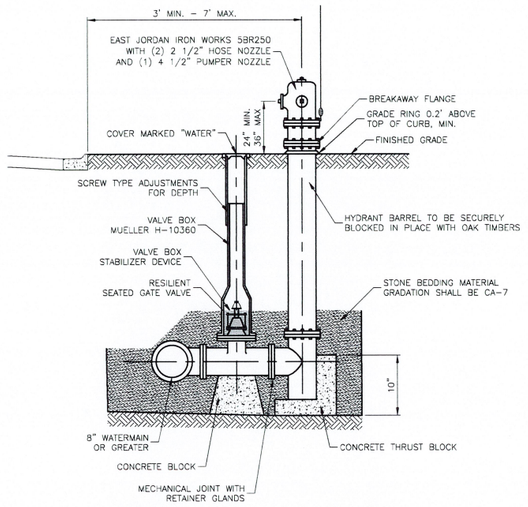




NOTE:
SPACER SEPERATION SHALL BE BASED ON PIPE TYPE, PIPE DIAMETER, AND MANUFACTURERES RECOMMENDATIONS.

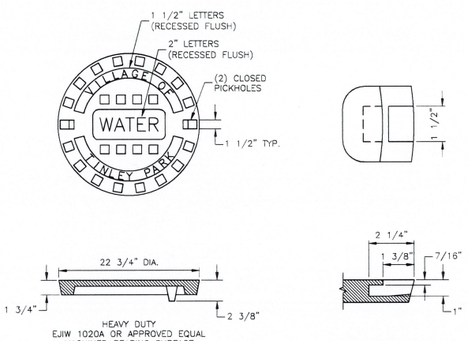
CASING SPACER INSTALLATION

DATE	= 04-27-22	DESIGNED — MP	REVISED —	Robinson ENGINEERING	174TH STREET, 66TH COURT AND 173RD PLACE ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT CONSTRUCTION DETAILS
SCALE	= NONE	CHECKED — VC	REVISED —		VILLAGE of TINLEY PARK
PROJECT NO	= 21-R0315	DRAWN — RG	REVISED —		SHEET NO. 21 of 31
FILE NAME	= 21R0315-DTLS-01	CHECKED — AG	REVISED —		



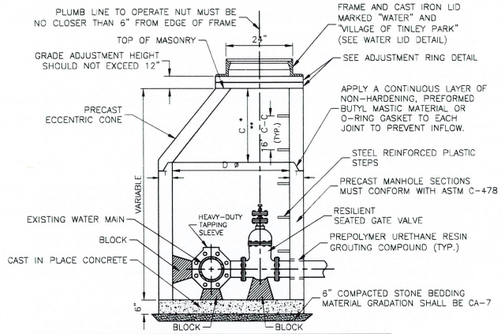
NOTES:
1. HYDRANTS SHALL BE INSTALLED FACING TOWARD THE CURB. NO HYDRANT SHALL BE INSTALLED WITHIN 48" OF ANY OBSTRUCTION NOR SHALL ANY OBSTRUCTION BE PLACED WITHIN 48" OF A HYDRANT. ALL HYDRANTS SHALL BE PAINTED SAFETY YELLOW BY THE MANUFACTURER.
2. ALL VALVES SHALL OPEN COUNTER CLOCKWISE AND CLOSE CLOCKWISE WITH NON-RISING STEM.
3. HYDRANT DRAIN HOLE SHALL BE FREE OF CONCRETE.

FIRE HYDRANT INSTALLATION



SPECIAL LETTERED WATER VALVE VAULT LID

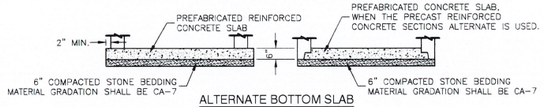
CLOSED PICKHOLE DETAIL



ALTERNATE MATERIALS FOR WALLS	D	C	T
PRECAST REINFORCED CONCRETE SECTION	5'-0"	3'-9"	5"
	6'-0"	3'-9"	6"
CAST-IN-PLACE CONCRETE	5'-0"	3'-9"	6"
	6'-0"	3'-9"	6"

* DIMENSION "C" FOR PRECAST REINFORCED CONCRETE SECTION MAY VARY FROM THE DIMENSION GIVEN ±6"

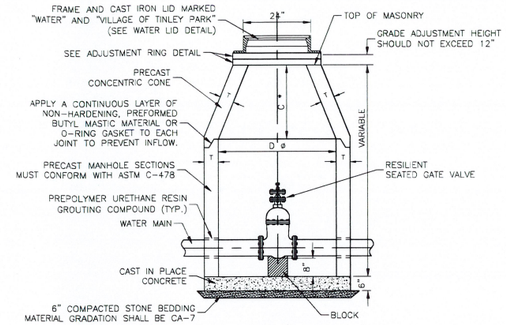
** SEE DETAIL FOR PRECAST REINFORCED CONCRETE FLAT SLAB TOP.



ALTERNATE BOTTOM SLAB

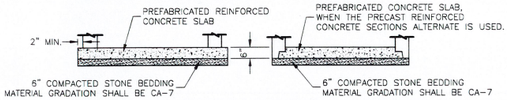
NOTES:
1. VALVE TO ALIGN W/ CENTER OF FRAME OPENING.
2. USE 4'-0"ø FOR WATER MAIN SIZES 10" AND UNDER. 5'-0"ø FOR SIZES 12" AND ABOVE.
3. VALVE VAULT TO CONFORM TO ASTM C-478.
4. ALL VALVES SHALL HAVE STAINLESS STEEL BOLTS AND NUTS.
5. ALL VALVES SHALL OPEN COUNTER CLOCKWISE AND CLOSE CLOCKWISE WITH NON-RISING STEM.
6. PROVIDE CA-7 AGGREGATE BACKFILL MATERIAL AROUND VAULT TO SUB-GRADE ELEVATION; IN PAVED AREAS.

VALVE IN VAULT DETAIL FOR PRESSURE CONNECTION



ALTERNATE MATERIALS FOR WALLS	D	C	T
PRECAST REINFORCED CONCRETE SECTION	4'-0"	2'-6"	4"
	5'-0"	3'-9"	5"
CAST-IN-PLACE CONCRETE	4'-0"	2'-6"	6"
	5'-0"	3'-9"	6"

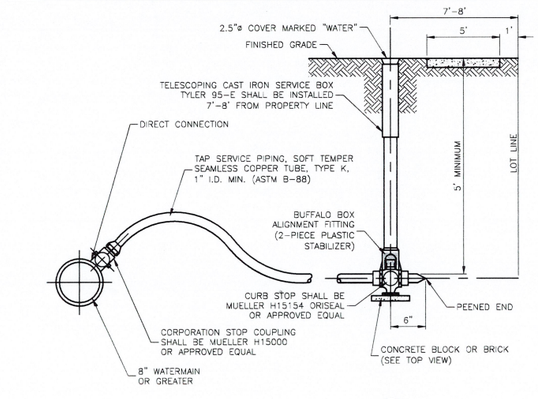
* DIMENSION "C" FOR PRECAST REINFORCED CONCRETE SECTION MAY VARY FROM THE DIMENSION GIVEN ±6"



ALTERNATE BOTTOM SLAB

NOTES:
1. CONCENTRIC CONE REQUIRED (VALVE TO ALIGN W/ CENTER OF FRAME OPENING).
2. USE 4'-0"ø FOR WATER MAIN SIZES 10" AND UNDER. 5'-0"ø FOR SIZES 12" AND ABOVE.
3. VALVE VAULT TO CONFORM TO ASTM C-478.
4. ALL VALVES SHALL HAVE STAINLESS STEEL BOLTS AND NUTS.
5. ALL VALVES SHALL OPEN COUNTER CLOCKWISE AND CLOSE CLOCKWISE WITH NON-RISING STEM.
6. PROVIDE CA-7 AGGREGATE BACKFILL MATERIAL AROUND VAULT TO SUB-GRADE ELEVATION; IN PAVED AREAS.

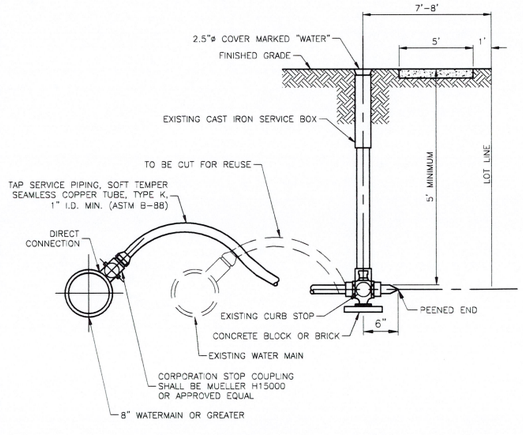
VALVE IN VAULT DETAIL



SEVICE PIPE	CORP STOP	CURB STOP	SERVICE BOX
1"	1"	1"	2 ½"
1 ¼"	1 1/4"	1 ¼"	3"
1 ½"	1 ¼" x 1 ½"	1 ½"	3"
2"	1 ½" x 2"	2"	3"

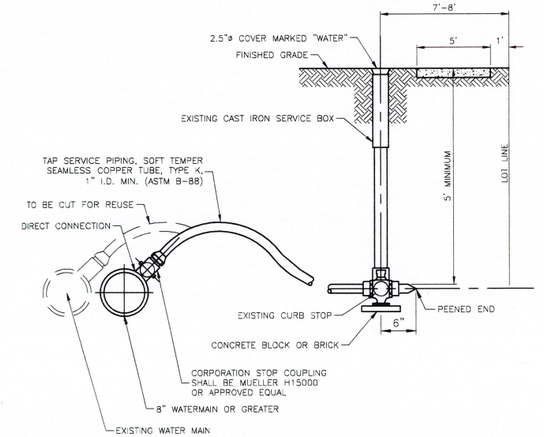
NOTE:
1. BUFFALO BOX ON WATER SERVICE LINES SHALL BE INSTALLED IN THE CENTER OF THE LOT, 7'-8" FROM PROPERTY LINE, AND NEVER IN SIDEWALK OR DRIVEWAY. VALVE SHALL BE MINNEAPOLIS STYLE.

TYPICAL WATER SERVICE INSTALLATION



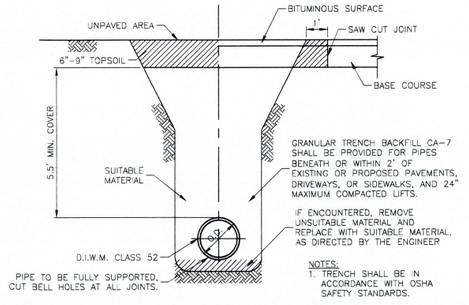
NOTE:
1. THE RECONNECTION SHALL NOT OCCUR UNTIL THE WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED, AND APPROVED FOR SERVICE.
2. THE RECONNECTION SHALL BE MADE FROM THE EXISTING B-BOX PIPE TO THE NEW CORPORATION STOP.

TYPICAL WATER SERVICE RECONNECTION
(SHORT SIDE)



NOTE:
1. THE RECONNECTION SHALL NOT OCCUR UNTIL THE WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED, AND APPROVED FOR SERVICE.
2. THE RECONNECTION SHALL BE MADE FROM THE EXISTING B-BOX PIPE TO THE NEW CORPORATION STOP.

TYPICAL WATER SERVICE RECONNECTION
(LONG SIDE)



NOTES:
1. TRENCH SHALL BE IN ACCORDANCE WITH OSHA SAFETY STANDARDS.

TRENCH BACKFILL DETAIL FOR WATERMAIN

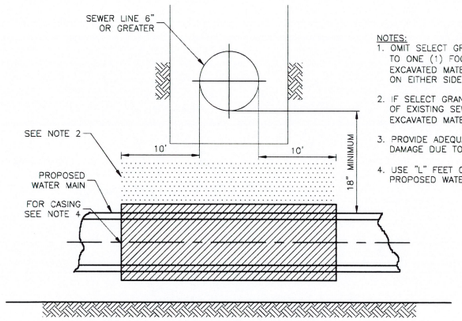
DATE	=	04-27-22	DESIGNED — MP	REVISED	—
SCALE	=	NONE	CHECKED — VC	REVISED	—
PROJECT NO	=	21-R0315	DRAWN — RG	REVISED	—
FILE NAME	=	21R0315-DTLS-01	CHECKED — AG	REVISED	—

Robinson ENGINEERING

174TH STREET, 66TH COURT AND 173RD PLACE
ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT
CONSTRUCTION DETAILS

VILLAGE of TINLEY PARK

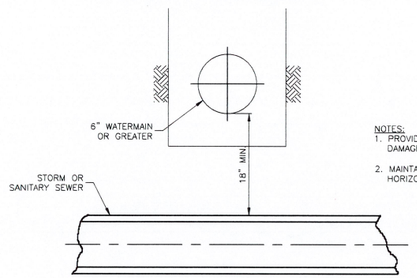
SHEET NO. 22 of 31



NOTES:
1. OMIT SELECT GRANULAR EMBEDMENT AND GRANULAR BACKFILL TO ONE (1) FOOT OVER TOP OF PIPE AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT FOR 10' ON EITHER SIDE OF SEWER LINE.
2. IF SELECT GRANULAR BACKFILL EXISTS, REMOVE WITHIN WIDTH OF EXISTING SEWER LINE TRENCH AND REPLACE WITH SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT.
3. PROVIDE ADEQUATE SUPPORT FOR SEWER LINE TO PREVENT DAMAGE DUE TO SETTLEMENT OF SEWER TRENCH.
4. USE "L" FEET OF WATER MAIN MATERIAL FOR CASING OF PROPOSED WATER MAIN AND SEAL ENDS OF CASING.

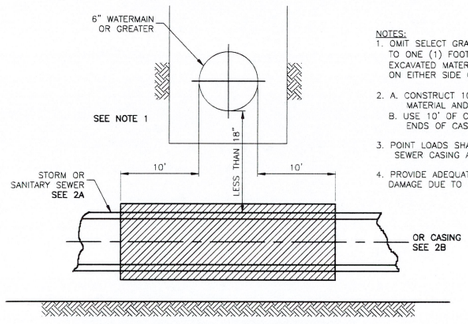
PROPOSED WATER MAIN BELOW EXISTING SANITARY SEWER
WITH 18" MINIMUM SEPARATION

NOTE: TYPE IV MATERIAL TO BE COMPACTED TO 90% OF MODIFIED PROCTOR MAXIMUM DENSITY



NOTES:
1. PROVIDE ADEQUATE SUPPORT FOR WATER MAIN TO PREVENT DAMAGE DUE TO SETTLEMENT OF SEWER TRENCH.
2. MAINTAIN 18" MINIMUM VERTICAL SEPARATION FOR '0' HORIZONTALLY

PROPOSED SEWER LINE BELOW EXISTING WATER MAIN
WITH 18" MINIMUM SEPARATION

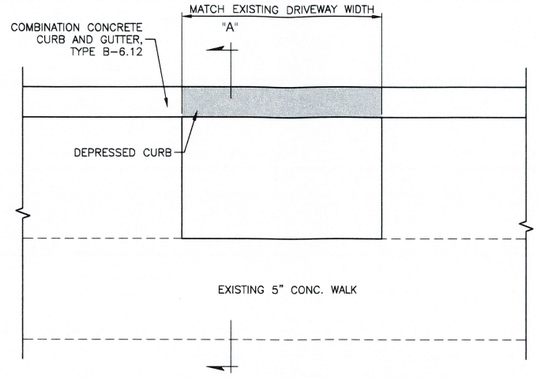


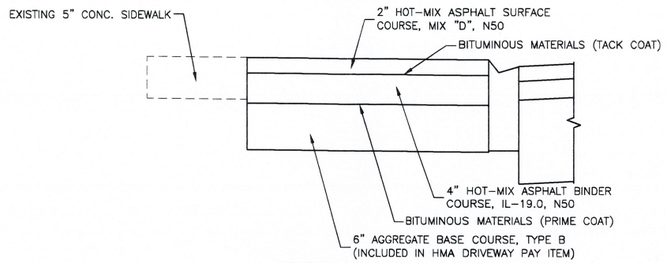
NOTES:
1. OMIT SELECT GRANULAR CRADLE AND GRANULAR BACKFILL TO ONE (1) FOOT OVER TOP OF PIPE AND USE SELECT EXCAVATED MATERIAL (TYPE C) AND COMPACT FOR 10' ON EITHER SIDE OF WATER MAIN.
2. A. CONSTRUCT 10' OF PROPOSED SEWER OF WATER MAIN MATERIAL AND PRESSURE TEST, OR;
   B. USE 10' OF CASING FOR PROPOSED SEWER AND SEAL ENDS OF CASING.
3. POINT LOADS SHALL NOT BE ALLOWED BETWEEN SEWER OR SEWER CASING AND WATER MAIN.
4. PROVIDE ADEQUATE SUPPORT FOR WATER MAIN TO PREVENT DAMAGE DUE TO SETTLEMENT OF SEWER TRENCH.

PROPOSED SEWER LINE BELOW EXISTING WATER MAIN
WITH LESS THAN 18" MINIMUM SEPARATION

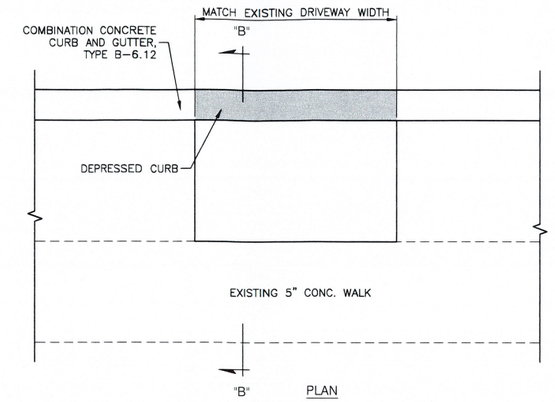
NOTE: TYPE C MATERIAL TO BE COMPACTED TO 90% OF MODIFIED PROCTOR MAXIMUM DENSITY

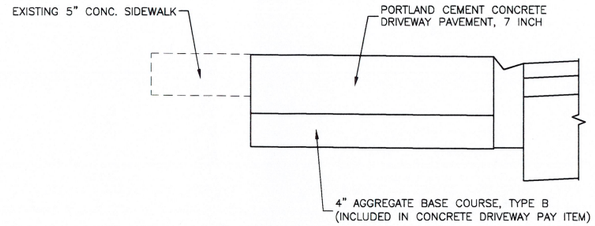
WATER AND SEWER SEPARATION REQUIREMENTS



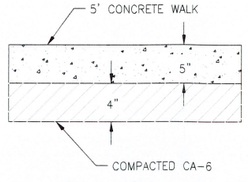


SECTION "A-A"
HOT-MIX ASPHALT DRIVEWAY DETAIL
NO SCALE





SECTION "B-B"
CONCRETE DRIVEWAY DETAIL
NO SCALE



SIDEWALK CROSS-SECTION

JOINT RESTRAINT TABLE - Unless additional pipe restraint is shown on the Plans, the restrained length measured from the fitting joint to the end of the last restrained joint pipe for pipe fittings shall equal or exceed those tabulated below:

RESTRAINED LENGTH - FEET
FITTINGS

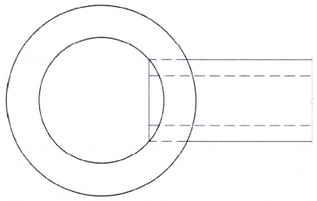
Pipe Size (Inches)	Tee * Branch	90 Elbow	45 Elbow	22-1/2 Elbow	11-1/4 Elbow	Dead Ends
4	9	10	5	2	1	15
6	17	14	6	3	2	21
8	24	18	8	4	2	27
10	30	22	10	5	3	33
12	36	26	11	6	3	38
14	42	29	12	6	3	44
16	48	33	14	7	4	49
18	53	37	16	8	4	54
20	58	40	17	8	4	60
24	104	71	30	15	8	105
30	125	86	36	18	9	126
36	146	99	42	21	10	147

Test Pressure on sizes 20" and smaller based on 100 psi.
Test Pressure on sizes 24" and larger based on 150 psi.
Increase all lengths in Table by 75% for use on polyethylene wrapped pipe.
*One full length (18') of pipe on both sides of branch to be restrained.

NOTE:
FOR BIDDING PURPOSES ONLY CONTRACTOR TO SUBMIT DESIGN CALCULATIONS PRIOR TO CONSTRUCTION.

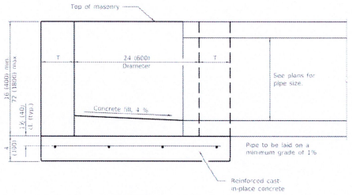
DUCTILE IRON JOINT RESTRAINT TABLE

DATE = 04-27-22	DESIGNED — MP	REVISED —	Robinson ENGINEERING	174TH STREET, 66TH COURT AND 173RD PLACE ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT CONSTRUCTION DETAILS	VILLAGE of TINLEY PARK	SHEET NO. 23 of 31
SCALE = NONE	CHECKED — VC	REVISED —				
PROJECT NO = 21-R0315	DRAWN — RG	REVISED —				
FILE NAME = 21R0315-DTLS-01	CHECKED — AG	REVISED —				

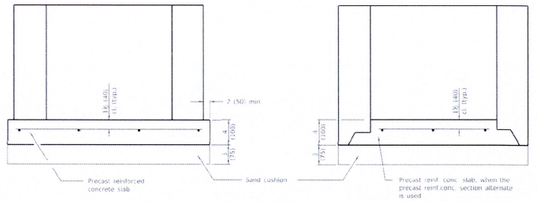


PLAN

ALTERNATE MATERIALS FOR WALLS	T
BRICK MASONRY	8 (200)
CAST-IN-PLACE CONCRETE	6 (150)
CONCRETE MASONRY UNIT	5 (125)
PRECAST REINFORCED CONCRETE SECTION	3 (75)



ELEVATION



ALTERNATE METHODS

GENERAL NOTES

Bottom slabs shall be reinforced with a minimum of 0.24 sq. in./ft. (510 sq. mm/m) in both directions with a maximum spacing of 10 (250).

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

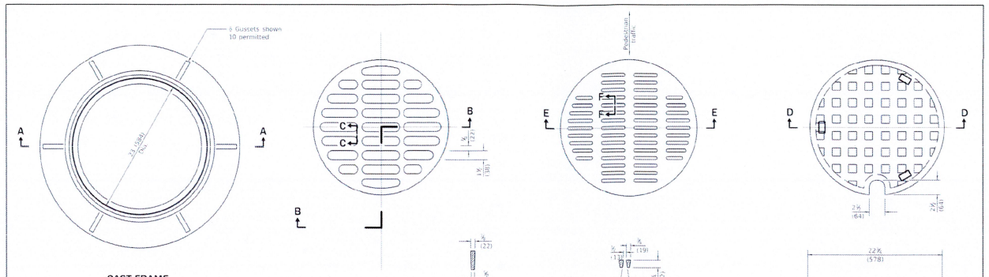
PASSED January 1, 2014 — Engineer of Policy and Procedures

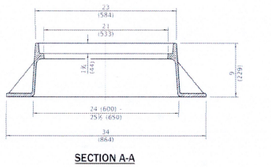
APPROVED January 1, 2014 — Engineer of Design and Environment

DATE	REVISIONS
1-1-14	Increased height to 72 (1800) maximum
1-1-11	Detailed reinf. in slabs. Added max. limit to height. Added general notes.

INLET - TYPE A

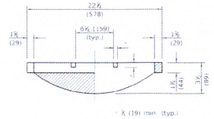
STANDARD 602301-04





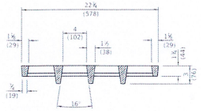
SECTION A-A

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

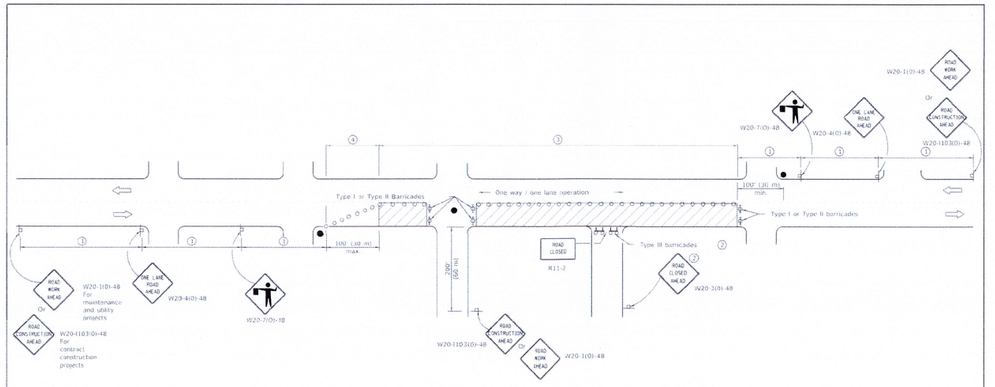
PASSED January 1, 2020 — Engineer of Policy and Procedures

APPROVED January 1, 2020 — Engineer of Design and Environment

DATE	REVISIONS
1-1-20	Revised dimension in Section B-B of cast open lid.
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 604001-05



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, 2011 — Engineer of Safety Engineering

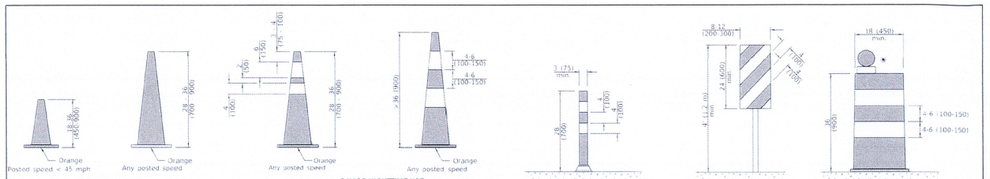
APPROVED January 1, 2011 — Engineer of Design and Environment

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

DATE	= 04-27-22	DESIGNED — MP	REVISED —	Robinson ENGINEERING	174TH STREET, 66TH COURT AND 173RD PLACE ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT CONSTRUCTION DETAILS	VILLAGE of TINLEY PARK	SHEET NO. 24 of 31
SCALE	= NONE	CHECKED — VC	REVISED —				
PROJECT NO	= 21-R0315	DRAWN — RG	REVISED —				
FILE NAME	= 21R0315-DTLS-01	CHECKED — AG	REVISED —				



DAYTIME USE **DAY OR NIGHTTIME USE**

CONES **TUBULAR MARKER** **VERTICAL PANEL** POST MOUNTED **DRUM**

TYPE I BARRICADE **TYPE II BARRICADE** **TYPE III BARRICADE** **DIRECTION INDICATOR BARRICADE** **VERTICAL BARRICADE**

DETECTABLE PEDESTRIAN CHANNELIZING BARRICADE

* Warning lights (if required)

GENERAL NOTES

All heights shown shall be measured above the pavement surface.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-19	Revised cone usage and added cones >39" (900 m) height
1-1-18	Revised END WORK ZONE SPEED LIMIT sign from orange to white background

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TRAFFIC CONTROL DEVICES (Sheet 1 of 3)

STANDARD 701901-08

POST MOUNTED SIGNS

** When curb or paved shoulder are present this dimension shall be 24 (600) to the face of curb or 6' (1.8 m) to the outside edge of the paved shoulder.

SIGNS ON TEMPORARY SUPPORTS

*** When work operations exceed four days, this dimension shall be 5' (1.5 m) min. If located behind other devices, the height shall be sufficient to be seen completely above the devices.

HIGH LEVEL WARNING DEVICE

WORK LIMIT SIGNING

This signing is required for all projects 2 miles (3200 m) or more in length.

ROAD CONSTRUCTION NEXT X MILES sign shall be placed 500'-1500 m) in advance of project limits.

END CONSTRUCTION sign shall be erected at the end of the job unless another job is within 2 miles (3200 m).

Dual sign displays shall be utilized on multi-lane highways.

Sign assembly as shown on Standards or as allowed by District Operations.

This sign shall be used when the above sign assembly is used.

HIGHWAY CONSTRUCTION SPEED ZONE SIGNS

**** R10-1108p shall only be used along roadways under the jurisdiction of the State.

WIDTH RESTRICTION SIGN

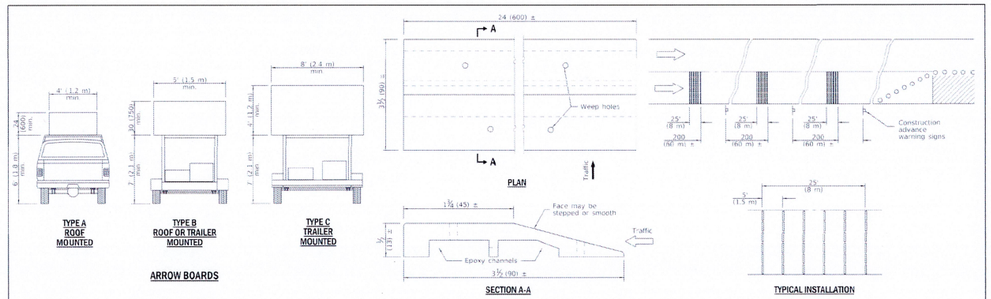
XX'-XX" width and X miles are variable.

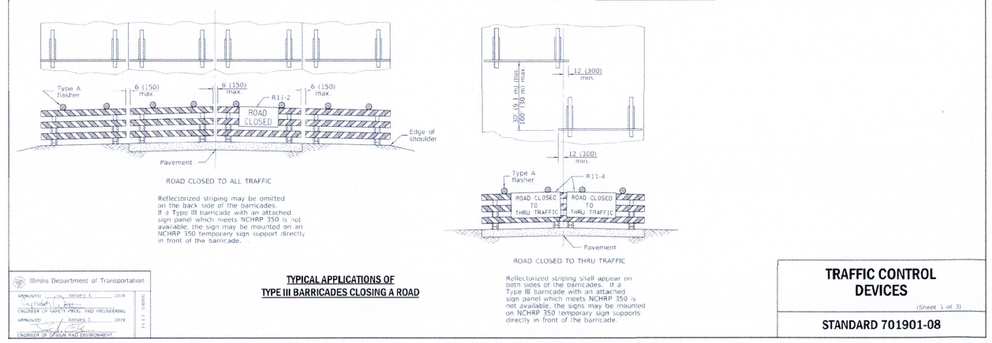
FLAGGER TRAFFIC CONTROL SIGN

Illinois Department of Transportation — APPROVED (Signature) 2019 — ENGINEER OF TRAFFIC AND SAFETY PROG. AND ENGINEERING — APPROVED (Signature) 2019 — ENGINEER OF BUREAU OF ENVIRONMENT — STANDARD 701901-08

TRAFFIC CONTROL DEVICES (Sheet 2 of 3)

STANDARD 701901-08





TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD

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TRAFFIC CONTROL DEVICES (Sheet 3 of 3)

STANDARD 701901-08

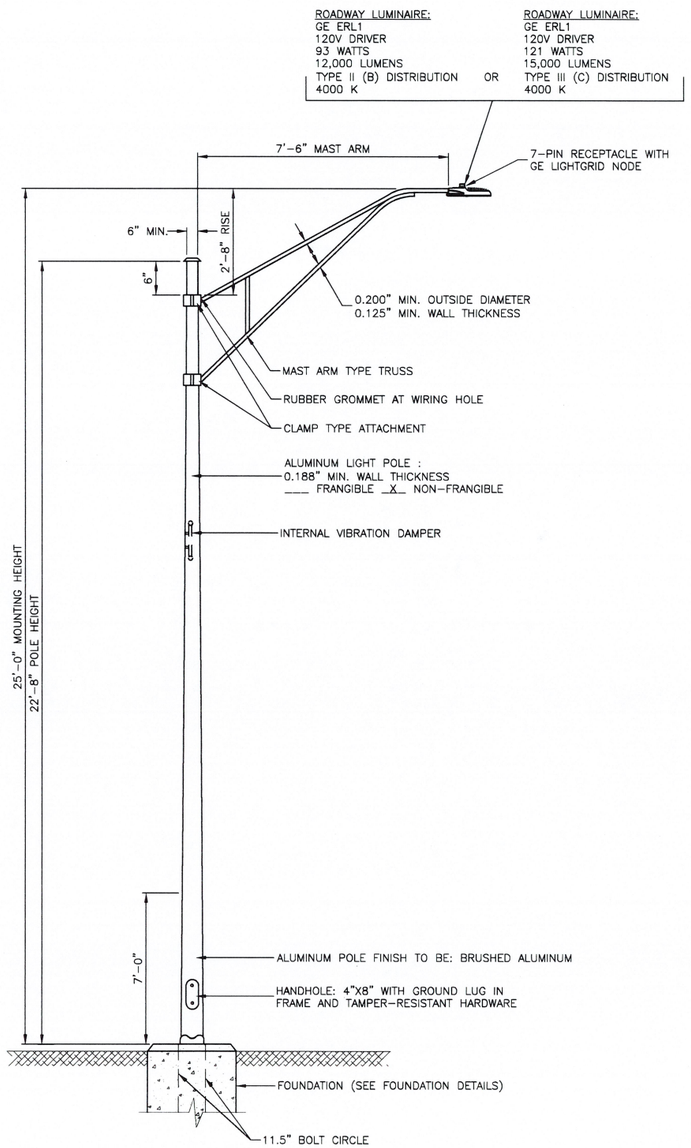
DATE	=	04-27-22	DESIGNED —	MP	REVISED	—
SCALE	=	NONE	CHECKED —	VC	REVISED	—
PROJECT NO	=	21-R0315	DRAWN —	RG	REVISED	—
FILE NAME	=	21R0315-DTLS-01	CHECKED —	AG	REVISED	—

Robinson ENGINEERING

174TH STREET, 66TH COURT AND 173RD PLACE
ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT
CONSTRUCTION DETAILS

VILLAGE of TINLEY PARK

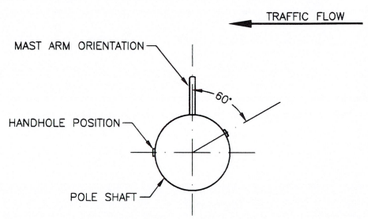
SHEET NO. 25 of 31



NOTES:

1. THE LIGHTING UNITS SHALL MEET AASHTO DESIGN CRITERIA.
2. ALUMINUM ALLOY 6063-T6 SHALL BE USED.
3. LIGHT POLE AND ASSOCIATED EQUIPMENT TO BE U.L. LISTED

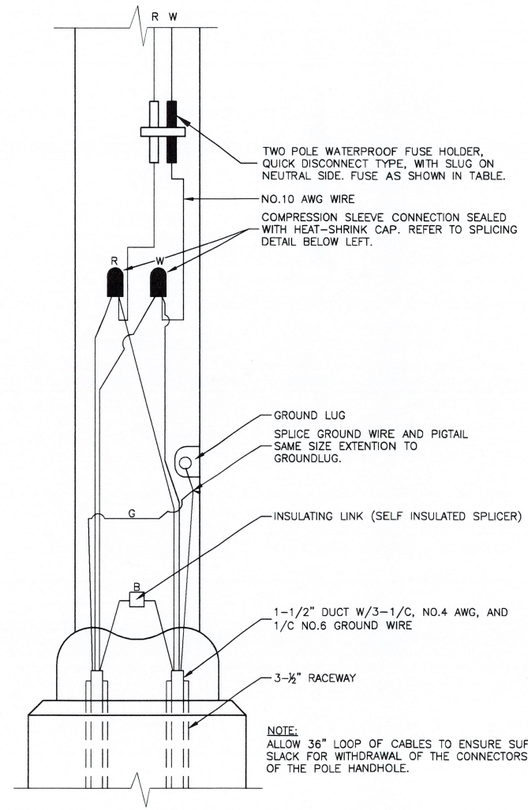
TYPICAL ROADWAY POLE INSTALLATION



POSITION OF HANDHOLE AND NUMERALS ON POLE

LUMINAIRE FUSE SIZE TABLE

NOMINAL WATTAGE LUMINAIRE	FUSE SIZE
	3.0 AMP



ROADWAY POLE HANDHOLE WIRING DIAGRAM

(RED PHASE SHOWN)

DATE = 04-27-22	DESIGNED — DS	REVISED —	
SCALE = NONE	CHECKED — VC	REVISED —	
PROJECT NO = 21-R0315	DRAWN — RG	REVISED —	
FILE NAME = 21R0315-DTLS-02	CHECKED — AG	REVISED —	

Robinson ENGINEERING

174TH STREET, 66TH COURT AND 173RD PLACE
ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT
STREET LIGHTING DETAILS

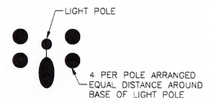
VILLAGE of TINLEY PARK

SHEET NO. 26 of 31

LIGHTING GENERAL NOTES:

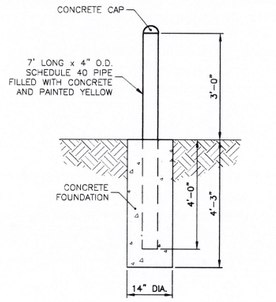
1. ALL WORK TO CONFORM TO THE NATIONAL ELECTRICAL CODE AND ANY APPLICABLE LOCAL CODES.
2. CONTRACTOR TO VERIFY LOCATION OF ALL UNDERGROUND UTILITIES BEFORE TRENCHING OR AUGERING.
3. BEFORE INSTALLING STANDARDS NEAR OVERHEAD FACILITIES CALL CE Co. FOR APPROVAL OF LOCATION.
4. FOR LOCATION OF EXISTING UNDERGROUND ELECTRICAL CABLE CALL CE Co.
5. SIZE ALL CONDUIT AS SPECIFIED ON DRAWINGS.
6. ANY TREE TRIMMING REQUIRED AS DIRECTED BY THE ENGINEER SHALL BE PERFORMED BY THE CONTRACTOR, AND THE COST OF THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
7. CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO RESTORE ANY SPECIALIZED LANDSCAPING, (i.e. DECORATIVE ROCKS, SHRUBS, PLANTS, ECT.) OR SHALL REPLACE IT, THE COST OF WHICH SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

TYPICAL LIGHTING NOTES



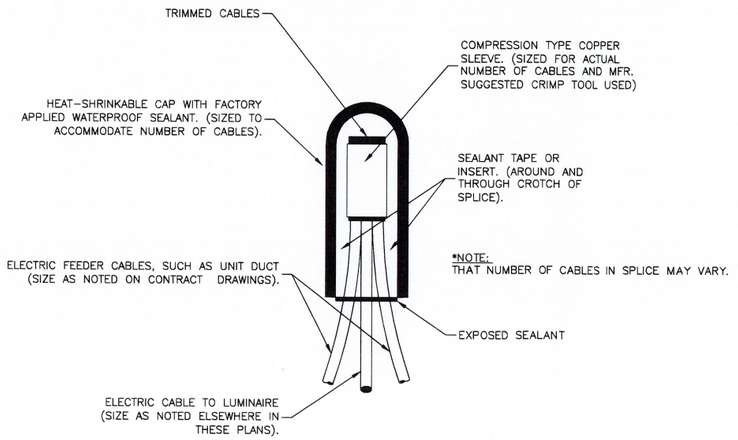
POLE PROTECTION DETAIL-PLAN VIEW

(FOR POLES LOCATED IN ASPHALT DRIVE OR AT "T" INTERSECTIONS. VILLAGE WILL NOTIFY CONTRACTOR AT PRE-CONSTRUCTION MEETING WHICH POLES SHALL RECEIVE PROTECTION BOLLARDS.)

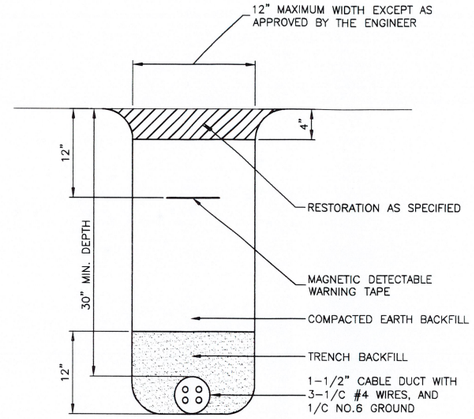


POLE PROTECTION DETAIL-SECTION VIEW

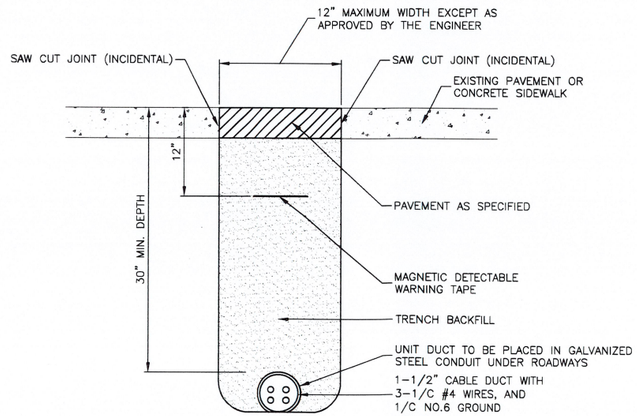
POLE PROTECTION DETAIL



SPLICING ELECTRIC CABLES

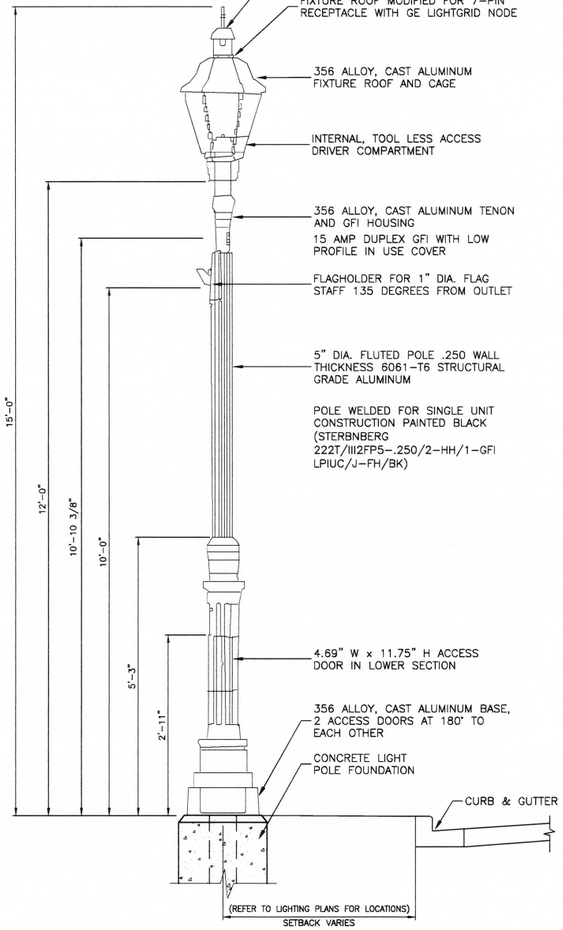


TRENCH DETAIL - UNPAVED AREAS



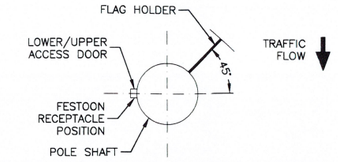
TRENCH DETAIL - PAVED AREAS

DATE	= 04-27-22	DESIGNED — DS	REVISED —	Robinson ENGINEERING	174TH STREET, 66TH COURT AND 173RD PLACE ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT STREET LIGHTING DETAILS
SCALE	= NONE	CHECKED — VC	REVISED —		VILLAGE of TINLEY PARK
PROJECT NO	= 21-R0315	DRAWN — RG	REVISED —		SHEET NO. 27 of 31
FILE NAME	= 21R0315-DTLS-02	CHECKED — AG	REVISED —		



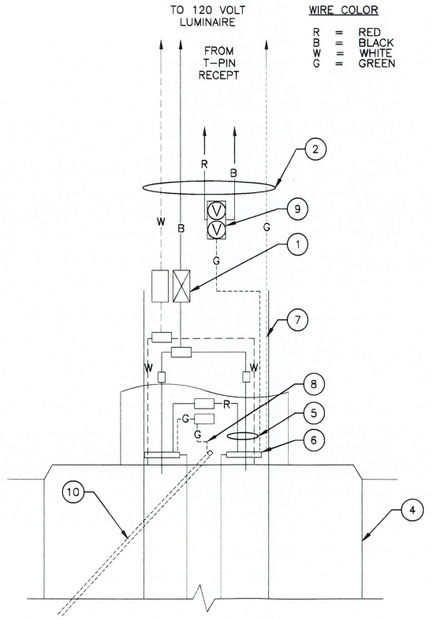
DECORATIVE LIGHT POLE DETAIL

N.T.S.



POSITION OF ROADWAY/PEDESTRIAN POLE HANDHOLE DETAIL

N.T.S.



DECORATIVE LIGHT POLE TYPICAL HANDHOLE WIRING DIAGRAM

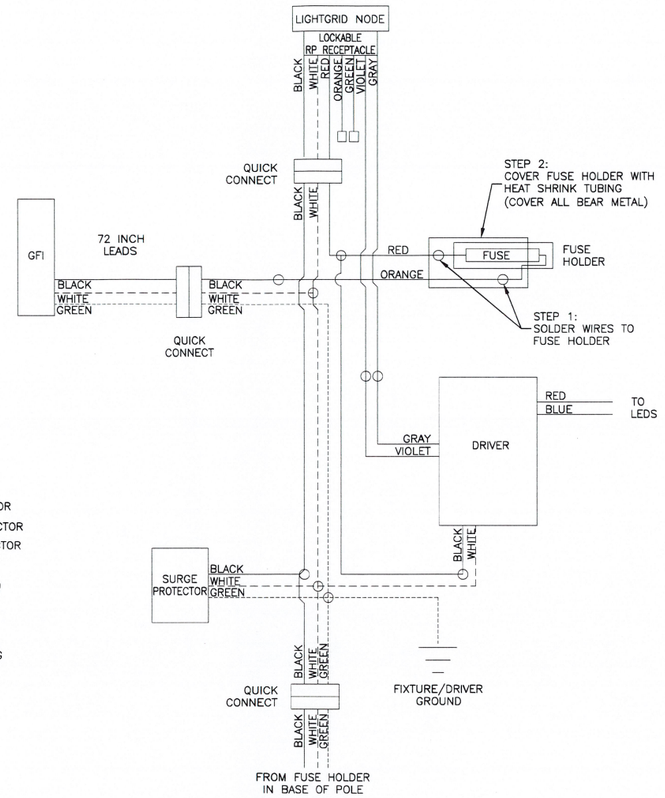
N.T.S.

PHASE CONDUCTOR

NEUTRAL CONDUCTOR

GROUND CONDUCTOR

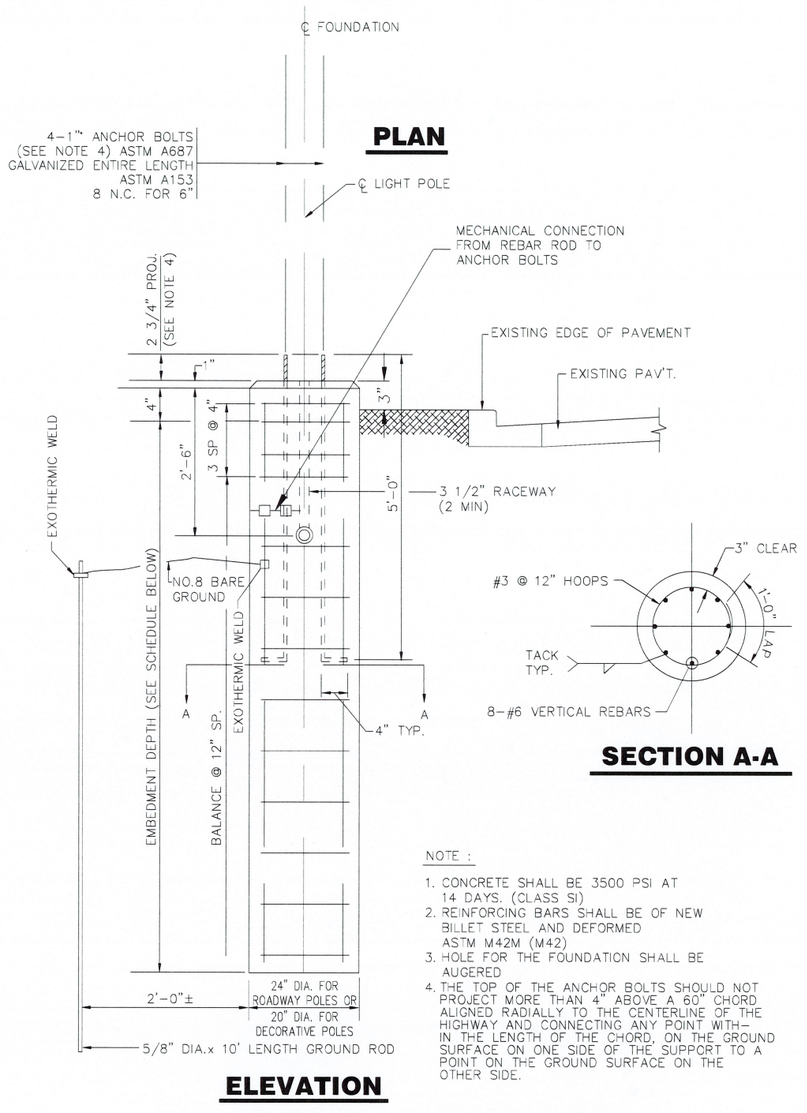
1. 5A TIME-DELAY TYPE FUSE (NEUTRAL SHALL BE NON-FUSED) INSIDE 2-POLE BREAKAWAY WATERPROOF FUSE HOLDER AND INSULATING BOOTS
2. #10 XLP-TYPE USE POLE WIRES COLOR TO MATCH BRANCH WIRING
3. MULTIPLE COMPRESSION FITTINGS (SPLICE), TYP.
4. CONCRETE FOUNDATION
5. CABLE AS SHOWN ON PLANS
6. PROPOSED CONDUIT PULLED THROUGH PVC RACEWAY
7. POLE GROUND LUG, 1/4"-20 THREADED BOLT
8. #6 GROUND WIRE MECHANICALLY CLAMPED TO GROUND WIRE
9. 20A-120V GFCI-WR FESTOON RECEPTACLE
10. GROUND ROD



DECORATIVE LIGHT POLE LUMINAIRE WIRING DIAGRAM

N.T.S.

DATE	=	04-27-22	DESIGNED — DS	REVISED —	Robinson ENGINEERING	174TH STREET, 66TH COURT AND 173RD PLACE ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT STREET LIGHTING DETAILS	VILLAGE of TINLEY PARK	SHEET NO. 28 of 31
SCALE	=	NONE	CHECKED — VC	REVISED —				
PROJECT NO	=	21-R0315	DRAWN — RG	REVISED —				
FILE NAME	=	21R0315-DTLS-02	CHECKED — AG	REVISED —				



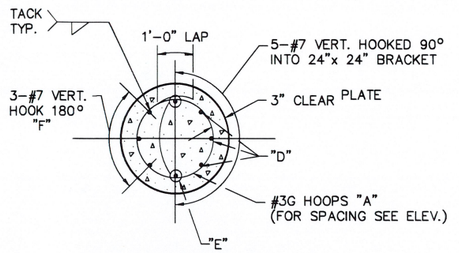
NOTE :

1. CONCRETE SHALL BE 3500 PSI AT 14 DAYS. (CLASS SI)
2. REINFORCING BARS SHALL BE OF NEW BILLET STEEL AND DEFORMED ASTM M42M (M42)
3. HOLE FOR THE FOUNDATION SHALL BE AUGERED
4. THE TOP OF THE ANCHOR BOLTS SHOULD NOT PROJECT MORE THAN 4" ABOVE A 60" CHORD ALIGNED RADIALLY TO THE CENTERLINE OF THE HIGHWAY AND CONNECTING ANY POINT WITHIN THE LENGTH OF THE CHORD, ON THE GROUND SURFACE ON ONE SIDE OF THE SUPPORT TO A POINT ON THE GROUND SURFACE ON THE OTHER SIDE.

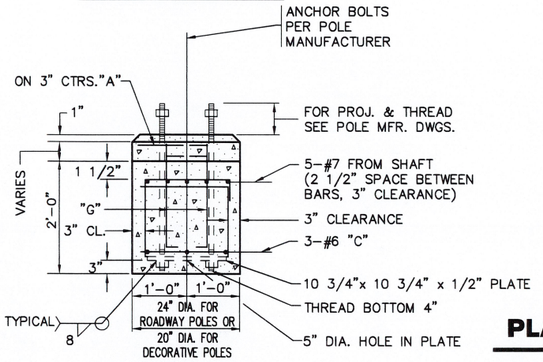
LIGHT POLE FOUNDATION (TYPICAL)

FOUNDATION SCHEDULE

TYPE OF SOILS		EMBEDMENT MOUNTING HEIGHT			
DESCRIPTION	STANDARDS	≤ 30 FT.	35 FT.	40 FT.	50 FT.
SOFT CLAY	Qu= .25-.50 T/FT.²	9'-0"	9'-8"	10'-6"	14'-0"
MEDIUM CLAY	Qu= .50-1.0 T/FT.²	6'-6"	7'-0"	7'-6" *	10'-0"
DENSE CLAY	Qu= 1.0-2.0 T/FT.²	5'-6"	6'-0"	6'-6"	8'-6"
LOOSE SAND	N= 4-10	7'-0"	7'-8"	8'-4"	11'-0"
MEDIUM SAND	N= 10-30	6'-0"	6'-6"	7'-3"	9'-6"
DENSE SAND	N= 30-50	5'-6"	6'-0"	6'-6"	8'-6"



SECTION A-A

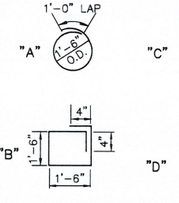


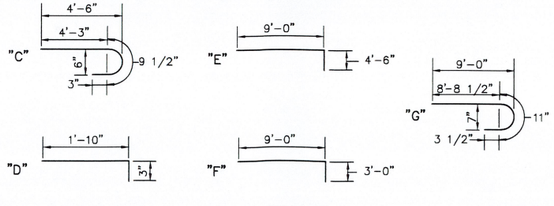
SECTION B-B

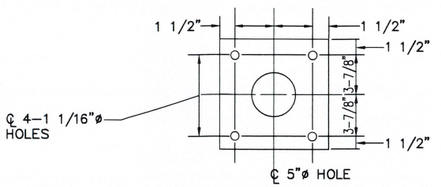
NOTE :

1. CONCRETE SHALL BE 3500 PSI AT 14 DAYS. (CLASS SI).
2. REINFORCING BARS SHALL BE OF NEW BILLET STEEL AND DEFORMED ASTM M42M (M42)
3. HOLE FOR THE FOUNDATION (SHAFT) SHALL BE AUGERED.
4. POLE FOUNDATION, OFFSET FOR THIS APPLICATION IS EQUIVALENT TO 13.5 LIN.FT. PER FOUNDATION.
5. THE TOP OF THE ANCHOR BOLTS SHOULD NOT PROJECT MORE THAN 4" ABOVE A 60" CHORD ALIGNED RADIALLY TO THE CENTERLINE OF THE HIGHWAY AND CONNECTING ANY POINT WITHIN THE LENGTH OF THE CHORD, ON THE GROUND SURFACE ON ONE SIDE OF THE SUPPORT TO A POINT ON THE GROUND SURFACE ON THE OTHER SIDE.

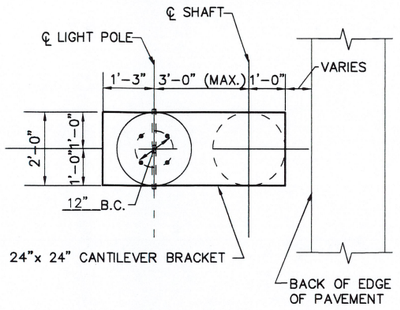
BILL OF MATERIALS "LIGHT POLE FOUNDATION, 24" DIAMETER, OFFSET"				
QUAN.	MARK	SIZE	LENGTH	SHAPE
11	A	NO.3	5'-9"	
6	B	NO.3	6'-8"	
3	C	NO.6	5'-31/2"	
8	G	NO.6	2'-1"	
3	D	NO.7	13'-6"	
2	E	NO.7	12'-0"	
3	F	NO.7	9'-11"	
REINFORCING BARS LBS.				285
CLASS X CONCRETE CU.YDS.				1.7
ANCHOR BOLTS NO.				4
ANCHOR BOLT PLATE NO.				1



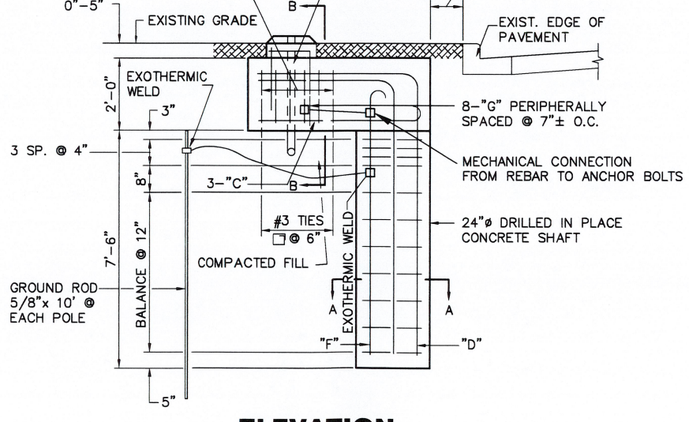




ANCHOR BOLT PLATE



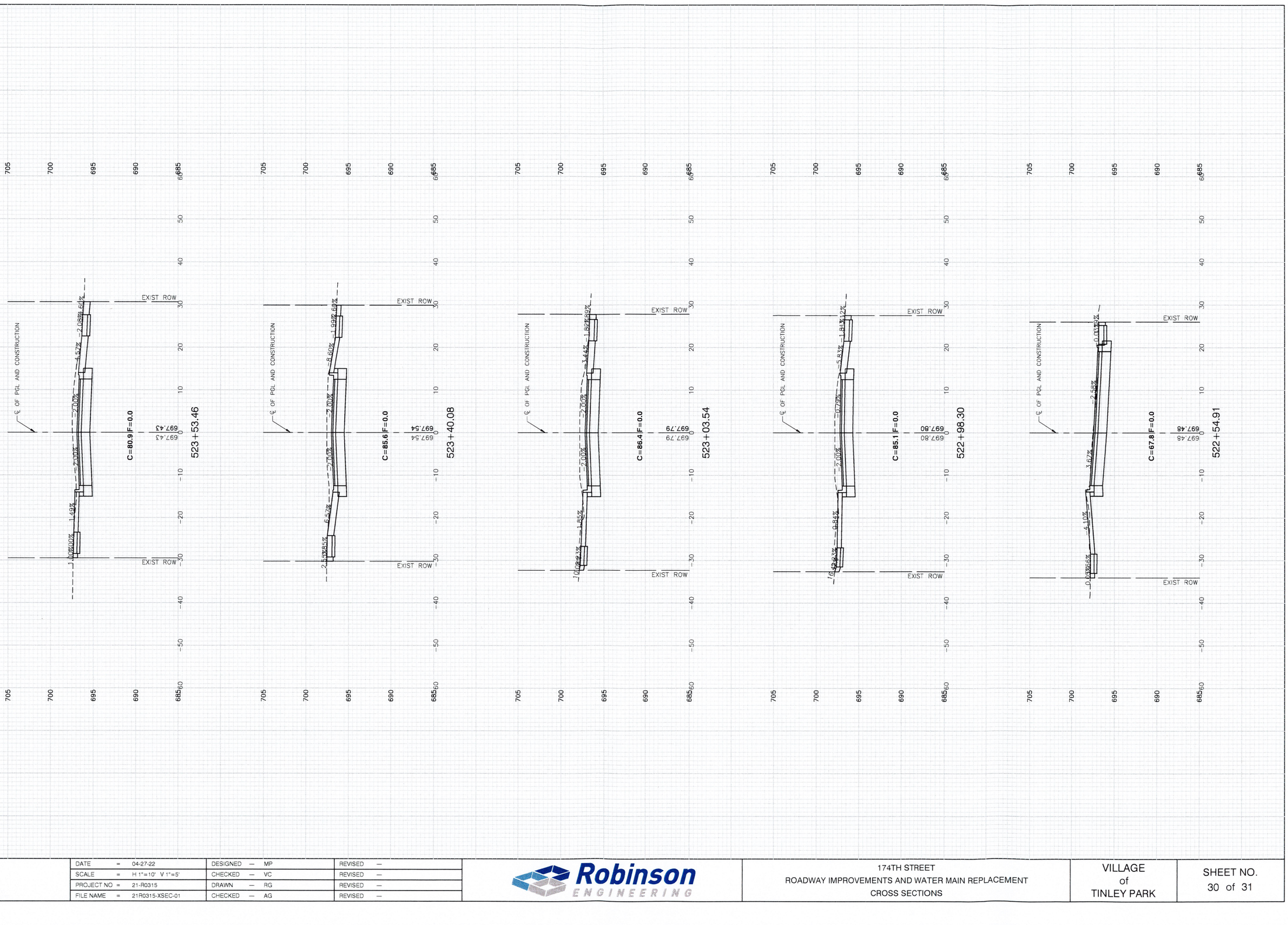
PLAN - CANTILEVERED BRACKET



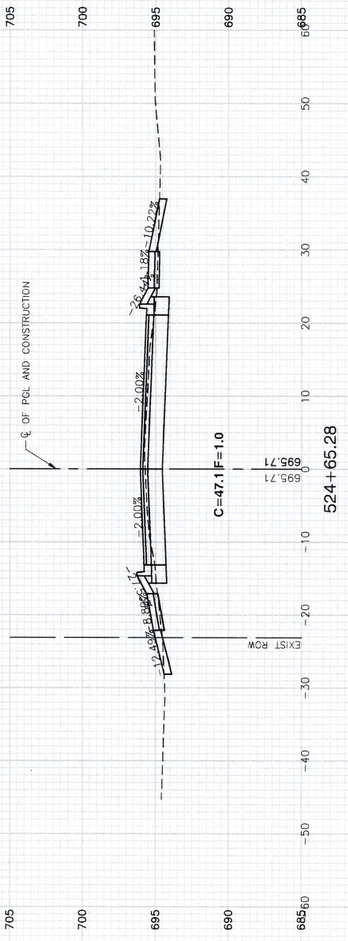
ELEVATION

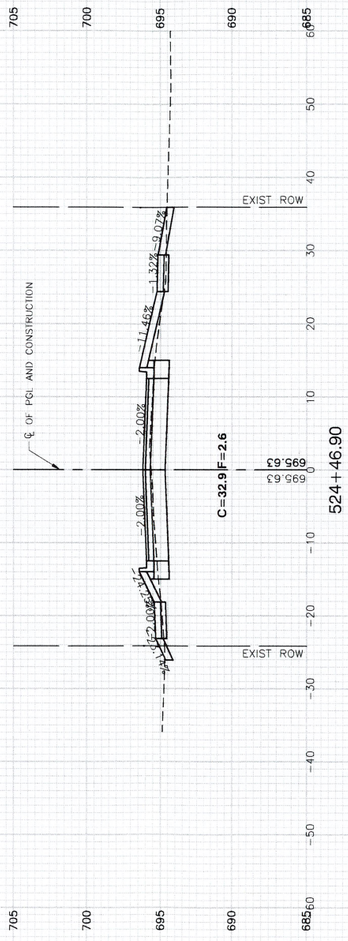
POLE FOUNDATION, OFFSET - DETAILS

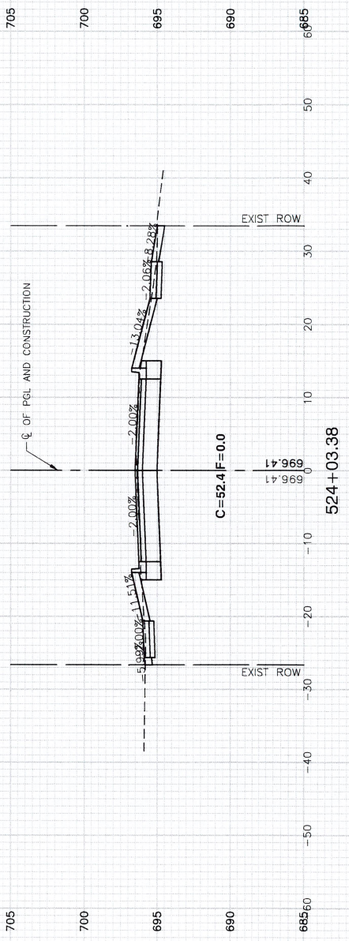
DATE = 04-27-22	DESIGNED — DS	REVISED —	Robinson ENGINEERING	174TH STREET, 66TH COURT AND 173RD PLACE ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT STREET LIGHTING DETAILS	VILLAGE of TINLEY PARK
SCALE = NONE	CHECKED — VC	REVISED —			SHEET NO. 29 of 31
PROJECT NO = 21-R0315	DRAWN — RG	REVISED —			
FILE NAME = 21R0315-DTLS-02	CHECKED — AG	REVISED —			

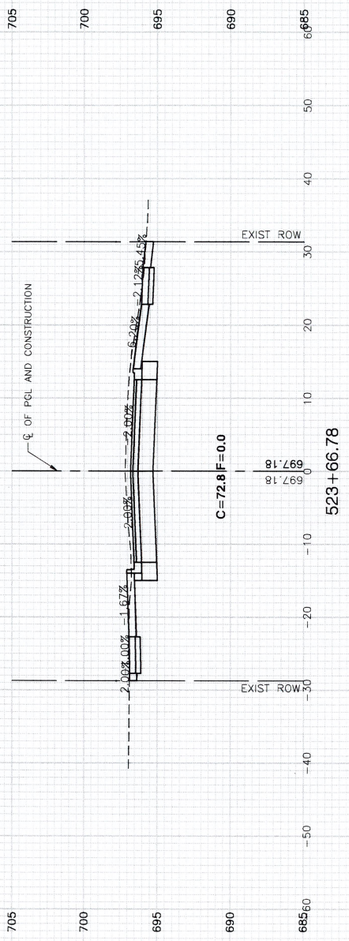


DATE	= 04-27-22	DESIGNED — MP	REVISED —	Robinson ENGINEERING	174TH STREET ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT CROSS SECTIONS	VILLAGE of TINLEY PARK	SHEET NO. 30 of 31
SCALE	= H 1"=10' V 1"=5'	CHECKED — VC	REVISED —				
PROJECT NO	= 21-R0315	DRAWN — RG	REVISED —				
FILE NAME	= 21R0315-XSEC-01	CHECKED — AG	REVISED —				









DATE	= 04-27-22	DESIGNED — MP	REVISED —	Robinson ENGINEERING	174TH STREET ROADWAY IMPROVEMENTS AND WATER MAIN REPLACEMENT CROSS SECTIONS
SCALE	= H 1"=10' V 1"=5'	CHECKED — VC	REVISED —		VILLAGE of TINLEY PARK
PROJECT NO	= 21-R0315	DRAWN — RG	REVISED —		SHEET NO. 31 of 31
FILE NAME	= 21R0315-XSEC-01	CHECKED — AG	REVISED —		