City of Joliet

Special Provisions

City of Joliet Departments of Public Works & Public Utilities
150 W. Jefferson Street,
Joliet, IL 60432

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Introduction

The following Special Provisions supplement the latest addition of the "Standard Specifications for Road and Bridge Construction," the "Supplemental Specifications and Recurring Special Provisions", and the latest edition of the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways," and the "Standard Specifications for Water and Sewer Main Construction in Illinois" in effect on the date of invitation for bids. In case of conflict with any parts of said specifications, the said Special Provisions shall take precedence and shall govern. The above-named publications shall hereinafter be referred to as the "Standard Specifications" which apply to and govern construction within the City of Joliet.

102.00 MINORITY EMPLOYMENT REQUIREMENTS

For contracts valued greater than $100,000.00:

The Bidder's attention is called to the following Equal Employment Opportunity Construction Contract Specification:

The contractor's aggregate workforce on all construction work covered by this contract shall include any combination of minority or female participation equaling or exceeding ten percent (10%) of the contractor's aggregate workforce. Compliance with this specification will be measured against the total hours performed, including all subcontracts.

The contractor shall submit to the Project Engineer monthly, certified payroll records in order to monitor the total work hours and those hours worked by minorities and/or females, before receiving a monthly payment. Upon completion of the contract, the contractor shall submit to the Project Engineer a summary of the total work hours and those hours worked by minorities and/or females prior to receiving any retainage reduction or final payment.

Non-compliance with this specification will result in the retainage of 2% of the total contract amount for a probationary period of one year from the completion of the contract. If within the one-year probation period the Contractor exceeds the minority employment requirements by the number of man-hours previously deficient, on another City of Joliet contract, the retainage from the prior contract will be released to the Contractor. If the Contractor fails to make up the minority hours on another contract within the probation period, the Contractor will be penalized 2% of the original contract amount.

DEFINITION

Minority shall include:

1. Black (all persons having origins in any of the Black African racial groups not of Hispanic Origin).

2. Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race).

3. Asian and Pacific Island (all persons having origin in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands).

4. American Indian or Alaskan Native (all persons having origins in any of the original peoples of North American and maintaining identifiable tribal affiliations through membership and participation or community identification).

For contracts valued less than or equal to $100,000.00:

The contract does not contain a specific minority employment requirement; however, the City of Joliet encourages the contractor to maximize the amount of minority participation.

105.00 MATERIAL INSPECTION

All hot mix asphalt and Portland cement concrete materials that are part of this project shall be tested and inspected in accordance with the Illinois Department of Transportation's Project Procedures Guidelines (PPG) and the process and frequency of testing under the QC/QA specifications.

The Contractor shall provide documentation verifying that the mix designs to be used on the project for hot mix asphalt and Portland cement concrete meet IDOT specifications for the materials shown in the contract documents. This documentation as well as the mix designs shall be provided at the pre-construction meeting for the project.

The City's consultant will perform the City's QA testing of asphalt and concrete materials on-site and at the plant and act as the City's QA Manager. The City's consultant's name and contact information will be provided at the project preconstruction meeting. The contractor shall provide a request for material testing by the City's consultant by 4pm by email or fax and copy the City Engineer, 48 hours in advance of construction for inspection of all hot mix asphalt and Portland cement concrete materials used on this project.

The cost for this work shall be considered incidental to the contract. No other compensation will be allowed for this work.

105.10 CONSTRUCTION LAYOUT STAKES

In accordance with Article 105.09 of the "Standard Specifications", the Contractor shall furnish to the City of Joliet Public Works Office, 921 E. Washington Street, at his/her expense, construction layout stakes for the project. The material for all layout stakes and lathe shall be oak. Layout stakes (hubs) shall be 2" x 2" x 15". Lathe shall be four (4') feet in length. Hubs shall be provided at a rate of one bundle per 300 linear feet of project length for curb and gutter construction and at a rate of one bundle per 600 linear feet of project length for all other construction projects. Lathe shall be provided at a rate of one bundle per 600 linear feet of project length for all construction. The cost incurred by the Contractor in complying with this requirement shall be considered incidental to the contract.

107.00 NOTIFICATION OF RESIDENTS

It shall be there responsibility of the contractor to notify the residents a minimum of twenty-four (24) hours in advance of paving operations on the respective streets/alleys. Notification shall consist of a "FLYER" with information regarding the priming/paving to be hand delivered to each property affected.

Basis of Payment:

This work shall be paid for at the contract unit price per lump sum for NOTIFICATION OF RESIDENTS. The Contractor shall be responsible for all damage to public or private property done during paving operations. Failure to perform the above work satisfactorily shall result in the contractor being liable for any damages attributable to non-notification.

107.10 PROTECTION OF PROPERTY AND SURFACE STRUCTURES

Trees, shrubbery, fences, poles, right-of-way pins, and all other property and surface structures shall be protected during construction operations unless the Engineer authorizes their removal for purposes of construction. Any fences, poles or other manmade 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.

107.20 MAILBOX PROTECTION/ RELOCATION

This work includes furnishing all material, equipment and labor necessary to temporarily relocate or otherwise protect existing mailboxes and their supports from all construction activity.
Mailboxes, which require relocation, shall be located such that mail service is uninterrupted. Any mailbox that is not immediately repaired when disturbed will be re-stalled by the City and the cost deducted from this contract. Hand formed curb required in front of mailboxes which cannot be relocated shall be considered incidental to this item. Replacement of damaged support posts shall be at the Contractor's expense.

Basis of Payment:

This work shall be paid for at the contract unit price per each for MAILBOX PROTECTION/ RELOCATION.

107.30 CARRIAGE STONES TO BE PROTECTED

This item shall include all materials, equipment, and labor, required to protect and reset existing limestone carriage stones within construction limits. Unless otherwise noted, these stones are to be temporarily relocated, and reset in their original positions behind the proposed curb. Every effort shall be made to prevent damage to the limestone. Methods of lifting and moving stones shall be established and approved prior to construction, which minimize chipping and cracking.

Stones shall be reset on 5" compacted aggregate bases, incidental to protection. Stones shall be protected from concrete spatters from adjacent concrete pours.

If a stone is too large to move, and is indicated as such on the plans, the stone must be protected from construction activities, in place. The proposed curb shall be hand formed adjacent to this stone. No additional compensation shall be allowed for delays in excavation this may cause.

This work shall be paid for at the contract unit price each, for CARRIAGE STONES TO BE PROTECTED.

107.40 EXISTING UTILITIES

Existing utilities are shown on the plans according to information obtained from Utility Companies and surveys. The Engineer and the City of Joliet does not guarantee the accuracy or completeness of this information. The Contractor shall make his own investigation to determine the existence, nature and location of all utility lines and appurtenances within the limits of the improvements. **The Contractor will be responsible for performing exploratory excavation to expose any underground utility- including services- with a City representative present and identifying all possible utility conflicts within the proposed public improvement prior to excavating for the roadway. The Contractor shall backfill these exploratory excavation sites with trench backfill and shall maintain the roadway until all the identified utility conflicts are resolved. The cost of this exploratory excavation shall be considered incidental to the contract. No other compensation shall be allowed for this work.**

The Contractor will be required to cooperate with all Contractors, Utility Companies and the City of Joliet involved with the removal, temporary relocation, reconstruction or abandonment by these agencies of any and all services or facilities owned or operated by them within the limits of this improvement. Before doing any work which will damage, disturb or leave unsupported or unprotected any utility lines or appurtenances encountered, the Contractor shall notify the respective owner thereof, who will make all arrangements for relocating, adjusting or otherwise maintaining or abandoning service on lines that fall within the limits of the proposed construction without cost to the Contractor, including the removal of all cables, manhole covers and other appurtenances which the owner desires to salvage. After such arrangements have been made, the Contractor will proceed with the work as directed by the Engineer.

The Contractor shall contact the involved utility companies not less than 48 hours prior to beginning construction. The majority of these utilities may be contacted through J.U.L.I.E. at (800) 892-0123. In addition, the Contractor shall be responsible to contact the City of Joliet utilities 48 hours prior to beginning the construction at (815) 740-2436. It shall remain the Contractor's responsibility to contact all utilities.

No extra compensation will be allowed the Contractor for any expenses incurred by complying with these requirements, or because of delays, inconvenience or interruptions in his work resulting from the failure of any Municipality or Utility Company to remove, relocate, reconstruct or abandon their services when required by the Contractor's operations. An extension of time may be granted to the extent the Contractor's operations were affected. The Contractor shall be responsible for coordinating his work with that of these agencies and ensure that this improvement is not delayed because of necessary changes in the existing utilities, public or private.

The Contractor shall take whatever precautions which may be necessary to protect the property of the various public utilities which may be located underground or above ground, at or adjacent

to the site of this improvement. The contractor will be required to repair or replace at his own expense or bear the cost of having the utility repair or replace any public utility property which has been damaged through his efforts. The procedure and specifications of repair will be in accordance with the regulations and/or policy of the utility. The utilities shall be given notice by the Contractor to locate and identify all their installations at the site of this improvement.

107.45 WORK TO BE DONE BY OTHERS

The City of Joliet Public Works and Utilities Department, Commonwealth Edison Company, NICOR, Ameritech, Inc., and others may be adjusting their facilities during construction of this section. In such event, it will be necessary for the Contractor to cooperate with the various organizations and the City while they are doing this work.

107.50 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 watermain, 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.

107.60 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 by the Contractor at his expense and under the direction of the Engineer. The structure, which may have been disturbed, shall be restored to its prior condition upon completion of the work.

107.70 WATER MAIN PROTECTION

This work shall include all materials, equipment, and labor required to locate and excavate or remove by hand the unsuitable material over the shallow water mains within the project limits. Materials shall be removed to the depth required to expose the top half of the main and a width of the diameter of the watermain plus three (3) inches on each side. An aggregate saddle of CA-6 shall be placed and compacted in 6-inch lifts to the bottom of the proposed aggregate base.

Sufficient care and delineation of locations shall be used by the contractor to prevent extensive travel over the watermain by heavy equipment and trucks during excavation and aggregate base placement. No additional compensation shall be made for scheduling changes or compromises required to provide protection to the mains during any phase of construction.

This work may take place concurrent with underground storm sewer work but must be done prior to mainline excavation. It is not required to be completed for the entire job length but must be completed in the area of excavation.

Basis of Payment:

This work shall be paid for at the contract unit price per lineal foot for WATER MAIN PROTECTION of the size indicated on the plans.

107.80 RAILS TO BE REMOVED

This work shall include all materials, equipment, and labor required to remove and dispose of the steel rails within the existing pavement.

Basis of Payment:

This work shall be paid for at the contract unit price per linear foot per rail for RAILS TO BE REMOVED. Removal of all railway base materials shall be incidental to REMOVAL OF EXISTING PAVEMENT. No additional compensation will be made for rail base removal.

108.00 TIMELINESS OF WORK

The Contractor shall perform all work in an orderly, timely and diligent manner. The Contractor shall cooperate with and conform to the requests of the City to expedite particular portions of the work insofar as to complete certain phases of work in a timely manner. Work shall be completed within the timeframe as outlined in Supplement Special Provision for PROJECT SCHEDULE. Contractor shall submit a PROJECT SCHEDULE showing coordination of sub-contractors and sequencing of work.

Construction of the concrete curb and gutter shall begin within five (5) working days of the completion of the roadway grading and sub-base preparation. Upon completion of the concrete curb and gutter, construction of the driveway apron shall begin, and remain continuous, such that driveway shall not remain inaccessible for more than 20 working days, as measured from the date of completion of roadway excavation. If the contractor cannot meet these requirements, he shall provide a temporary stone access to all affected driveways. No additional compensation will be allowed for the providing, placing and removing all temporary access stone. The City of Joliet reserves the right to place the temporary stone and deduct the cost from the construction contract for contractors not meeting this requirement.

108.10 PREMIUM TIME

The City shall be empowered to deduct from compensation due the Contractor, the sum of $25.00 per Inspector per hour for all inspection time in excess of the following provisions:

A. The City will not charge for premium time on one Saturday per month if the Contractor has been working on the controlling item of the contract for the previous three working days.

B. A Saturday rainout will be allowed, and no premium time will be charged only if the Contractor was performing work on the controlling item of the contract the working days prior to and after the actual rain date.

C. No premium time will be charged for the first nine (9) hours of work during any day.

D. Premium time will be charged for the following holidays: Christmas, New Year's Day, Thanksgiving, Memorial Day, July 4th and Labor Day.

The City of Joliet will also charge premium time for the cost of resetting any construction stakes damaged by the Contractor during his operations.

The number of Inspectors shall be determined by the following tabulation:

Number of Workmen on Project	Maximum Number of Inspectors Required
1 - 8	1
9 - 16	2
17 - 25	3
Over 25	As Required

109.00 CONTRACTOR SUPPLIED LABOR

This item shall include a laborer, including all necessary equipment and tools, supplied by the Contractor to assist the equipment operator in locating and working with existing utilities during the excavation. This shall also include a pickup truck to be used as laborer transportation. The laborer shall be responsible for providing the correct grades for the equipment operator according to the grade given by the Engineer. In addition, the laborer shall perform such other miscellaneous work as directed by the Engineer.

Method of Measurement:

This work shall be measured on a per day basis as CONTRACTOR SUPPLIED LABOR as specified herein. In the case of a shutdown due to rain the following time shall be accounted for:

Show up to 4 hrs.	1/2 day
Over 4 hrs.	1 day

Basis of Payment:

This work will be paid for at the contract unit price per day for CONTRACTOR SUPPLIED LABOR or any fraction of a day, therein.

109.07 PARTIAL PAYMENTS AND RETAINAGE

Partial payments and retainage shall be calculated in accordance with Section 109.07 of the "Standard Specifications", with the addition of the following: at the Engineer's discretion, if the Contractor has completed all contract work except items delayed by circumstances beyond the Contractor's control, the retainage may be reduced to 2% of the total adjusted contract price.

109.10 EQUIPMENT RENTAL

This item shall include the machines, operator/s and fuel required to excavate the existing roadway, base, concrete curb, driveway pavement, and sidewalk necessary to construct the proposed curb & gutter, driveway pavement, sidewalk and stone base course. The approximate quantity of material to be excavated is specific to the contract and can be found in the plans. The City of Joliet shall provide the trucks necessary to haul away the excavated material and to haul in such base course aggregate, as required.

It is the contractor's responsibility to contact J.U.L.I.E., and any other utility companies, prior to beginning operations. The contractor is responsible for any utility hits, or damage to these utilities.

Multiple machines will be required. One machine shall be a track hoe type excavator, minimum 35,000 lbs, minimum 1 cubic yard bucket, minimum 25' reach. Removal of the existing sidewalk, curb and driveway pavement shall be done prior to installation of the new curb as directed by the Engineer. Also, the removal of existing asphalt or concrete driveway pavement, sidewalk, and curb, shall not be paid for separately, but shall be incidental to EQUIPMENT RENTAL.

A second machine and operator shall be provided, to finish grade the excavated sub-base prior to stone placement, and to spread the aggregate stone base to rough grades. This machine shall be an angle dozer, 70 hp minimum, or approved equivalent.

The equipment and operator/s shall work the same hours as the City of Joliet Field Operations Street Division Personnel (7:00 A.M. to 3:30 P.M.).

Method of Measurement:

This work shall be measured on a per day basis on EQUIPMENT RENTAL as specified herein. In the case of a shutdown due to rain the following time shall be accounted for:

Show up to 4 hrs.	1/2 day
Over 4 hrs.	1 day

Basis of Payment:

This work will be paid for at the contract unit price per day for EQUIPMENT RENTAL or any fraction of a day therein. Sidewalk removed after the roadway excavation is completed, and EQUIPMENT RENTAL has ended, shall be paid for as LATE SIDEWALK REMOVAL. The final grading of the parkway and the re-grading of areas for sidewalk and driveway installation, shall be paid for as PARKWAY EXCAVATION.

201.00 TREE ROOT SAWING

This work consists of the vertical variable depth sawing of tree roots on those trees to remain at locations shown on the plans or as designated by the Engineer.

The Contractor shall machine saw in a vertical fashion the existing tree roots at a point 1 foot behind the proposed back of curb to ensure room for placing form work. The Contractor shall ensure the protection of trees to be saved in accordance with Article 201.05 of the "Standard Specifications". The disposal of materials shall be done in accordance with Article 202.03.

Basis of Payment:

This work includes all labor, equipment and materials necessary to sawcut as described above. This work will be paid for at the contract unit price each for TREE ROOT SAWING, measured at each tree where this work is performed.

201.10 HEDGE REMOVAL AND REPLACEMENT

This work shall consist of the removal of hedges and providing and planting any salvageable or new hedges of the same species at locations as shown on the plans and as directed by the Engineer. Hedges shall be balled and burlaped upon arrival to the site and placed in beds or pits 12 inches larger than the root system and backfilled with prepared topsoil mixture. Existing surface elevations shall be maintained. Fully saturate the pit or bed when half full of topsoil and again when full.

Basis of Payment:

This work shall be paid for at the contract unit price per lump sum for HEDGE REMOVAL AND REPLACEMENT which price shall include all labor, equipment and materials necessary to satisfactorily complete this work.

202.00 EARTH EXCAVATION – SPECIAL

This item shall include all material, equipment, and labor required to excavate for combination concrete curb and gutter in accordance with all applicable portions of Section 202 of the "Standard Specifications". The existing Base Course and Hot Mix Asphalt Binder Course is to remain intact between the limits of excavation for the proposed combination curb and gutter.

The depth of excavation shall range from, but not limited to 24 to 30 inches and as shown on the plan.

Basis of Payment:

This work shall be paid for the contract unit price per square yard for EARTH EXCAVATION SPECIAL. The limits of the width of excavation that will be paid for are as indicated on the detail in the plans, unless approved by the engineer. Without such approval, any additional width will be considered incidental to this item.

202.10 PARKWAY EXCAVATION

This item shall include all material, equipment, and labor required to excavate beyond the roadway excavation limit for proposed TOPSOIL PLACEMENT, and required SUB-BASE GRANULAR MATERIAL for P.C.C. SIDEWALK, P.C.C. DRIVEWAY PAVEMENT, AND HOT MIX ASPHALT DRIVEWAY PAVEMENT in accordance with all applicable portions of Section 202 of the Standard Specifications.

The depth of excavation shall range from, but not be limited to, 3 to 12 inches.

Basis of Payment:

This work shall be measured for payment at the contract unit price per square yard for PARKWAY EXCAVATION. The limits of excavation to be paid for are as indicated on the details in the plans, or as approved by the engineer. Without such approval, any additional width will be considered incidental to this item.

202.20 ROADWAY EXCAVATION

This item shall include all material, equipment, and labor required to excavate the existing roadway to the proposed sub-grade elevation, at a width of one (1) foot beyond the proposed back of curb, in accordance with all applicable portions of Sections 202 and 440 of the Standard Specifications.

The City of Joliet shall provide, on the plans, it's best information as to the existing roadway cross section. The contractor may, at his own expense, perform additional tests to verify the existing roadway cross section. No additional compensation will be allowed due to variations in the thickness or materials shown on the existing roadway cross section.

Basis of Payment:

This work shall be paid for at the contract unit price per cubic yard for ROADWAY EXCAVATION.

202.40 REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL

A contingency amount of Removal and Disposal of Unsuitable Material is included in this contract, in the event that areas requiring removal of the unsuitable material below the subgrade are encountered. The removal shall be at the location and depth as directed by the Engineer. The location shall then be backfilled with Porous Granular Embankment, Special. The material shall be disposed of in accordance with Article 202.03 of the "Standard Specification."

The volume of any unsuitable material removed shall be measured by the Engineer by taking cross sections before the work is started and again after it has been completed and computing the volume in cubic yards by the method of average end areas. This volume shall be agreed upon between the contractor and the Engineer.

Basis of Payment:

This work shall be paid for at the contract unit price as listed on the schedule of prices per cubic yard of material removed for REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL, which price shall include the cost of all excavation and disposal of unsuitable materials and replacement with Porous Granular Embankment.

202.30 OVERHAUL

No payment for overhaul will be allowed for excavated material moved to or from any source.

202.50 TESTING FOR CONTAMINATED MATERIAL

This item shall include all materials, equipment, and labor, required to test **ALL** excavated materials for environmental contaminants as dictated by Clean Construction or Demolition Debris (CCDD) Legislation (PA 96-1416) incidental to the contract. It is the Contractor's responsibility to create and maintain all testing documentation to be supplied upon request.

Basis of Payment

All testing required shall be incidental to the contract.

202.60 REMOVAL AND DISPOSAL OF CONTAMINATED MATERIAL

This item shall include all materials, equipment, and labor, required to remove and dispose of any excavated material which tests positive for contamination in accordance with all IEPA regulations.

Basis of Payment

This work shall be paid for at the contract unit price per cubic yard, for REMOVAL AND DISPOSAL OF CONTAMINATED MATERIAL.

207.00 POROUS GRANULAR EMBANKMENT, SPECIAL

This work shall consist of furnishing and placing porous granular embankment to the lines and grades shown on the plans or as directed by the Engineer in accordance with the applicable portions of Section 207 of the "Standard Specifications." The material shall be used for fill areas within the limits of the roadway (2' wider than the back of curb) and as fill in areas where

unsuitable material is to be removed. The material shall conform to Article 1003.4 & 1004.5 of the "Standard specifications" except the gradation shall be as follows:

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

Sieve Size	Percent Passing
*6"	90+/-10
2"	40+/-25
No. 200	0+/-10

2. Gravel, Crushed Gravel and Pit Run Gravel:

Sieve Size	Percent Passing
*6"	90+/-10
2"	60+/-25
No. 4	40+/-20
No. 200	5+/-5

* For fill less than 18" sieve size may be 4".

Basis of Payment:

This work shall be paid for at the contract unit price per cubic yard for POROUS GRANULAR EMBANKMENT, SPECIAL.

208.00 TRENCH BACKFILL

This work shall conform to Section 208 of the "Standard Specifications." This item shall consist of furnishing, placing, compacting and transporting course aggregate gradation CA-10 for backfilling material for all trenches made within the roadway, driveways, and as directed by the Engineer. All compaction shall be not less than 85 percent optimum, modified proctor. The material shall conform to Article 1004.5. This item also includes the disposal of the surplus excavated material which is replaced by trench backfill. Such disposal shall be made in accordance with Article 202.03 of the "Standard Specifications."

The Contractor shall maintain trenches flush with existing surfaces until permanent patches are installed or roadway excavation has begun. No additional compensation will be provided the Contractor for trench maintenance.

Method of Measurement:

Quantities incorporated into this item shall be measured by either of the following:

A. Article 208.03(a) of the "Standard Specifications."

B. The Trench Backfill table published by the State of Illinois, Department of Transportation, Division of Highways, Bureau of Construction in conjunction with the Oct. 1980 Revision. See attached table to be used.

Basis of Payment:

This work will be paid for at the contract unit price per cubic yard for TRENCH BACKFILL.

INSERT TRENCH BACKFILL TABLE HERE

211.00 FURNISHING AND PLACING TOPSOIL

This work shall consist of furnishing and placing topsoil at the locations and to the thickness specified on the plans or as directed by the Engineer in accordance with Section 211 of the "Standard Specification".

Topsoil shall be pulverized and shall not be placed until the area to be covered has been shaped, trimmed, and finished. All unsuitable materials, debris and rubbish, resulting from construction operations, or accruing within the right of way, and all stones or boulders more than 3 inches in the largest dimension, shall be removed from the right of way and disposed of by the contractor in accordance with Article 202.03. One rolling of the entire surface shall be made immediately after topsoil placement.

If sod is not placed over the topsoil due to sod restrictions or within one week, all topsoil areas must be maintained. Topsoil maintenance shall include the removal, spraying or cutting of weeds over 8" high. This maintenance shall be performed a minimum of once (1) a month. In addition, prior to placing sod, all topsoil areas shall be clean of all weeds and debris. This maintenance shall be considered incidental to this item.

Basis of Payment:

Furnishing, placing and maintaining topsoil will be paid for at the contract unit price per square yard for FURNISHING AND PLACING TOPSOIL of the thickness specified.

250.00 SEEDING, TYPE 1A

This work shall be performed in accordance with Sections 250 and 251 of the "Standard Specifications". All areas designated to be seeded shall be prepared with application of three (3") inches of topsoil. A salt resistant seed mix (Type 1A) shall be used on all areas designated to be seeded.

The rate of application of the seed will be judged by the density of growth of the grass after germination has taken place. Areas in which the seed does not take root shall be re-seeded at no additional cost to the City. It shall be the contractor's responsibility to ensure the applied topsoil has proper nutrients to sustain growth of the grass. Any necessary applications of fertilizer to the topsoil shall be considered incidental.

Method of Measurement:

The areas seeded and mulched shall be measured in units of square yards and will not be measured for payment until the mulch has been applied.

Basis of Payment:

This work will be paid for at the contract unit price per square yard for SEEDING, TYPE 1A.

250.10 HYDRAULIC SEEDING

This work shall be performed in accordance with all applicable articles of Section 250 of the "Standard Specifications." Immediately prior to the seed bed preparation, fertilizer nutrients shall be uniformly spread at the rate of 200 pounds per acre (0.0413 pounds per square yard) over the areas designed. The fertilizer shall consist of the following nutrient composition:

Nitrogen:	50 percent
Phosphorous:	30 percent
Potassium:	20 percent

The fertilizer will not be paid for separately but shall be include in the contract unit price per square yard for hydraulic seeding.

The seed and fertilizer will be applied using a hydraulic seeder. The rate of application shall not be less than 1000 gallons of slurry per acre (0.20 gallons per square yard). The slurry shall contain the proper quantity of seed or fertilizer specified per acre/square yard. The fertilizer nutrients and seed shall be applied in two separate operations.

The seed mixture to be used shall be Class 1 as specified in Article 250.07 of the "Standard Specifications".

Method of Measurement:

Hydraulic seeding shall be measured in square yards of surface area needed.

Basis of Payment:

This work will be paid for at the contract unit price per square yard for HYDRAULIC SEEDING of the class specified, and this work shall include the cost of the fertilizer nutrients and seed to be applied as specified herein.

251.00 HARDWOOD MULCH

This work shall consist of placing hardwood mulch around each tree within the right-of-way.

Sod shall not be placed within a foot and a half (1.5”) annulus (or donut shape) around the base of any tree. The radius measured from the outer edge of the tree trunk. This area shall be covered with hardwood mulch to a depth of three (3”) inches. This hardwood mulch placement shall be paid for separately.

Basis of Payment:

This work will be paid for at the contract unit price per each for HARDWOOD MULCH.

252.00 SODDING

This work shall consist of placing sod at the locations specified on the plans or as directed by the Engineer in accordance with Section 252 of the "Standard Specifications" including sod watering with the following exceptions.

Absolutely NO sod shall be placed from May 16 to August 31.

Sod shall not be placed within a foot and a half (1.5") radius around the base of any tree. The radius measured from the outer edge of the tree trunk. This area shall be covered with hardwood mulch to a depth of three (3") inches. This hardwood mulch placement shall be paid for separately.

All sod surfaces shall be rolled once prior to the initial watering.

Within 2 hours after the sod has been placed, 10 gallons of water per square yard shall be applied. Thereafter, each day, which does not receive more than 1 inch of natural rain, additional water shall be applied at the rate of 6 gallons of water per square yard. The number of additional watering shall not exceed 13 during the period of establishment, defined as the period between sod placement and when the sod becomes knitted to the soil and is growing in place. It is imperative that the contractor notifies the resident engineer each day that a watering is to take place. Payment for sod will **not** be made if the resident engineer does not verify that the City received the 13 additional watering.

Sodding will be measured for payment in place. To be acceptable, the sod shall be in a live, healthy condition and be knitted to the soil. When directed by the Engineer, any defective or unacceptable sod shall be removed, replaced and watered by the contractor at his/her own expense and in accordance with the requirements specified. Only acceptable sod will be measured for payment.

Basis of Payment:

Sodding will be paid for at the contract unit price per square yard for SODDING.

253.00 TREES TO BE PLANTED

This work shall consist of providing and planting a new tree in the parkway at locations determined by the Engineer. Trees shall be balled and burlaped upon arrival to site and placed in beds or pits 12 inches larger than the root system and backfilled with prepared topsoil mixture. Plant trees in a vertical position, maintaining existing surface elevations. Fully saturate

tree pit or bed when half full of topsoil and again when full. Trees shall have a two-foot (2') diameter mulch collar placed around the base. The mulch collar will be considered incidental to this item. The tree shall be selected at the Contractor's discretion from the following list and shall be 2 ½" Diameter:

AUTUMN BLAZE MAPLE: (Acer x fremanii) – Cross between Silver and Red Maple. Mature height of 80 feet. Blend of Red, Orange, Yellow and Green fall color, fast growing. Seedless, adapts well to urban conditions.

HONEYLOCUST (THORNLESS): (Gleditsia triacanthos 'inermis') -- Approximate mature height of 50 feet with a spread of 40 feet, somewhat vase shaped. Foliage is fine textured with small leaflets which turn yellow in fall, and is very tolerant of urban conditions, salt and pollution.

HYBRID ELM: (Ulmus species) – Many varieties are available that are resistant to Dutch elm disease (Homestead, Pioneer, Regal). This tree has a mature height of 60 feet, and is vase shaped, with yellow fall color, fast growing and very adaptable to urban conditions.

KENTUCKY COFFEE TREE (MALE): (Gymnocladus dioicus) -- Mature height to 60 feet. Compound leaves, interesting bark and form, few pests, tolerant of urban soils and conditions (Plant seedless male varieties if available.)

LITTLE LEAF LINDEN: (Tilia cordata) – Many varieties available. This tree has a mature height of 50 feet, and is dense pyramidal form with compact glossy foliage with unusual fragrant flowers in early July. Medium growth, yellow fall color.

ORNAMENTAL TREES (Only Under Power Lines):
Crabapple (call for disease resistant varieties), Trident Maple, Tatarian Maple, Autumn Brilliance & Snowcloud Serviceberry, Thornless Hawthorn

OTHER SPECIES MAY BE APPROVED SUCH AS:

ALDER, BALD CYPRESS, BEECH, BLACK WALNUT, CATALPA, DAWN REDWOOD, GREENSPIRE LINDEN, HARDY RUBBER TREE,HICKORY SPECIES, AMERICAN HOPHORNBEAM (IRONWOOD), EUROPEAN HORNBEAM, KATSURA, LARCH,LONDON PLANE TREE, CHESTNUT OAK, SHINGLE OAK, WHITE OAK,ENGLISH OAK, SWEETGUM, SYCAMORE, TULIP TREE, TURKISH FILBERT, AMERICAN YELLOW WOOD.

ALL TREES TO BE PLANTED SHALL BE APPROVED BY THE CITY ARBORIST BASED ON SITE CONDITIONS PRIOR TO PURCHASE AND INSTALLATION.

Contractor shall supply a list of proposed species for review no less than five (5) working days prior to proposed installation.

Basis of Payment:

This work shall be paid for at the contract unit price each for TREES TO BE PLANTED, which price shall include all labor, equipment and materials necessary to satisfactorily complete this work.

280.00 EROSION CONTROL

This item shall include all labor, materials, and equipment necessary to install and maintain storm sewer sediment control devices in accordance with the manufacturer's specifications and as directed by the engineer.

Flexstorm inlet filters manufactured by Inlet & Pipe Protection, Inc. (or approved equal) with woven monofilament geotextile filter fabric sediment bags shall be installed on the storm sewer inlet structures at all drainage discharge points during the installation of the storm sewer and prior to the excavation of the roadway. Also, metal plates of adequate size, shape and thickness shall be installed directly on all drainage structures providing a clean seal hindering debris from entering the drainage system.

Once the curb and gutter has been installed, Flexstorm inlet filters shall be installed on all storm sewer inlet structure castings with open lids or grates, within or adjacent to the project limits, and shall remain in place until the asphalt and sod have been placed and the sod watering by the contractor has been completed. The entire frame and sediment bag shall be removed, and the structure cleared of all debris, prior to the City accepting this project.

It is the Contactor's responsibility to review the plans and/or worksite to determine the quantity of each drainage structure casting type. The foundry casting number or the exact grate size and clear opening size will provide the information necessary to identify the required FLEXSTORM Inlet Filter part number.

The contractor shall be responsible for inspecting the sediment bags once per week and after every major rain event (1/2" or more), and removing and cleaning the sediment bag if it is more than half full or damaged. This shall be done until the Flexstorm inlet filters are permanently removed.

Excess /waste construction material shall be properly disposed off-site. No cleaning of equipment or tools, including concrete trucks, will be allowed within the project limits or into the City's storm sewer drainage system. The contractor shall provide a concrete truck washout plan at the time of the project pre-construction meeting, which is in compliance with NPDES permit requirements.

This item shall also include all labor, materials, and equipment necessary to mechanically clean all existing paved surfaces used as egress points from the construction zone at the end of each working day.

Basis of Payment:

This work will be paid for at the contract unit price per lump sum for EROSION CONTROL. No other compensation shall be allowed for this work. Failure of the contractor to comply with this specification will result in progress payments being withheld for the project until the terms of this specification are met to the satisfaction of the Engineer.

302.00 FLOWABLE FILL

Backfill under existing pavement, where specified on the plans, shall be with flowable fill which meets the IDOT standards of Controlled Low Strength Material (CLSM), Mixture 1 or Mixture 3. Where Flowable Fill is used, granular trench backfill shall be installed and compacted to a minimum height of 18" above any water or sewer main, fitting, corporation, or service line. The flowable fill shall not come into contact with any component of the water or sewer system.

Basis of Payment:

This work will be paid for at the contract unit price per cubic yard for FLOWABLE FILL as measured or agreed upon.

311.00 CITY PROVIDED STONE

The City of Joliet will be responsible for furnishing all stone sub-base material required for the roadway, sidewalks, and driveway aprons. The contractor will be responsible for placing and compacting the stone to a thickness of 3 inches underneath all new sidewalk and driveway aprons. The cost of placing and compacting the stone will not be paid for separately, but shall be considered incidental to the new sidewalk and driveway aprons.

351.00 AGGREGATE BASE COURSE

This work shall be performed in accordance with Section 351 of the Standard Specifications with the exception that the first layer be constructed immediately following the roadway excavation. The Contractor shall place the first layer of base course before the end of each work day so that the limits of the excavation are accessible to vehicular traffic. The first layer of base course shall be a minimum thickness of three inches and the width shall extend to the limits of the roadway as shown in the plans. Aggregate ramps shall be constructed at the limits of the excavation at the end of each work day to allow vehicular access to the roadway. All material used in providing access shall be utilized in the final base course and shall be considered incidental to this item.

Upon completion of the first layer of base course and after the installation of the curb and gutter, a proof roll shall be performed to locate any unsuitable sub-grade material that will require removal. This proof roll shall be accomplished in the presence of the engineer and shall be done with a loaded semi-truck.

Upon completion of the final lift of base course and prior to the placement of the hot mix asphalt pavement, the contractor shall perform another proof roll.

Upon completion of the final lift of base course, an aggregate ramp shall be constructed at each end of the project and cross streets. This aggregate ramp shall consist of material equal to in type (A or B) of the aggregate base course and shall be constructed the entire width of the street. The length of the ramp shall be 12 inches for every 2 inches of drop-off in elevation between the existing roadway surface and the aggregate base course. On a typical construction project, the length of the aggregate ramp shall be approximately twenty-four feet (24').

A perpendicular saw cut across the existing asphalt roadway pavement will be performed as necessary by the contractor to provide a clean, even joint prior to the installation of the asphalt binder course (to be performed by a separate contract if the project does not include this item of work). The Contractor shall saw cut the pavement and remove the aggregate ramp within 24 hours after notice is given by the engineer.

Method of Measurement:

Aggregate used for base course will be measured for payment in square yards of the thickness specified. Material used in providing roadway access will not be measured separately, but shall be considered incidental to the plan quantity for Aggregate Base Course, of the type specified. Material used in constructing the aggregate ramp will not be measured separately but shall be considered incidental to this item. Also, no additional compensation will be made for the performance of the two (2) proof roles.

Method of Payment:

This work will be paid for at the contract unit price per square yard for AGGREGATE BASE COURSE, TY A or AGGREGATE BASE COURSE, TY B. The saw cutting of asphalt will be paid for separately per the contract unit price per linear feet for SAW CUT ASPHALT SURFACE. No other compensation will be allowed for this work.

351.10 AGGREGATE BASE COURSE, TYPE B, VARIABLE THICKNESS

This work shall consist of providing material and all labor and equipment necessary to place and compact Aggregate Base Course, Type B, to the thickness and at the locations as shown on the plans or as directed by the Engineer. Aggregate shall be placed to a depth of 3" beneath curb and extended 6" beyond back of curb and to within 3-1/4" to top of curb flag.

Method of Measurement:

This work shall be measured per square yard, including area from edge of sawcut pavement to a point 6" beyond back of curb and then along length of curb.

Basis of Payment:

The work will be paid for at the contract unit price per square yard for AGGREGATE BASE COURSE TYPE B PLACEMENT, VARIABLE THICKNESS.

351.20 AGGREGATE BASE COURSE, TYPE B, SPECIAL, (2" and less)

This work shall consist of providing material and all labor and equipment necessary to install the aggregate base course, Type B at varying thickness, of two inches and less, over the area where the existing aggregate base is to remain, in order to adjust the base course to the proposed design elevations (minus bituminous concrete thickness). This work is to be performed according to Article 351 of the Standard Specifications.

Basis of Payment:

This work shall be paid for at the contract unit price per square yard for AGGREGATE BASE COURSE, TYPE B, SPECIAL (2" and less), as measured in place.

356.00 REPAIR AND PREPARATION OF BASE COURSE

This work shall consist of repairing the newly placed Aggregate Base Course and preparing the Aggregate Base for Bituminous Binder Course a second time. The initial shaping and compacting of the Aggregate Base shall be included with the Aggregate Base Pay Item, unless specified otherwise in the construction documents.

This work shall be performed as directed by the Engineer in accordance with Section 358 of the "Standard Specifications" with the exception that the contractor will be required to perform this work within three days prior to the re-scheduled placement of the bituminous binder course as designated by the Engineer. The City of Joliet Resident Engineer shall notify the contractor of the scheduled date of bituminous placement a minimum of 5 working days before this work shall be performed.

Method of Measurement:

This work shall be measured per square yard, including Aggregate Base Surface area between the edges of pavements multiplied by the length of roadway.

Basis of Payment:

This work shall be paid for at the contract unit price per square yard for REPAIR AND PREPARATION OF BASE COURSE and shall include reshaping and compacting existing Aggregate Base or furnished Aggregate Base material. The furnishing of additional Aggregate Material shall be paid for by the ton as AGGREGATE BASE REPAIR.

358.00 PREPARATION OF BASE (ALLEYS)

This work shall conform to Section 358 of the Standard Specifications for Road and Bridge Construction. In addition, this work shall consist of all equipment and labor necessary to remove existing material in the alley equivalent with the depth of new asphalt being placed.

Basis of Payment:

This work shall be paid for at the Contract Unit Price per square yard for PREPARATION OF BASE.

358.10 STREETSCAPE BRICK REMOVE AND REPLACE

This item shall include all materials, equipment, and labor, required to remove/and or salvage, and replace the existing brick pavers and concrete base, located within construction limits, as indicated on the plans.

The brick pavers shall be repressed chamfered pavers, whole wire cut units, with ¼" chamfer edge, fabricated from clay or shale and fired, free from chips, cracks, and other surface imperfections. Pavers shall be K&W RED, 4" x 8" x 2 ¼". Pavers shall conform to the physical requirements for pedestrian and light traffic paving brick, ASTM C902-84, Class SX, Type 1, Application PX.

The brick shall be laid on a 1" sand setting bed over a 4" Portland Cement Concrete base, over a 4" compacted aggregate subbase type C-3, with sand sprinkled over the surface and worked into the joints with mechanical plate vibrator. This setting base shall be considered incidental to this work.

Where the brick pavers are to be constructed adjacent to a landscaped or sodded area, there shall be a six (6") inch concrete border constructed to secure the brick pavers. This six (6") inch concrete border shall be considered incidental to the installation of the brick pavers.

Basis of Payment

This work shall be paid for at the contract unit price per square foot for STREETSCAPE BRICK REMOVE AND REPLACE, measured in place.

403.00 APPLICATION OF BITUMINOUS MATERIAL (PRIME COAT)

Shields, covers or other suitable equipment shall be provided by the Contractor to protect the motoring public, adjoining pavement, curbs, or structures during the application of prime coat. The Contractor will be required to present a weight ticket for the truckload prior to applying the prime coat. After application the truck shall then be weighed again in order to determine the net weight of prime coat that has been placed. Both tickets shall be stamped by the certified weightmaster.

One FRESH OIL sign shall be installed in advance of the area to be primed and shall be maintained until the prime coat is adequately cured.

Basis of Payment:

This work includes all labor, equipment and materials required to perform the work as described above. This work shall be paid for at the contract unit price per gallon for BITUMINOUS MATERIAL (PRIME COAT).

406.10 SAWCUT ASPHALT SURFACE

This work consists of the full depth sawing of the existing bituminous concrete pavement, existing seal coat surface or asphalt driveway pavement with a sawing machine at locations shown on the plans or as designated by the Engineer.

The Contractor shall machine saw a perpendicular clean joint between the portion of bituminous concrete surface to be removed and that to be left in place, to prevent damage to the remaining surface. If additional surface is damaged or removed due to negligence on the part of the Contractor, the additional work will not be measured for payment and shall be done at the Contractor's expense.

Basis of Payment:

This work includes all labor, equipment and materials required to saw cut as described above. This work will be paid for at the contract unit price per linear foot for SAWCUT ASPHALT SURFACE.

406.20 SAWCUT CONCRETE SURFACE

The Contractor shall saw to a full depth, a joint between the portion of the sidewalk, combination curb and gutter or concrete driveway pavement removed and that left in place unless otherwise directed by the Engineer. The sawing shall be accomplished with a concrete sawing machine to prevent the surface from spalling when the material is broken out. This work shall be done in such a manner that a straight joint will be served.

No additional compensation will be allowed because of variations from the assumed thickness or from the thickness shown on the plans, or for variations in the amount of reinforcement.

If additional surface is damaged or removed due to any action on the part of the Contractor, the additional work to saw cut, remove and replace that damaged portion will not be measured for payment. This loss shall be borne by the Contractor.

Basis of Payment:

This work includes all labor, equipment, and materials required to saw cut as described above. This work will be paid for at the contract unit price per linear foot for SAWCUT CONCRETE SURFACE.

406.30 ASPHALT/CONCRETE SAWING

This work shall include all labor and materials necessary to sawcut asphalt or concrete pavement, concrete curb & gutter, concrete sidewalk, and concrete driveway pavement for the installation of storm sewers and other related items.

Basis of Payment:

This work shall be paid for at the contract unit price per linear foot for ASPHALT/CONCRETE SAWING as measured in the field.

406.40 TEMPORARY DRIVEWAY ACCESS

This work shall include all labor and materials necessary to construct and remove temporary aggregate access ramps into each driveway with access off of an alley after grading operations are complete. These ramps shall be constructed and completed to the satisfaction of the Engineer and shall remain in place until asphalt paving is to take place. The Contractor shall be responsible at his/her cost to maintain these aggregate ramps until permanent alley pavement and driveway approaches are in place.

Basis of Payment:

This work shall be paid for at the contract unit price per ton for TEMPORARY DRIVEWAY ACCESS.

406.50 SURFACE TESTS

Surface tests shall be made in accordance with the applicable portions of Article 406.11 of the Standard Specifications and as specified herein. The Contractor shall furnish and have available at the paving machine a standard ten-foot straightedge equipped with a level and another ten-foot straightedge as described below. The Engineer will straightedge the surface course.

The ten-foot straightedge shall consist of cast aluminum I- Beam with wheels fixed at each end, the distance between axles shall be ten feet. Three adjustable bolts shall be mounted in the I-Beam equally spaced between the wheels such that they can be adjusted to scratch the surface indicating variations in the pavement when pushed along the wheel lanes. A handle shall be mounted on the I-Beam so one man can operate it in an erect position.

The cost of furnishing the straightedges shall not be paid for separately but shall be considered incidental to the contract.

407.00 HOT MIX ASPHALT REMOVAL AND REPLACEMENT

This item includes the labor, equipment and materials necessary for the removal of the existing roadway and replacement with Hot Mix Asphalt Surface Course, IL 9.5, Mix C, N 50, of the thickness specified and as shown on the plans. This work shall be performed in accordance with Sections 442 and 406 of the "Standard Specifications".

Basis of Payment:

This work will be paid for at the contract unit price per square yard for HOT MIX ASPHALT REMOVAL AND REPLACEMENT, of the thickness specified, as measured in place.

407.10 HOT MIX ASPHALT DRIVEWAY PAVEMENT

This work includes the labor, materials and equipment necessary for placing Hot Mix Asphalt Surface Course, IL 9.5, Mix C, N50, of the compacted thickness specified, for driveway pavement as shown on the plans or as directed by the Engineer. This work shall be performed in accordance with Section 406 of the "Standard Specifications".

The driveway will be prepared for Hot Mix Asphalt material by placing a sub-base granular material, Type C of the thickness specified on the plans and/or as directed by the engineer. The sub-base granular material, Type C shall be placed on undisturbed or compacted ground in the driveway area and shall have a minimum thickness of 3 inches. Existing hot mix asphalt pavement will be sawcut to provide a clean edge to match the proposed pavement.

Saw cutting will be paid for separately. The sub-base granular material, Type C placement and compaction will be paid for separately.

The driveway pavement will be rolled or compacted with a mechanical tamper to insure proper compaction and a smooth surface of the bituminous surface.

Basis of Payment:

This work will be paid for at the contract unit price per square yard for HOT MIX ASPHALT DRIVEWAY PAVEMENT, of the thickness specified, as measured in place.

423.00 PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT

This work includes furnishing all materials, equipment and labor necessary to install P.C.C. Driveway Pavement in accordance with Section 423 of the "Standard Specifications."

All driveways shall be six inches (6") in thickness (except for those that bear loads greater than passenger vehicles, which shall be 8" thickness) and reinforced by 6" x 6" #10/#10 welded wire fabric. All driveways shall be placed on a three inch (3") thick sub- base of stone. The stone sub-base shall be provided by the City unless the contract includes the pay item SUB-BASE GRANULAR MATERIAL, TYPE C, 3", in which case the stone shall be paid for separately. Placement and compaction of the stone shall be done by the Contractor.

All driveways shall slope uniformly from the front face of the sidewalk to the back face of the depressed curb. Pavement width shall be as shown on the plans. Expansion material shall be put at both ends of the approach.

Basis of Payment:

This work will be paid for at the contract unit price per square yard for PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, of the thickness specified, measured in place.

424.00 PORTLAND CEMENT CONCRETE SIDEWALK

This work includes furnishing all material, equipment and labor necessary to install sidewalk in accordance with Section 424 of the "Standard Specifications." All sidewalks except driveway sidewalks shall be five inches (5") thick. All residential driveway sidewalks shall be six inches (6") thick and reinforced with 6" x 6" #10/#10 welded wire fabric. All sidewalks through alley and commercial aprons shall be eight inches (8”) thick with 6”x6” #10/ #10 welded wire fabric. The additional concrete and fabric shall be considered incidental to the cost of P.C.C. sidewalk. All sidewalks shall be placed on a three inch (3") thick aggregate sub-base. The aggregate sub-base shall be provided by the City, unless the contract includes the pay item SUB-BASE GRANULAR MATERIAL, TYPE C, 3", in which case the stone aggregate shall be paid for separately. The stone aggregate sub-base shall be placed and compacted by the Contractor.

All sidewalks shall be installed with a 1/4 inch per foot slope towards the street. Sidewalk elevations shall be set so as to maintain a slope of 1/2 inch per foot between the sidewalk and the top of curb wherever possible. All grades shall be set or checked by the Contractor prior to construction. Ramps for the handicapped shall be installed at all intersections as per State Standard No. 424001-07, 424006-01, 424011-01, 424016-01, 424021-02 & 424026-01. A 24" wide strip of **re-usable cast iron plate detectable warnings- truncated domes with contrasting color (natural patina unfinished)- shall be installed across the entire depression of the ramp (longitudinally). The cast iron plates shall be free from warps, and have vent holes or anchors.**
Under no circumstance shall the Contractor stamp their name, phone number, or any other information in newly constructed concrete work.

Basis of Payment:

The work will be paid for at the contract unit price per square foot for PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH, measured in place.

Payment for the Detectable Warnings shall be paid for at the contract unit price per square foot for DETECTABLE WARNINGS as measured in place.

Earth Excavation shall be paid for as PARKWAY EXCAVATION (Joliet Special Provision No. 18).

424.10 SIDEWALK REMOVAL AND REPLACEMENT

This work includes furnishing all materials, equipment and labor necessary to remove and install P.C. Concrete Sidewalk in accordance with Section 424 and Section 440 of the "Standard Specifications."

All sidewalks except driveway sidewalks shall be five inches (5") thick. All residential driveway sidewalks shall be six inches (6") thick and reinforced with 6" X 6" #10/ #10 welded wire fabric. All sidewalks through alley and commercial aprons shall be eight inches (8") thick with 6" X 6" #10/ #10 welded wire fabric. The additional concrete and fabric shall be considered incidental to the cost of this item. All sidewalks shall be placed on a three inch (3") thick sub-base aggregate material meeting Gradation CA-6, which shall be considered incidental to this item.

All sidewalks shall be installed with a 1/4 inch per foot slope toward the street. Sidewalk elevations shall be set so as to maintain a slope of 1/2 inch per foot between the sidewalk and to top of the curb whenever possible. Ramps for the handicapped shall be installed at all intersections as per State Standards No. 424001-07, 424006-01, 424011-01, 424016-01, 424021-02 & 424026-01. A 24" wide strip of **re-usable cast iron plate detectable warnings- truncated domes with contrasting color (natural patina unfinished)- shall be installed across the entire depression of the ramp (longitudinally). The cast iron plates shall be free from warps, and have vent holes or anchors.**

Under no circumstance shall the Contractor stamp their name, phone number, or any other information in newly constructed concrete work.

Method of Measurement

This work will be measured for payment in place and the area computed in square feet.

Detectable warning will be measured for payment in place. The Detectable Warnings shall be installed across the length of the handicap accessible ramp and 24" wide from the back of curb, **only**. No other compensation will be allowed for this work.

Basis of Payment:

This work shall be paid for at the contract unit price per square foot for SIDEWALK REMOVAL AND REPLACEMENT, measured in place.

Payment for the Detectable Warnings shall be paid for at the contract unit price per square foot for DETECTABLE WARNINGS as measure in place.

424.20 P.C.C. SIDEWALK STEP CONSTRUCTION

This work includes furnishing all labor, material and equipment necessary to construct concrete steps at the locations shown on the plans and in conjunction with the special provision for Portland Cement Concrete Sidewalk. These steps shall be constructed with a riser height between 6" and 8" and a run length between 10" and 12".

Basis of Payment:

This work shall be paid for at the contract unit price per square foot, measured as surface area both horizontal and vertical, on step risers and treads, and up to two feet leading to and away from the steps, for P.C.C. SIDEWALK STEP CONSTRUCTION. Concrete placed more than two feet from the first or last step, shall be paid for as PORTLAND CEMENT CONCRETE SIDEWALK.

440.00 DRIVEWAY PAVEMENT REMOVAL AND REPLACEMENT

This work includes the removal of existing concrete driveway pavement in accordance with Section 440 of the "Standard Specifications." Sawcutting the existing concrete surface will be paid for separately. This work also includes furnishing all materials, equipment and labor necessary to install P.C.C. Driveway Pavement in accordance with Section 423 of the "Standard Specifications."

All driveways shall be six inches (6") in thickness and reinforced by 6" x 6" #10/#10 welded wire fabric. All driveways shall be placed on a three inch (3") thick sub-base of coarse aggregate material gradation CA-6, which shall be considered incidental to this item.

Basis of Payment:

This work will be paid for at the contract unit price per square yard for DRIVEWAY PAVEMENT REMOVAL AND REPLACEMENT, measured in place, and which price shall include all labor, materials and equipment necessary to complete this work.

440.10 DRIVEWAY PAVEMENT REMOVAL

This work includes the removal of existing driveway pavement in accordance with Section 440 of the “Standard Specifications”, with the addition of the following: the removal of existing asphalt driveway surfaces shall be paid with this item. Saw cutting the existing concrete, or asphalt surface will be paid for separately.

Basis of Payment:

This work will be paid for at the contract unit price per square yard for DRIVEWAY PAVEMENT REMOVAL, measured in place, and which price shall include all labor, material, and equipment necessary to complete this work.

440.20 HOT MIX ASPHALT REMOVAL AREA (SPECIAL)

This work shall be performed in accordance with Section 440 and 442 of the "Standard Specifications".

This item includes the labor, equipment and materials necessary for the removal of the existing roadway or temporary patch and the adjustment of aggregate base elevations for paving.

Basis of Payment:

This work will be paid for at the contract unit price per square yard for HOT MIX ASPHALT REMOVAL AREA (SPECIAL), as measured in place.

440.30 HOT MIX ASPHALT SURFACE REMOVAL–VARIABLE DEPTH

This work shall conform to Section 440 of the Standard Specifications for Road and Bridge Construction with the following exceptions:

The machine shall be set up to remove 1-1/2 inch of pavement along the curb line with ¼ inch per foot slope towards the centerline. The width of Hot Mix Asphalt Surface Removal shall be six feet (6') measured from the curb line except for those streets noted on the Detail Sheet.

Basis of Payment:

This work shall be paid for at the contract unit price per square yard for Hot Mix Asphalt Surface Removal- Variable Depth. No additional compensation will be granted for any additional hand work required adjacent to the curb or around manhole structures.

440.40 LATE SIDEWALK REMOVAL

This item shall include all materials, equipment, and labor, required to excavate and dispose of, the existing sidewalk necessary to construct proposed sidewalk, identified after the curb has been installed and backfilled.

Once the proposed curb has been installed, additional sidewalk identified for removal during the curb backfilling operation, shall **not** be considered late sidewalk removal. A minimum of one excavation pass, after curb installation, shall be considered incidental to curb installation, and sidewalk removed shall be paid for as standard sidewalk removal.

On jobs where the City provides trucks and stone, sidewalk removal shall be considered incidental to EQUIPMENT RENTAL. Only sidewalk identified and removed after EQUIPMENT RENTAL has ended shall be considered for LATE SIDEWALK REMOVAL. The hauling and disposal of this sidewalk shall be the Contractor's responsibility and shall be considered incidental to LATE SIDEWALK REMOVAL.

Basis of Payment:

This work will be paid for at the contract unit price per square foot for LATE SIDEWALK REMOVAL.

440.50 SIDEWALK TILES TO BE SALVAGED

This item shall include all materials, equipment, and labor, required to saw cut around, and remove, a 'brick' of concrete sidewalk containing existing sidewalk tiles within construction limits.

These salvaged tiles shall be transported to the Public Works yard at 921 E. Washington Street.

This work shall be paid for at the contract unit price each, for SIDEWALK TILES TO BE SALVAGED.

442.00 FULL DEPTH PATCHING

This work shall be done in accordance with Article 442 (Class D Patches) of the Standard Specifications with the following inclusions:

The depth of patch shall include not less than ten (10") inches of compacted Aggregate Base Course meeting CA-6 specifications and six (6") inches of compacted Hot Mix Asphalt Concrete Binder Course compacted in two (2) separate lifts. The locations for FULL DEPTH PATCHING are as indicated on the plans as directed by the Engineer.

Basis of Payment:

This work shall be paid for at the contract unit price per square yard for FULL DEPTH PATCHING, which shall include sawing, removal and disposal of existing materials and furnishing materials as specified herein.

443.00 AREA REFLECTIVE CRACK CONTROL TREATMENT (SYSTEM A)

This work shall conform to Section 443 of the Standard Specifications for Road and Bridge Construction with the following exceptions:

The Contractor shall use System A. The Area Reflective Crack Control Treatment shall be used over the full width of the road and it shall be placed in wide rolls approximately equal to one-half the full width of the road. No strip treatment will be allowed.

The fabric shall be ordered to the width of roll required. No fabric roll shall be cut by the Contractor to adjust the roll width.

All fabric panels shall be lapped a minimum of 2 inch in each direction. Additional asphalt binder shall be added by hand application where there is not a sufficient amount available to create a 100 percent adherence to the fabric below.

The fabric shall be placed with a machine capable of applying tension to the fabric and downward pressure to the fabric with broom bristles so as to insure complete contact with the road surface and to avoid wrinkles.

Area Reflective Crack Control Treatment shall be placed after the leveling binder and widening (if applicable) are constructed. Unless directed by the engineer, only the amount of reinforcing fabric for the Area Reflective Crack Control Treatment which can be overlaid by days end shall be placed that day.

Failure of the Contractor to meet the above specifications shall result in immediate suspension of the work by the engineer until the problem is resolved.

Basis of Payment:

This work shall be paid for at the contract unit price per square yard for AREA REFLECTIVE CRACK CONTROL TREATMENT (SYSTEM A).

522.00 MODULAR CONCRETE BLOCK RETAINING WALL

This work shall include furnishing all materials, equipment, and labor necessary to install Modular concrete Block Retaining Walls in accordance with the manufacturer specifications. Keystone Standard Unit (Grey) or Rockwood- Classic 8", or approved equal interlocking blocks shall be used for construction.

Basis of Payment

This work shall be paid for at the contract unit price per square foot of wall face, including buried portions, for MODULAR CONCRETE BLOCK RETAINING WALL. This work shall also include the cost of the granular backfill and leveling pad.

522.10 TIMBER RETAINING WALL

This item shall consist of all materials, labor and equipment necessary for the excavation and installation of timber retaining wall in alleys/streets where grade differential requires or as directed by the Engineer. For estimating purpose it shall be assumed that landscape timbers be constructed in heights up to two (2') feet in the vertical direction.

Basis of Payment:

This work shall be paid for at the contract unit price per square foot for TIMBER RETAINING WALL, which price includes the removal and disposal of excavated material and constructing landscape timbers retaining wall. The price shall include any backfilling and landscape restoration required as a result of the TIMBER RETAINING WALL.

522.20 TIMBER RETAINING WALL TO BE REMOVED AND RE-ERECTED

This work shall consist of the removal and re-erection of timber retaining walls and shall include all labor, materials and equipment necessary to complete this work.

The timber segments of the retaining wall shall be removed so that all segments considered suitable by the Engineer for future use will be salvaged. The location and manner of storage of salvaged material shall be as directed by the Engineer. Any of the material having salvage value which has been damaged by the Contractor, shall be replaced by the Contractor, as his/her expense, with new material of the same kind. The timber retaining wall segments shall be reconstructed, so as to provide the stability and appearance of its prior condition.

This work shall also consist of any excavation and backfilling required to replace the wall to its prior condition.

Basis of Payment:

This work shall be paid for at the contract unit price per square foot for TIMBER RETAINING WALL TO BE REMOVED AND RE-ERECTED, measured in place.

550.00 STORM SEWERS

This work shall consist of constructing storm sewers of the required inside diameter with the necessary fittings at the locations shown on the plans and constructed in accordance with Section 550 of the Standard Specifications.

The storm sewer material shall be Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe meeting ASTM specification C-76. The pipe joint shall meet ASTM Specifications C-361 for reinforced concrete low head pressure pipe and shall either be confined "O-Ring" or "Tylok" for the gasket material.

Basis of Payment:

This work will be paid for at the contract unit price per linear foot for STORM SEWERS of the type and size specified, measured in place. This price shall include the cost of all pipe fittings required. The cost of connecting proposed storm sewers to existing storm sewers at existing drainage structures shall be considered as incidental to the cost of the proposed storm sewers. No additional compensation will be allowed.

550.10 DUCTILE IRON PIPE FOR STORM SEWER

Ductile iron pipe for storm sewers shall conform to ANSI/AWWA C151/A21.51-86. Class, thickness designation, casting, marking, testing, etc., shall be as specified on the plans or special provisions, in accordance with applicable ANSI or AWWA designations. Unless otherwise specified, all ductile iron pipes shall be thickness Class 52. Fittings shall be ductile iron compact fittings conforming to ANSI/AWWA C153/A21.53-88 and rubber gaskets shall conform to ANSI/AWWA C111/A21.11-90.

Construction of ductile iron pipe storm sewers shall be done in accordance with Section 550 of the Standard Specifications.

Basis of Payment:

This work will be paid for at the contract unit price per linear foot for STORM SEWERS, DUCTILE IRON PIPE, of the type and size specified, measured in place. This price shall include the cost of all pipe fittings required. The cost of connecting proposed storm sewers to existing storm sewers at existing drainage structures shall be considered as incidental to the cost of the proposed storm sewers. No additional compensation will be allowed.

550.30 WIDTH OF EXCAVATION FOR STORM SEWER

Unless otherwise allowed in writing by the Engineer, the maximum width of excavation for storm sewer construction shall be as follows:

DEPTH TO INVERT	WIDTH MAXIMUM
5.0' or Less	9" + O.D. + 9"
Greater than 5.0'	18" + O.D. + 18"

Any excavation beyond these limits is done by the Contractor solely for his convenience and at his expense.

Excavation in rock shall conform to Standard Specification Section 502. Rock shall be over-dug to provide 6 inch bedding for the storm sewer.

550.40 PLUG PIPE

Sewer pipes to be abandoned as shown on shall be plugged with mechanical wing plugs of the specified diameter and topped with concrete plug. Brick and mortar plugs will not be acceptable in lieu of concrete. The Contractor shall install plugs in the sewers at locations shown on the Plans or where directed by the Engineer. All work shall be performed by competent personnel. The minimum install depth of the mechanical plug shall be two pipe diameters up to 24 inches. The minimum thickness of the concrete to the plug shall be two pipe diameters up to 24 inches. The Contractor shall submit data sheets for mechanical wing plugs for use on this project.

Basis of Payment:
This work will be paid for at the Contract unit price per each for **PLUG PIPE**, which price shall include the cost of all labor, materials and equipment necessary to complete the work.

551.00 STORM SEWER REMOVAL

This work includes furnishing all materials, equipment and labor necessary to remove storm sewer in accordance with Section 551 of the "Standard Specifications".

This work shall also include plugging the existing drainage structure which shall remain in place after this storm sewer has been removed from it. The existing remaining drainage structure shall be plugged with brick and mortar to the satisfaction of the Engineer and this work shall be considered incidental to the storm sewer removal.

Basis of Payment:

This work will be paid for at the contract unit price per linear foot for STORM SEWER REMOVAL, of the diameter specified, measured as removed.

551.10 REMOVE AND RELAY STORM SEWERS

This work shall be performed in accordance with Section 551 of the "Standard Specifications".

Upon removal of the existing storm sewer, the trench shall be regraded to the proposed line and grade as shown in the plans. All pipe considered suitable for relaying by the Engineer shall then be installed. All new materials, except those materials having salvage value and which were damaged by the Contractor, will be paid for separately.

Construction requirements shall conform to Section 550 of the "Standard Specifications."

Basis of Payment:

This work will be paid for at the contract unit price per linear foot for REMOVE AND RELAY STORM SEWERS, of the diameter specified, measured in place. This price shall include bedding material, preformed flexible gaskets, and all excavation except excavation in rock.

The furnishing of all new pipe, except as noted above, excavation in rock, and trench backfill will be measured and paid for separately.

560.00 SANITARY SEWER

The work of this Pay Item consists of sewer pipe complete in place, including sawcutting, and removal and disposal of existing pavements; excavation; removal and disposal of waste excavated materials; removal and disposal of existing pipe and manholes when sewer is installed in-situ; protection, replacement, or repair of utilities; trench dewatering, including erosion and sedimentation control methods and devices to provide protection to environment from all pumping operations; temporary pumping of sewage around work area if necessary to complete work; polyethylene wrapping of DI pipe; bracing; bedding and covering of pipe; trench backfilling with excavated materials; infiltration testing; finish grading; but not including backfilling with granular trench backfill materials.

Materials:

i. For depths up to 18 feet, provide SDR 26 PVC plastic sewer pipe.
    1. 4-inch through 15-inch: Comply with ASTM D3034, SDR 26. Use elastomeric gasket type (ASTM F477 and ASTM D3212). Gaskets for fittings and joints: provide minimum cross-sectional area of 0.20 square inches (ASTM F477).
    2. 18-inch through 36-inch: Comply with ASTM F679, SDR 26. Use integral bell gasketed type joints with elastomeric gaskets (ASTM F477 or ASTM D3212).
    3. Branch fittings: factory fabricated type with attached main line coupling. SDR 26. Risers and service pipe and fittings: SDR 26, solid wall type (ASTM D3034).

ii. For depths greater than 18 feet and less than 25 feet, provide SDR 21 PVC plastic sewer pipe. Comply with ASTM D2241, SDR 26. Use push-on bell and spigot type, or Certa-Lok spline-lock system, with rubber ring seal gasket (ASTM D3139). Branch fittings: Use factory fabricated type with attached main line coupling, with same rating as pipe. Risers and service pipe and fittings: ASTM D2241, 160 psi pressure pipe, DR 26. Adapters: use adapters specifically made for purpose of changing from PVC pressure to PVC gravity pipe. Harco or approved equal.

iii. For depths greater than 25 feet, provide ductile iron pipe. Comply with ANSI A21.51, thickness Class 50, with joints complying with ANSI A21.11. Use cement lining complying with ANSI A21.4, standard thickness. Joints complying with ANSI A21.10. Use Corten bolts and nuts. Use mechanical restrained joint plugs and caps.

iv. For water main crossings, provide pressure rated PVC plastic or ductile iron pipe.
    1. PVC plastic pressure pipe: Use Type I, Grade 1, PVC complying with ASTM D1784. Comply with ASTM D2241 for 160 psi pressure rated pipe, DR 26. Use push-on bell and spigot type, or Certa-Lok spline-lock system, with rubber ring seal gasket (ASTM D3139).
        a. Branch fittings: Use factory fabricated type with attached main line coupling, with same rating as pipe.
        b. Risers and service pipe and fittings: ASTM D2241, 160 psi pressure pipe, DR 26.
        c. Adapters: use adapters specifically made for purpose of changing from PVC pressure to PVC gravity pipe. Harco or approved equal.
    2. Ductile iron pipe:
        a. Comply with ANSI A21.51, thickness Class 50, with joints complying with ANSI A21.11.
        b. Use cement lining complying with ANSI A21.4, standard thickness.
        c. Joints complying with ANSI A21.10.
        d. Use Corten bolts and nuts.
        e. Use mechanical restrained joint plugs and caps.

v. For sewers greater than 15-inch, use ADS SaniTite HP pipe with City approval. Comply with ASTM D2412, pipe stiffness of 46 psi. Use integral bell and spigot type with rubber ring seal gasket meeting ASTM F477. Polypropylene compound for pipe and fitting production shall comply with ASTM FR2736. Fittings conform to ASTM F2736.

vi. For sewers greater than 24-inch diameter, use reinforced concrete pipe (RCP) with City approval. Comply with ASTM C76, Class V. Use rubber gasket with steel bell and spigots (ASTM C361 and AWWA 302), HK Hamilton Kent of Canada Limited only. No lifting holes allowed in pipe.

vii. For large diameter sewers, use fiberglass reinforced polyester pipe (FRP) and reinforced polymer mortar pipe (RPMP) with City approval. Resin system shall be polyester, with Grade E-glass filaments and sand shall be 98 percent silica with maximum moisture content of 0.20 percent. Comply with ASTM D3262 with minimum 46 psi stiffness when tested in accordance with ASTM D2412. Joints shall be fiberglass sleeve couplings, bell and spigot, elastomeric gaskets complying with ASTM D4161. Acceptable manufacturers are Hobas Pipe USA, Inc., Bond strap RPMP by Ameron, Future Pipe, no substitutions.

Removal and replacement of material, or unsuitable material, to a depth of one foot below the bottom of the pipe barrel is considered incidental to construction and no addition to the contract will be allowed. Over excavation, and removal and replacement of unsuitable materials with CA 1 greater than one foot below the bottom of the pipe barrel will be paid for in a separate Pay Item.

The work will be measured in lineal feet along the centerline of the sewer between the centerline of manholes, or from centerline of manhole to end of tunnel.

Basis of Payment:
The work will be paid for at the Contract Unit Price per lineal foot for SANITARY SEWER, of the pipe sizes and materials, regardless of depth.

560.10 FORCE MAIN

This item shall include all materials, equipment, and labor required to install high density polyethylene (HDPE) force main pipe, including sawcutting, and removal and disposal of existing pavements; excavation; removal and disposal of waste excavated materials; protection, replacement, or repair of utilities; trench dewatering, including erosion and sedimentation control methods and devices to provide protection to environment from all pumping operations; installation of pipe; bracing; bedding and covering of pipe; locator wire and marker posts at 500 foot intervals; trench backfilling with and compaction of excavated materials; testing; disinfection, finish grading; but not including backfilling with granular backfill materials.

Force mains shall be constructed of high density polyethylene extruded pipe (HDPE) complying with ASTM F714 for sewer pipe; Type III, Class C, Category 5, P34 material as per ASTM D3350; minimum cell classification PE345464C; minimum thickness ratio DR11. Pipe shall be black or green striped pipe with cell classification and DR rating stamped on the pipe.

Tracer wire shall be cable manufactured specifically for utility location/electronic tracing consisting of a composite of a copper conductor; corrosion resistant jackets/coverings; internal wrappings with synthetic materials; and an outer plastic jacket. Marker post shall be Nordic Fiberglass, Inc. Warren MN, Model Number P-50-MG-P-52, or equal. Label shall read "UNDERGROUND BURIED SANITARY FORCE MAIN IN AREA – CITY OF JOLIET".

Removal and replacement of material, including unsuitable material, to a depth of one foot below the bottom of the pipe barrel is considered incidental to construction and no addition to the contract will be allowed. 4. Over-excavation, and removal and replacement of unsuitable materials with CA 1 greater than one foot below the bottom of the pipe barrel will be paid for in a separate Pay Item.

Basis of Payment:

Force main shall be listed in the bid items by size and type, which shall be measured in lineal feet, along the center without deduction for valves and fittings. Embedment up to one foot above the pipe shall be included in the cost per lineal foot of force main. All fittings indicated on plans shall be included in the cost per lineal foot of force main. Additional fittings not anticipated shall be paid for as miscellaneous fittings measured in pounds. When the force main terminates in a valve or other main connection, measurement shall be from the center of the valve or main connection. This item shall include tracer wire and marker posts. This item shall be paid for at the contract unit price per lineal foot for FORCE MAIN of the type and size specified.

560.20 SANITARY SEWER REPLACEMENT

This work shall consist of the removal and replacement of portions of sanitary sewer pipe and all necessary removal and restoration of existing surface and utilities at locations show on the Plans. Work and materials incidental to SANITARY SEWER REPLACEMENT may include, but are not limited to: excavation, shoring, sheeting, bracing, sewer flow control, dewatering, all pipes, fittings, adapters, coupling, pipe bedding, temporary aggregate, and traffic control. Non-shear couplings are required for connecting to existing sewer pipe. Surface restoration items, (except for topsoil and seeding) shall be measured and paid for separately.

The existing surface area of each work location shall be recorded in electronic media format prior to any excavation as described in PRE-CONSTRUCTION SURFACE VIDEO RECORDING, unless otherwise directed by the Engineer. Site preparation including surface removal shall be as required for each individual point repair. The Contractor shall verify prior to construction:

- Pipe size and type.
- Direction of flow and location of the repair using the TV reports in Appendix A.

Specifically designed adaptor couplings shall be used for the connection if dissimilar pipe materials are connected.

Materials:

Pipes installed during point repairs shall conform to the following requirements and shall be free of visible cracks, holes, foreign material, blisters, or other deleterious faults.

PVC Sewer Pipe and Fittings for all Point Repairs:

1. 4-inch through 15- inch diameter and for depths up to 18 feet:
   a. ASTM D3034 SDR 26
2. Risers and service pipes are to match sewer main.
3. Fittings such as saddles, elbows, tees, and wyes shall be factory produced and have joint design compatible with adjacent pipe.
4. Provide approved adapters for transitions to other types of pipe materials.
5. Joints/Rubber Gasket: Conform to ASTM F477. Integral bell joint conforming to ASTM D3212, sealed by rubber gasket so assembly remains watertight under conditions of service including movements resulting from expansion, contraction, settlement, and deformation of pipe.

6. Field applied heat fusion or solvent welded joints between pipe sections, pipe and fittings or fitting components shall not be permitted.
7. Assembled joint shall pass performance tests as required in ASTM D3212
8. Pipe Markings:
    a. Manufacturer's name or trademark.
    b. Nominal pipe size.
    c. PVC cell classification.
    d. ASTM D3034 SDR 26
    e. Extrusion date, period of manufacture or lot number.

If a vertical separation between the invert of the sewer and the crown of the water main is less than eighteen inches, ductile iron pipe or watermain quality PVC shall be used:

2. Ductile iron pipe:
    a. Comply with AWWA C151/ANSI A21.51, thickness Class 50, with joints complying with AWWA C111/ANSI A21.11.
    b. Fittings such as saddles, elbows, tees, and wyes shall be factory produced and have joint design compatible with adjacent pipe.
    c. Use cement lining complying with ANSI A21.4, standard thickness.
    d. Use Corten bolts and nuts.
    e. Use mechanical restrained joint plugs and caps.
3. PVC plastic pressure pipe: Use Type I, Grade 1, PVC complying with ASTM D1784. Comply with ASTM D2241 for 160 psi pressure rated pipe, DR 26. Use push-on bell and spigot type, or Certa-Lok spline-lock system, with rubber ring seal gasket (ASTM D3139).
    a. Branch fittings: Use factory fabricated type with attached main line coupling, with same rating as pipe.
    b. Risers and service pipe and fittings: ASTM D2241, 160 psi pressure pipe, DR 26.
    c. Adapters: use adapters specifically made for purpose of changing from PVC pressure to PVC gravity pipe. Harco or approved equal.

Non-Shear Mission Couplings:

1. Shall conform to ASTM C1173
2. Gaskets shall conform to ASTM D5926
3. Shall be Fernco Strong Back RC 1000 Series Couplings or approved equal.

Execution:

Replacement pipe shall be placed in the same line and grade of the existing pipe sections. The condition of the pipe sections upstream and downstream of the specified repair location shall be inspected and, if defective, the Engineer will determine if additional repairs are necessary. If additional pipe repairs of five feet or less are required, no additional compensation shall be made.

When specified repairs cannot be made because of physical limitations at the site, the Engineer shall be promptly notified. Alternate repair techniques shall be evaluated in cases where conventional repairs are not practical. Change orders may be required for alternate repairs. Sewer line repair pits shall remain uncovered until an inspection by the Engineer has been made.

1. Excavate repair pit and uncover the main line sewer a minimum of one-foot clearance all around at the damaged section or as directed by the Engineer and remove damaged pipe.
2. Dewatering shall be required so that excavations are kept free from water. Lay pipe only after trench is dewatered.
3. Defective pipe sections and service connections shall be removed by cutting the pipe past the bell end, if necessary, to allow for the use of rubber coupling. Replacement pipe lengths shall be cut to within one-fourth inch of the required replacement pipe length and attached to the existing pipe with appropriately sized rubber couplings. Defective service connections shall be replaced with appropriately sized wye connection and rubber couplings. All couplings shall be secured with stainless steel bands. Pipe bedding under the replacement pipe section shall be compacted to prevent settlement and provide support.
4. Sanitary service connection shall include up to ten (10) feet of the service measured from the wye joint. Connect ends of new service piping to existing piping using non-shear rubber mission coupling connectors. These connectors shall be designed to fit the new and existing pipes.
5. Replacement of sanitary service connections shall include the filling of any voids which may be found to exist around the lateral. The void space shall be filled with hydraulic cement or other approved material for a minimum distance of three feet.
6. Where the existing service lateral pipe is found to be in such a deteriorated condition that the specified reconnection cannot be made, the Engineer and City shall both be notified by the Contractor.
7. Seal joints within the repair pit that appear to be open or in poor condition, but the barrel of the pipe is still good. Roots in open joints shall be removed before sealing. All determinations for sealing joints shall be made by the Engineer. Joints that are open or in poor condition shall be cleaned and packed with a butyl rubber sealant and encased in quick setting, non-shrink concrete followed by encasement with concrete. The encasement shall be centered on the joint, have a minimum thickness of six inches, and have a minimum length equal to the pipe diameter but not less than twelve inches. Methods for sealing open joints other than that described above shall be submitted to the Engineer for approval.
8. Backfill point repair in accordance with standard details and specifications.

Pipe Bedding: The Contractor shall furnish, place, compact and transport course aggregate gradation CA-7 or CA-11 for pipe bedding to a minimum depth of 6” below the bell of the pipe and 12” above the bell of the pipe. Pipe bedding under the replacement pipe section shall be compacted to prevent settlement and provide support.

Excavated Material Backfill: Backfill trenches with excavated material from trenches, unless granular backfill is required as specified below. Excavated material shall consist of loam, clay or other materials, which, in judgment of Engineer, are suitable for backfilling. Unsuitable backfill materials are not acceptable. Extend backfill from surface of cover material to ground surface, making allowance for surface restoration.

Basis of Payment:

This work shall be measured for payment at the contract unit price per lineal foot for SANITARY SEWER REPLACEMENT, of the size specified as indicated on the plans. The replacement shall be made within the length indicated on the plans unless approved by the Engineer. Without such approval, any additional length will be considered incidental to this item. The price shall be payment in full for performing the work as specified herein, including all materials and labor, pipe bedding, protection of overhead wires and utility poles, traffic control, and all other work associated with completing the point repair not identified by a separate bid item. Surface restoration items (except for topsoil and seeding) shall be measured and paid for separately.

560.40 RESTRAINED JOINTS

Restrained joints shall be provided at all gate valves, crosses, tees, bends, hydrants, or dead ends. Unless specified, all fittings and valves shall be mechanical joint type with set screw type retainer glands with Thrust Restraint Wedge as produced by MEGALUG, or approved equal. This work shall be considered incidental to the contract and no additional compensation shall be considered. This shall apply to both the force main and the water main.

All joints shall be restrained within the distance recommended by the manufacturer for the joint condition and pipe size for a pressure rating of 200 psi.

560.50 SANITARY MANHOLES

This work shall include furnishing and installing precast structures as shown on the Plans. The work shall be carried out in accordance with the applicable portions of Section 602 in the Standard Specifications. Construction requirements shall be in accordance with the applicable articles of Section 602 in the Standard Specifications under the heading “CONSTRUCTION REQUIREMENTS” and as specified herein:

Base: The base shall be 6-inch nominal thickness and integral with the structure. The Contractor shall provide channels in invert to direct flows from incoming to outgoing pipe.

Pipe Connections: Shall be made of flexible synthetic rubber boots meeting ASTM C-923 and shall be installed on all pipe connections. Both “cast-in” or “pressed-on” type boots are permitted. Cast-in type boot shall be installed in initial pouring of manhole section.

Wall: Manhole walls shall be precast concrete sections conforming to ASTM C478. Sections and component parts shall be marked by manufacturer with trade name and/or trademark and ASTM designation. Wall thickness shall be 5” minimum. Holes shall be smooth, radial to centerline of manhole, and perpendicular to manhole wall.

Cone: Manhole cones shall be precast concrete sections compatible with the lower precast manhole wall sections. The opening shall be eccentric on cone. Flat top slab sections are optional and shall be furnished and installed in accordance with IDOT Standard 602601

Coating: The exterior of the base, barrel, and cone sections shall require bituminous coating. Where force main discharges into a manhole, coat interior with Sherwin Williams Duraplace 6100 or Raven 405

Joints: Section joints between manhole base, walls and cone shall all be tongue and groove. All sections shall be laid on two ropes of EZ-Stick gaskets or approved equal.

External Joint Sealing Bands: External joint sealing bands shall conform to ASTM C-877. Approved products are Type II MacWrap or approved equal. External joint seals shall consist of a collar 9 inches wide with an outer layer of polyethylene, with a minimum tensile strength of 4000 psi and a minimum tear resistance of 1500 psi, and an under layer of rubberized mastic that is reinforced with the collar 3/4 inches from the edge. The straps shall be confined in tubes that isolate them from the mastic and allow them to slip freely when mechanically tightened and locked around the manhole. The collar shall be furnished with a minimum 6 inches overlap and a closing flap to cover any remaining exposed strap.

Adjustment rings: The Contractor shall replace all adjustment rings with new precast concrete rings and rubber composite (in pavement) adjustment rings depending on the height of adjustment as follows:

- The contractor shall use precast concrete adjustment rings and a rubber composite ring on top (in pavement).
- Precast concrete rings shall be 2", 3", 4", 6", or 12" and shall be installed concentrically above the manhole cone. The Contractor shall use the minimum number of rings possible for the adjustment.
- No shims or other leveling devices, other than leveling rings provided by the manufacturer, will be permitted.
- In paved areas, the rubber composite ring shall be installed at the top of the adjustment and shall be at least 2" thick. The rubber composite ring shall be EJ Infra-riser or approved equal.
- EZ-STIK or an approved equal butyl mastic sealant shall be used when rejoining the manhole frame to the precast adjustments to provide a watertight structure.

External Chimney Seal: External chimney seals are to be installed on all new manholes and shall conform to ASTM C923. Acceptable external chimney seals include Infi-Shield Uni-Band or an approved equivalent.

Castings: Castings shall conform to ASTM A48, Class 30. Castings shall be free from cracks, holes, swells, and cold shuts and patches. Do not coat or paint casting. Approved casting to be used on sanitary sewer manholes is EJ 1050Z1 or Neenah R1710 with watertight lid or approved equal. The word “SANITARY” and “CITY OF JOLIET” is to be cast into the lid.

Extrudable Preform or Plastic Gasket: Extrudable preform or plastic gasket shall be Butyl rubber. Approved products are EZ Stik by Press Seal Gasket Company or equal and shall meet or exceed Federal Specification SS-S-210A.

Cast-In-Place Concrete: The Contractor shall use Class SI concrete in accordance with Section 637 of IDOT Standard Specifications. Use for field poured manhole bases, inverts, and plugs for existing inlet leads being abandoned. Cast-in type boot shall be installed in initial pouring of manhole section. Cement shall be ASTM C150, Type 1 - resistant to attack by sanitary sewage. Reinforcement Bars shall be installed per IDOT Standard and Specifications Section 508.

Execution: Connect pipe using flexible boots in accordance with boot manufacturer’s instructions: Center pipe in boot; take special care to ensure connections are watertight. Flexible boots shall conform to ASTM C923, be made of synthetic rubber resistant to sanitary sewage and shall be cast-in or pressed-on type acceptable. To maintain flexibility of pipe connection boots, the Contractor shall plug annular space between pipe and boot which falls in area where the invert to be poured meets with the extrudable preformed plastic gasket material. Plug shall prevent concrete from entering space between pipe and boot. Invert channels may be placed any time after manhole base section (and connecting pipe) is backfilled.

During pouring of the manhole invert, the Contractor shall provide poured-in-place channels (if manholes not furnished with precast inverts) to direct flows from in-coming pipes to outgoing pipes. Channels shall smoothly blend flows and shall be horseshoe shaped. Width and depth shall be equal to the size of outlet sewer.

The Contractor shall place an O-ring gasket or a double row of extrudable pre-form plastic gasket material between manhole sections as manufactured by EZ Stik by Press Seal Gasket Company, or equal. Place external Sealing Bands as shown on the detail at each joint between manhole sections in accordance with the manufacturer's instructions. External sealing bands shall be MacWrap or approved equal. The Contractor shall grout all lift holes from the inside and outside with a non-shrink grout, prior to backfilling.

Place appropriate top section, cone (depth > 6-feet). Place two adjusting rings maximum on manhole top. Thickness of adjusting rings shall be 2-inches to 12-inches as necessary to bring completed manhole to required elevation. Maximum height of adjustment shall be 12-inches. Place extrudable preformed plastic gasket material between adjusting ring and manhole top, and between adjusting ring and manhole frame. Avoid use of overly thick gasket material such as will likely produce after-settlement of manhole frame due to long-term cold flow of gasket materials. For un-grooved adjusting ring, provide two rows of 2-inch by 2-inch or ¾-inch by ¾-inch gasket material. For grooved adjusting rings, provide size gasket material recommended by ring manufacturer. Single or multiple grooved rings permitted. Where multiple grooved rings are used, place gasket material in each groove.

Install manhole frame and cover and external manhole chimney seal as shown on the detail, with extensions where needed to cover the entire chimney area, in accordance with the manufacturer's instructions. External chimney seal installed shall not be buried until inspected by the Engineer. For bolted cover provide bolts and ensure that the frame is securely fastened to the manhole.

Testing: All manholes shall be tested for watertightness in accordance with ASTM C1244-93 "Standard Test Method for Concrete Sewer Manholes by the Negative Pressure (Vacuum) Test", Vol. 04.05, Chemical Resistant Materials, Vitrified Clay, Concrete, Fiber-Cement Products; Mortars; Masonry (1996) (no later editions or amendments) prior to placing into service.

Manholes shall be tested after installation or rehabilitation and when all connections are in place. Lift holes, if any, shall be plugged with an approved, non-shrinkable grout prior to testing. Drop connections shall be installed prior to testing. The vacuum test shall include testing of the seal between the cast iron frame and the concrete cone, slab or grade rings. Manhole vacuum testing shall be performed after all adjacent underground utilities have been installed and all manholes have been backfilled and finished to final grade.

All manholes found to have been damaged or disturbed prior to the final (one-year) inspection shall be corrected and vacuum tested at that time, regardless of whether or not they were originally tested. If a coating or lining is to be applied to the interior of the manhole the vacuum test must not be performed until the coating or lining has been cured according to the manufacturer's recommendations.

If existing manholes are to be vacuum tested (e.g. in the case of a sewer rehabilitation project), the ENGINEER and CONTRACTOR must deem the manhole structurally sound prior to vacuum testing.

Procedure for testing shall be as follows:

1. Temporarily plug all pipes entering the manhole. Each plug must be installed at a location beyond the manhole/pipe gasket (i.e. outside the manhole wall), and shall be braced to prevent the plug or pipe from being drawn into the manhole.

2. The test head shall be placed inside the rim of the cast iron frame at the top of the manhole and inflated, in accordance with the manufacturer's recommendations.
3. A vacuum of at least ten inches of mercury (10" Hg) shall be drawn on the manhole. Shut the valve on the vacuum line to the manhole and shut off the pump or disconnect the vacuum line from the pump.
4. The pressure gauge shall be liquid filled, having a 3.5-inch diameter face with a reading from zero to thirty inches of mercury.

The manhole shall be considered to pass the vacuum test if the vacuum reading does not drop more than 1" Hg (i.e. from 10" Hg to 9" Hg) during the following minimum test times for various manhole diameters.

	Manhole Diameter (inches)								
	30	**33**	**36**	**42**	**48**	**54**	**60**	**66**	**72**
Depth (ft.)	**Test Time (Seconds)**								
8	11	12	14	17	20	23	26	29	33
10	14	15	18	21	25	29	33	36	41
12	17	18	21	25	30	35	39	43	49
14	20	21	25	30	35	41	46	51	57
16	22	24	29	34	40	46	52	58	67
18	25	27	32	38	45	52	59	65	73
20	28	30	35	42	50	53	65	72	81
22	31	33	39	46	55	64	72	79	89
24	33	36	42	51	59	64	78	87	97
26	36	39	46	55	64	75	85	94	105
28	39	42	49	59	69	81	91	101	113
30	42	45	53	65	74	87	89	108	121

Manhole installation may be rejected because of any of the following:

1. Use of individual components subject to rejection;
2. Failure to conform to installation requirements;
3. Visible infiltration;
4. Variation from true vertical alignment by more than 2% of depth;
5. Variations in pipe and rim elevations greater than 0.5 inches from elevations shown on plans;
6. Vacuum Test failure

Basis of Payment:

This work shall be included in the Contract Unit Price for **SANITARY MANHOLE**, of the size and type specified. The price shall be payment in full for performing the work as specified herein. Costs for all materials and labor to install manhole and make all necessary pipe connections, excavation, and perform vacuum testing shall be included in the Contract Unit Price.

560.60 SANITARY SERVICE REPLACEMENT

CASE ONE: Wherever sanitary sewer services are encountered during the course of the work, and are located above but not in conflict with the construction, the Contractor shall replace that

portion of the service line spanning the excavation three feet to either side of the trench walls. The replacement material shall be ASTM D3034, SDR 26 of the same diameter as the existing line. The PVC pipe shall be supported on both ends by not less than 3 feet of undisturbed soil. The PVC pipe shall be coupled with the existing sewer on both ends using SHEARLESS TYPE mission couplings or an approved equal.

CASE TWO: Wherever sanitary services are encountered during the course of the work and are in conflict with or within six inches (6") of the proposed sewer line, the Contractor shall replace the existing service line to the extent necessary by vertically adjusting the line within the limits of the right-of-way, so as to resolve the conflict. The replacement material shall be ASTM D3034, SDR 26, of the same diameter as the existing line. The PVC pipe shall be coupled with the existing sewer on both ends with SHEARLESS TYPE mission couplings or an approved equal. This work does not include installing a new service connection to the sewer main, installing a parallel sanitary sewer or adjustments outside of the right-of-way.

Method of Measurement:

This work shall be measured in lineal feet along the top of the sanitary pipe replacement. No separate measurement shall be made for materials including fittings, couplings, concrete or mortar, or for excavation except in rock. Excavation of rock and trench backfill shall be measured for payment in accordance with the contract specifications.

Basis of Payment:

This work will be paid for at the contract unit price per lineal foot for SANITARY SERVICE REPLACEMENT CASE ONE OR SANITARY SERVICE REPLACEMENT CASE TWO. Such payment shall compensate the Contractor for furnishing all labor, equipment, and materials required to satisfactorily complete this work.

560.70 SUMP LINE CONNECTION - VARIOUS SIZES

This work includes furnishing all materials, equipment and labor necessary to connect sump pump discharge lines into the proposed PVC parkway storm sewer. This includes but is not limited to exposing a solid section of existing pipe behind the ROW line, supplying and attaching the appropriate reducer to mate with the proposed 8" PVC system, supplying any PVC elbows, bends and tee sections required to attach to the main PVC storm sewer line in the parkway.

Basis of Payment:

This work shall be paid for at the contract unit price per each for **SUMP LINE CONNECTION - VARIOUS SIZES**. No other compensation shall be allowed for this work.

560.80 CLEAN OUT STRUCTURE

This work includes furnishing all materials, equipment, and labor necessary to connect a PVC clean out structure onto the proposed PVC parkway storm sewer as shown in the details. This includes but is not limited to supplying any PVC elbows, bends and "Y" sections required to attach to the main PVC storm sewer line in the parkway, furnish and install the PVC cap at the end of the sewer line for possible future extensions, furnish and install an EJIW Top Flange frame and cover, CAT No. 2790-6 within the bell of the vertical section of the clean out structure - to finish parkway grade.

All 8" PVC storm sewer and fittings shall be measured in line and paid for as **STORM SEWER,**

PVC SDR 26, 8". The EJIW frame and cover shall be incidental to the clean out structure.

Basis of Payment:

This work shall be paid for at the contract unit price per each for **CLEAN OUT STUCTURE**. No other compensation shall be allowed for this work.

560.90 SANITARY SEWER POST TELEVISING

The Contractor shall provide the Department of Public Utilities a post construction PACP coded, color video record and a type written transcription of the internal inspection of the newly constructed sewer system. This shall be submitted prior to final approval and acceptance of the system. Video inspection must be coded by a PACP certified technician. All public and private lines equal to and larger than 8" in diameter shall be televised. All cleaning or televising operations must be coordinated prior to the commencement of the work with the Department of Public Utilities. The sewer pipe must be televised with 95% or more of the sanitary pipe visible. Any cleaning operations must be accompanied with a vactor at the downstream manhole to ensure no debris passes downstream. The contractor must rotate the lens of the camera to look at all services. All service connections, defects, and observations must be coded in the television report. When the proposed sanitary sewer system is to connect to an existing sanitary sewer system abutting the property, the existing sewer must also be televised and reported. The contractor shall coordinate the televising of existing contiguous sewers with the Director of Public Utilities. Costs associated with this work shall be borne by the contractor. Video inspection and database shall be fully compatible with PACP V 7.0.2 format with all header information filled out. Each video inspection shall be labeled with USMH-DSMH. The contractor must submit the PDF reports, video inspection, and Microsoft Access V07 database (all data files and tables shall be linked to the pipe segment ID number) to the City of Joliet.

561.00 DUCTILE IRON WATER MAIN

All water main materials incorporated into the City of Joliet water system, from the main line to the curb stop including fittings, shall be of Domestic Manufacture (i.e. manufactured *within* the United States) and shall meet all applicable specifications of the *American Water Works Association (AWWA)*. Water mains shall be constructed of ductile iron pipe conforming to AWWA Specifications-21.51 with push-on joints conforming to AWWA Specifications A21.11. Pipe shall be thickness Class 52 with the following minimum wall thicknesses:

Nominal Pipe Size	Wall Thickness
6 Inch	0.31 Inch
8 Inch	0.33 Inch
10 Inch	0.35 Inch
12 Inch	0.37 Inch
16 Inch	0.40 Inch

Cement lining shall be applied in accordance with AWWA Specification C-104. All fittings shall be ductile iron compact mechanical joint rated for 350 PSI and conform to ASA A21.53 or AWWA C153. All fittings shall have ductile iron set screw type retainer glands conforming to ASA A21.53 or AWWA C153 and rubber gaskets conforming to ASA A21.11 or AWWA C111. Pipe shall be laid with five (5) foot minimum cover.

The exterior of ductile iron pipe shall be coated with a layer of arc-sprayed zinc per ISO 8179. The mass of the zinc applied shall be 200 grams per square meter of pipe surface area. A finishing layer of asphaltic coating shall be applied over the zinc coating. The mean dry film

thickness of the finishing coat shall not be less than 3 mils, with a local minimum not less than 2 mils. The coating system shall conform in every respect to ISO 8179-1 “Ductile iron pipes - External zinc-based coating - Part 1: Metallic zinc with finishing layer. Second edition 2004-06-01”.

Unless otherwise shown on the plans, polyethylene protective wrapping (Polywrap) for ductile iron pipe shall be furnished and installed on all buried water lines, except where water lines within steel casing pipe, in accordance with the requirements of AWWA Standard C105. Polywrap shall be linear low-density polyethylene film (minimum 8 mils) or high-density cross laminated polyethylene film (minimum 4 mils). Markings shall include manufacturers name or trademark, year of manufacture, min. film thickness and material type (LLDPE or HDCLPE), applicable range of nominal pipe diameter size(s), and “Warning – Corrosion Protection – Repair Any Damage.” The Polywrap shall be taped to provide a snug fit along the pipe. Any punctures, tears or other damage shall be patched with polyethylene wrap and tape. Openings for service taps, blow-offs, or similar appurtenances shall be cut in the polywrap during backfilling of the trench. Rock or other material that could damage the wrapping shall not be allowed in the backfill. The inside surface of the polyethylene wrap to be in contact with the pipe exterior shall be infused with a blend of anti-microbial biocide to mitigate microbiologically influenced corrosion and a volatile corrosion inhibitor to control galvanic corrosion. The polywrap furnished and installed shall not be paid separately, but shall be considered incidental to the cost of the ductile iron water main.

Removal and replacement of material, including unsuitable material, to a depth of one foot below the bottom of the pipe barrel is considered incidental to construction and no addition to the contract will be allowed. Over excavation, and removal and replacement of unsuitable materials with CA-1 greater than one foot below the bottom of the pipe barrel will be paid for in a separate Pay Item.

All ductile iron water main pipes shall have brass wedges inserted at all joints for continuity to allow surface tracing by pipe locator. Use two (2) wedges per joint for pipes 12 inches or smaller, and four (4) wedges per joint for pipe sizes larger than 12 inches.

Basis of Payment:

Water main shall be listed in the bid items by size and type which shall be measured in lineal feet along the center without deduction for valves and fittings. Embedment up to one foot above the pipe shall be included in the cost per lineal feet of water main. **All restrained joint type fittings shall be included in the cost per lineal foot of water main unless otherwise noted on the plans**. Additional fittings not anticipated shall be paid for as miscellaneous fittings measured in pounds. When the water main terminates in a hydrant, valve or other main connection, measurement shall be from the center of the hydrant valve or main connection. This item shall be paid for at the contract unit price per lineal foot for DUCTILE IRON WATERMAIN of the type and size specified, regardless of depth.

561.04 CONNECT TO WATER MAIN (NON-PRESSURE)

The work of this Pay Item consists of connecting to existing water mains, including removal of existing plugs; cutting, removing, and plugging existing mains; all required fittings; thrust blocking; excavation; bracing; bedding and covering of pipe; trench dewatering; trench backfilling with excavated materials; testing; disinfection; finish grading; removal and disposal of waste excavated materials; protection, replacement, or repair of utilities; including backfilling with compacted granular backfill materials where required.

Make one connection at a time except as approved by the Engineer. Do not operate the valves on the existing mains. Coordinate shutdown of existing mains with the City's Public Utilities Department with a minimum of 48 hours' notice prior to shut down.

This Pay Item includes installation and removal of temporary thrust blocking and temporary plugs and coordination of shutdown of main with Owner and Engineer during final connection.

Basis of Payment:

The work will be paid for at the Contract unit price for each CONNECTION TO EXISTING WATER MAIN (NON-PRESSURE) of the pipe sizes.

561.06 CASING PIPE

The work of this Pay Item consists of installing casing pipes for sewer pipes, force mains, or water mains to meet water and sewer separation requirements, complete in place by open cut method, including sawcutting, and removal and disposal of existing pavements; excavation; removal and disposal of waste excavated materials; protection, repair or replacement of utilities; trench dewatering, including erosion and sedimentation control methods and devices to provide protection to environment from all pumping operations; installation of casing; casing spacers; installation and support of carrier pipe within casing; end seals; backfilling with compacted excavated materials; but not including backfilling with granular backfill materials.

This Pay Item does not include providing or testing the pipe within the casing pipe, which is paid for under separate Pay Items.

Casing pipe shall be 160 psi – SDR 26 PVC pressure pipe complying with ASTM D-2241; or AWWA C-900 or C-905 PVC water main pipe; or ASTM A139, Grade A – 35,000 psi steel pipe.

Basis of Payment:
The work will be paid for at the Contract Unit Price per lineal foot for CASING PIPE.

561.08 MISCELLANEOUS FITTINGS

Any additional fittings necessary to alter or adjust the water main or force main as directed by the Engineer shall be measured in pounds to be paid for at the contract unit price per pound for MISCELLANEOUS FITTINGS. All fittings shown or inferred by the plans shall be incidental. However, any fitting indicated on the plans which is deleted will be credited against any claim for payment under this provision, pound for pound. The owner shall not in any case request a net credit under this provision.

Basis of Payment:

The work will be paid for at the contract unit price per pound for MISCELLANEOUS FITTINGS, as needed.

561.10 ADJUSTING WATER MAIN

This item shall include all materials, equipment and labor required to vertically adjust the water main according to size. All pipe and fittings shall be ductile iron, Class 52, and shall be installed according to AWWA C600-87All fittings shall have ductile iron set screw type retainer glands

conforming to ASA A21.53 or AWWA C153 and rubber gaskets conforming to ASA A21.11 or AWWA C111. The cut end of the existing pipe shall not be within 12 feet of the next joint. Changes from the standard detail may require restraining of existing pipe joints.

Basis of Payment:

This work shall be measured for payment at the contract unit price per lineal foot for ADJUSTING WATER MAIN of the size specified as indicated on the plans. All fittings, couplings and tie bars shall be included in the cost for this item. The adjustments shall be made within the length indicated on the plans unless approved by the Engineer. Without such approval, any additional length will be incidental to this item.

561.15 DISCONNECTING OF EXISTING WATER LINE

This work shall be paid for on the basis of actual labor, material, and services actually required to investigate and disconnect existing water lines. The Contractor shall supply a detailed listing of the items used and the cost thereof. The Contractor shall be allowed a 15% markup, over documented actual cost, to cover overhead and related expenses for work performed by the Contractor and his direct employees. The Contractor shall be allowed a 5% markup over documented actual invoices for work performed by sub-contractors or by indirect employees.

An amount of $7,500.00 has been entered on the bid proposal representing the anticipated cost to investigate and disconnect existing water lines. The Contractor shall use this amount when preparing his bid and in calculating the amount of his performance security.

561.20 CONNECT TO WATER MAIN (PRESSURE)

The work of this Pay Item consists of pressure connections to existing water mains complete in place, including sawcutting, and removal and disposal of existing pavements; excavation; removal and disposal of waste excavated materials; trench dewatering, including erosion and sedimentation control for discharge resulting from all pumping operations; protection, replacement, or repair of utilities; tapping of pipe; tapping valves and tapping sleeves; bracing; testing corps and copper; bedding and covering of pipe; testing; disinfection; finish grading; and including backfilling with granular backfill materials; but not including fittings or valve vaults.

Tapping sleeves shall be two-piece bolted sleeve ductile iron type with mechanical joints, Clow F-5205 or approved equal. Stainless steel sleeves only allowed with prior approval from City of Joliet Utilities Department. Measure existing water main outside diameter to determine proper tapping sleeve size. Tapping valves shall be fully ported gate valves complying with AWWA C500, Clow F-5093 or approved equal.

The City of Joliet Water Department shall do the actual tapping of the main. The Contractor will be responsible for calling 815-724-4230 to schedule an appointment with City Water Department. Appointments are available on Tuesdays and Thursdays.

Basis of Payment:

This work shall be paid for at the contract unit price each for CONNECT TO WATER MAIN (PRESSURE), of the pipe and valve sizes specified.

561.22 GATE VALVES

Gate Valves (3-inch through 14-inch) shall comply with AWWA C515 (ductile iron body), bronze fitted, resilient wedge and seat type with non-rising stem and O-ring packing. Provide gear operator for 14-inch valves.

Use A-304 stainless steel bolts with nuts and washers of series 300 stainless steel per ASTM A194.

Provide mechanical joint ends for buried valves and ANSI Class 125 flange ends or mechanical joint ends for valve installed in vaults as indicated on the Drawings. Provide restrained type joints for all mechanical joint end valves.

Acceptable valve manufacturers: American Flow Control, Clow, EJ, or approved equal.

Gate valves shall be installed vertical and plumb. All valves shall be installed in 5-1/4 inch cast iron valve boxes unless otherwise specified. Valve boxes shall be installed with a plastic centering guide and adjusted to grade. The valve box cover shall bear the legend "WATER".

Basis of Payment:

This work will be paid for at the contract unit price each for GATE VALVE of the size specified, and shall include all material, equipment and labor necessary to install the valve and trench backfill at least one foot above the top of the pipe and valve.

561.24 BUTTERFLY VALVE

The work of this Pay Item consists of butterfly valves complete in place, but not including fire hydrant auxiliary valves. Unless otherwise specified, all valves 16-inch and larger shall be butterfly valves in accordance with AWWA C504 for pressure Class 150B, cast iron body, rubber-seated, tight closing type suitable for buried service. Provide mechanical joint ends for buried valves and ANSI Class 125 standard flange or Victaulic coupling ends for valves installed in vaults. Provide restrained type joints for all mechanical joint end valves. Use A-304 stainless steel bolts with nuts and washers of series 300 stainless steel per ASTM A194.

Use valve shaft of either 18-8 or Type 304 stainless steel. Extend valve shaft through the valve disc and body into the operator. Provide each valve with a fully enclosed, sealed, grease-packed integral geared manual operator with a 2-inch square operating nut. Acceptable butterfly valve manufacturers: American Flow Control, Clow, EJ, or approved equal.

Basis of Payment:
The work will be paid for at the Contract unit price for each BUTTERFLY VALVE of the valve sizes.

561.26 VALVE VAULT

The work of this Pay Item consists of the installation of valve vaults complying with ASTM C478 during water main installation complete in place as on plan details, including sawcutting, removal and disposal of existing pavements; excavation in excess of that required for standard pipeline trench construction; removal and disposal of waste excavated materials; bracing, sheeting, and shoring; protection, replacement, or repair of utilities; dewatering, including erosion and sedimentation control methods and devices to provide protection to the environment from all pumping operations; vault bedding; monolithic type vault base with watertight flexible pipe connectors where pipes enter vault wall; manhole risers as required to provide proper depth;

concentric cone or flat top cover; frame and cover adjusting rings; frame and cover; steps; backfilling with compacted excavated materials in parkways, and compacted granular materials under pavements; and including frame and cover adjustment to final grade at time of street or parkway restoration.

Provide precast reinforced concrete manhole sections, bottoms, and flat top slabs complying with ASTM C478 unless otherwise indicated on Drawings. Provide concentric cone section for gate valves. Provide eccentric cone section for butterfly valves. Provide precast reinforced concrete monolithic or separate base. Design flat slab tops for AASHTO HS20-44 wheel loading.

Provide 4000 psi concrete using Type I Portland Cement complying with ASTM C150.
Mortar: Mix one part Portland Cement to three parts fine aggregate.

Provide joints of either flexible watertight rubber gaskets or preformed bituminous plastic gaskets consisting of a homogeneous blend of refined hydro-carbon resins and plasticizing compound reinforced with inert mineral filler. Acceptable preformed gasket products: Henry Company, RN103 – RAM-NEK Preformed Flexible Plastic Gasket (Coils). ConSeal Concrete Sealants, Type CS-102. Or equal. E.

Provide steps with a minimum width of 12 inches and a minimum projection of 5 inches. Use steps consisting of copolymer polypropylene plastic with a continuous ½-inch steel reinforcement as manufactured by M.A. Industries, Inc. cast iron steps, Neenah R-1980-I, or equal.

Provide cast iron frames and covers with heavy duty, indented top, with solid self-sealing lids and machined bearing surfaces, stamped with the word “WATER” and “CITY OF JOLIET”. Acceptable products: (1) East Jordan 1050Z1 (2) Neenah R1710 (3) Or equal. G.

Provide flexible rubber gasket collar for connecting pipe to the manhole. Comply with ASTM C-923. For pipe 24-inch and smaller, use PSX gasket system by PressSeal Gasket Corporation, or equal. For pipe 27-inch and larger, use resilient gasket by A-LOK Products, Inc., or equal.

This Pay Item includes providing vaults of sufficient depth to provide the standard depth of cover indicated on the drawings, plus two feet, measured from the top of the water main to the top of the frame and cover. If depth of cover is 6 feet, vaults to a depth of 8 feet from top to main to top of frame and cover will be installed with no addition to the contract allowed. Where deeper vaults are installed, the cost for additional manhole risers required will be paid for in a separate Pay Item.

This Pay Item includes providing exterior joint protection on all valve vaults.

Basis of Payment:
The work will be paid for at the Contract unit price for each VALVE VAULT, of the size indicated.

561.27 VALVE VAULT (ADDITIONAL DEPTH)

The work of this Pay Item consists of providing additional manhole risers for water valve vaults where the depth of cover is over the standard depth described in the pay item for VALVE VAULTS. Depth of a standard valve vault is stated as within two vertical feet of the water main depth of cover, measured from top of main to top of cover, in other words, if standard depth of water main is indicated as 6 feet, a vault measuring 8 feet from top of main to top of frame and cover is a standard vault and no additional compensation will be allowed.

Measurement: The work will be measured in vertical feet from the top of the water main to the top of the frame and cover, and the amount over the depth of cover plus 2 feet will be the amount of measurement, in even feet.
Basis of Payment:

The work will be paid for at the Contract Unit Price per vertical foot of VALVE VAULT (ADDITIONAL DEPTH), of the valve vault diameter indicated.

561.28 VALVE BOX

The work of this Pay Item consists of valve boxes, complete in place, including polyethylene wrapping of valve box; valve box stabilizer; but not including fire hydrant auxiliary valve boxes.

Valve boxes shall be adjustable and compatible with the size and type of valve protected. Extend box to finished grade and mark valve box cover “WATER” for potable water piping valves. Two valve operating tee wrenches with 2-inch square socket, 24-inch long, 1½-inch pipe handle, and 48-inch long 1½-inch pipe stem. Stainless steel extension stem required if water main has more than 6 feet of cover.

Valve box stabilizer shall be manufactured by Alberico, American, Adaptor, Inc., or approved equal.

Basis of Payment:
The work will be paid for at the contract Unit Price for each VALVE BOX.

561.30 AIR RELEASE VALVE AND VAULT

The work of this Pay Item consists of the installation of sewage air release/vacuum valve and valve vault during open cut pipe installation complete in place as outlined in the technical specifications and on plan details, including sawcutting, removal and disposal of existing pavements; excavation in excess of that required for standard pipeline trench construction; bracing, sheeting, and shoring; protection, replacement, or repair of utilities; dewatering, including erosion and sedimentation control methods and devices to provide protection to the environment from all pumping operations; vault bedding; monolithic type vault base with watertight flexible pipe connectors where pipes enter vault wall; manhole risers as required to provide proper depth; removal and disposal of waste excavated material, flat top cover; frame and cover adjusting rings; frame and cover; steps; backfilling with compacted excavated materials in parkways, and compacted granular materials under pavements; and including frame and cover adjustment to final grade at time of street or parkway restoration.

This Pay Item includes air release/vacuum valve, D.I. pipe tee; reducing flange; stainless steel sleeve, valve appurtenances; and all other fittings and flanges as indicated on plan detail and needed for a complete installation. This Pay Item includes providing a sump in vault base as indicated on the detail.

Provide stainless steel body and cover, stainless steel float, stainless steel seat or Buna-N needles, and integral flanged inlet sized as shown on the Drawings. Include back-flushing hose, ½-inch shut-off valve, 1-inch blow-off valve, and quick disconnect couplings. All bolts, valves, fittings and piping to be stainless steel. Acceptable products: APCO Series 440 WA, Val-Matic 800 BW Series, or equal.

Basis of Payment:

The work will be paid for at the Contract Unit Price for each AIR RELEASE/VACUUM VALVE AND VAULT, of the size indicated.

561.40 LINE STOP

The work of this Pay Item consists of the installation of a line stop in an existing water main complete, including locating of existing main; sawcutting, and removal and disposal of existing pavements; excavation; removal and disposal of waste excavated materials; protection, repair, or replacement of existing utilities; dewatering, including erosion and sedimentation control methods and devices to provide protection to the environment from all pumping operations; sheeting; shoring; tapping of pipe to install temporary line stop bladder; installation of line stop; and temporary fencing, barricades, and other items needed to provide traffic control and protection and to protect excavation while new valve is being installed.

The work of this Pay Item includes removal of the line stop bladder, and capping of the tapping valve once new main valve is in place; backfilling of the excavation with compacted granular trench backfill material; but not including surface restoration.

Basis of Payment:
The work will be paid for at the Contract unit price for each LINE STOP, of the size indicated.

561.50 INSERTION VALVE

The work of this Pay Item consists of installing a new line valve into existing main, under full system pressure, complete in place; including sawcutting, and removal and disposal of existing pavements; excavation; removal and disposal of waste excavated materials; trench dewatering, including erosion and sedimentation control for discharge resulting from all pumping operations; protection, replacement, or repair of utilities; tapping sleeves, coring of water main pipe; insertion of permanent line valve; bracing; 1-inch testing corps on each side of valve; support of pipe on each side of valve; disinfection by swabbing methods; valve box if the valve is not to be inside a valve vault; backfilling of excavation with granular backfill materials; but not including parkway or pavement restoration.

Insertion valves shall be designed with a ductile iron or stainless steel body and using a resilient wedge to seat against the water main pipe interior surface, rated for 100 psi working pressure, 2-inch square operating nut, counter-clockwise opening, and non-rising stem.

Installation will require cutting and removing a portion of the water main pipe wall. Pipe cutting and removal of pipe material shall be completed with water main operating under continuous pressure.

Acceptable valve manufacturers: Hydra-Stop Insta-Valve 250 Patriot Series, Advanced Valve Technologies EZ2 Valve, or approved equal.

Insertion valve installer shall be trained by, or accepted by, the insertion valve manufacturer as a qualified installer; or installer shall have written proof and references of at least 3 years of experience and/or a minimum of 30 successful installations of the insertion valve type to be installed for this project.

The work of this Pay Item does not include water valve vaults, which shall be paid for as a separate Pay Item.

Basis of Payment:
The work will be paid for at the Contract unit price for each INSERTION VALVE of the valve size and location.

561.60 FIRE HYDRANT COMPLETE WITH AUXILIARY VALVE

Fire hydrants shall conform to AWWA C502-85. All hydrants shall be furnished with 6-inch flanged connections. All hydrants shall have a 5 ¼-inch valve opening; open left. All hydrants shall be provided with one 4 ½-inch NST steamer connection and two 2 ½-inch NST hose connections. Hydrants shall be painted red. One-quarter cubic yard of coarse, washed, glacial gravel shall be placed at the base of the hydrant to provide for drainage.

Fire hydrants shall be measured for payment as an installed unit complete with accessories. Accessories include a 6-inch gate valve and valve box connected between the watermain and the fire hydrant. This work shall also include any vertical adjustment required to position the center of the steamer nozzle at least 18 inches above ground level. The hydrant shall be installed with traffic flange positioned as per manufacturer's installation instructions. Hydrants shall be Mueller Centurion A423 or Clow Medallion or E.J.I.W. 5BR250. All fire hydrants shall be new, manufactured either in the year that construction begins or the previous year.

Paint fire hydrants in colors selected by the Owner. Municipal treated water: red. Raw water: green. Private systems: yellow.

Basis of Payment:

This work shall be paid for at the contract unit price each for FIRE HYDRANT COMPLETE WITH AUXILIARY VALVE and shall include all materials, equipment and labor necessary to install the fire hydrant and trench backfill at least one foot above the top of the pipe and hydrant.

561.65 FIRE HYDRANT COMPLETE WITHOUT AUXILIARY VALVE

Fire hydrants shall conform to AWWA C502-85. All hydrants shall be furnished with 6-inch mechanical joint connections for 6-inch flanged connections as required by the situation. All hydrants shall have a 5 ¼-inch valve opening; open left. All hydrants shall be provided with one 4 ½-inch NST steamer connection and two 2 ½-inch NST hose connections. Hydrants shall be painted red. One-quarter cubic yard of coarse, washed glacial gravel shall be placed at the base of the hydrant to provide for drainage. This work shall also include any vertical adjustment required to position the center of the steamer nozzle t least 18 inches above ground level. The hydrant shall be installed with traffic flange positioned as per manufacturer's installation instructions.

All fire hydrants shall be Meuller Centurion A423 or Clow Medallion or E.J.I.W. 5BR250. All fire hydrants shall be new, manufactured either in the year that construction begins or the previous year.

Paint fire hydrants in colors selected by the Owner. Municipal treated water: red. Raw water: green. Private systems: yellow.

Basis of Payment:

This work shall be paid for at the contract unit price each for FIRE HYDRANT COMPLETE WITHOUT AUXILIARY VALVE and shall include all materials, equipment and labor necessary to install the fire hydrant and trench backfill at least one foot above the top of the pipe and hydrant.

561.68 FIRE HYDRANT BARREL EXTENSION

The work of this Pay Item consists of providing barrel extensions for fire hydrants when existing or future final grade conditions result in the water main being deeper than the specified depth of bury, including determining the appropriate extension height and extension necessary, and installation of extension.

The work will be measured in vertical foot of extension, determined by the amount added to the fire hydrant bury dimensions outlined in Pay Item FIRE HYDRANT. Extensions utilized to obtain the proper amount “bury” on fire hydrants when the water main is not deeper than the specified depth of bury will not be paid for.

Basis of Payment:
The work will be paid for at the Contract unit price for vertical foot of FIRE HYDRANT BARREL EXTENSION, to the nearest foot.

562.00 WATER SERVICE LINE

The work of this Pay Item consists of water service pipe complete in place, by open cut method, including excavation; bracing; bedding and covering of pipe; trench dewatering; trench backfilling with excavated materials; testing; disinfection; finish grading; removal and disposal of waste excavated materials; protection, and replacement or repair of utilities.

The service pipe is to be continuous and have no intermediate unions. The minimum water service diameter shall be 1” Type K copper. Type K soft temper seamless copper water tubing complying with ASTM B-88.
Water service lines shall be installed by horizontal directional drilling method under street pavements, and open cut methods at connection points to water main and existing service pipe. The open cut method includes backfilling with compacted granular backfill materials where service is below street pavement and sidewalks.

All service lines shall have a minimum depth of 54”, unless otherwise approved by the Engineer. Installing new services in excess of 5 feet of cover in order to cross existing mains, provide for future improvements or cross below sewer lines is considered incidental to the installation of the service, and no addition to the contract will be allowed.

At locations where existing customers are connected to the water main, the tap onto the public water main will be performed by the City of Joliet.

Basis of Payment:

The work will be measured in lineal feet along the centerline of the pipe, with the total distance being measured from the centerline of the mainline pipe to the service box.

The directionally drilled portion of the total distance will be measured as the width of the street from edge of pavement to edge of pavement or back of curb to back of curb, plus 2 feet on each side of pavement.

The open cut portion will be the total service distance minus the directionally drilled portion.

The work will be paid for at the Contract unit price per lineal foot for WATER SERVICE LINE – OPEN CUT or WATER SERVICE LINE – DIRECTIONAL DRILLING of the water service sizes specified.

562.01 WATER SERVICE CONNECTION

The work of this Pay Item consists of connecting water service lines to the water mains complete in place, including service saddles; corporation stops; curb stops; service boxes; all required fittings, and including backfilling with granular backfill materials at pavement locations.

Service saddles: Provide service saddles on all water mains for services greater than 1-inch. Ductile iron, epoxy coated bodies with double alloy steel straps and double bolts (four bolts total). Mueller DR2A Series or equal. Corporation stops: A.Y. McDonald No. 74701BQ. Curb stops: A.Y. McDonald No. 76104Q. Services boxes: Tyler 6500 with BBAF valve box stabilizer.

This Pay Item includes connecting to the curb stop within meter pits, where meter pits are encountered. Notify the City's Public Utilities Department if existing lead water services are discovered.

Basis of Payment:

The work will be paid for at the contract unit price each for WATER SERVICE CONNECTION, of the service pipe sizes and type noted.

562.10 WATER SERVICE LINE TYPE K (LEAD ONLY)

The work of this Pay Item shall include furnishing and installing all materials required to lay water service piping in accordance to Sections 41-2.11c and 41-2.12 of the "Standard Specifications for Water and Sewer Construction in Illinois 5th Edition". The work consists of water service pipe complete in place, by horizontal directional drilling method and open cut method, including excavation; bracing; bedding and covering of pipe; trench dewatering; trench backfilling with excavated materials; testing; disinfection; finish grading; removal and disposal of waste excavated materials; protection, and replacement or repair of utilities. Embedment up to one foot above the pipe and earthen backfill shall be included in the cost per lineal feet of water service line. Water service will be installed by horizontal directional drilling method under street pavements and for all rear yard service replacements, and open cut methods at connection points to water main and existing service pipe. The open cut method includes backfilling with compacted granular backfill materials. All service lines shall have a minimum depth of 54", unless otherwise approved by the Engineer. Installing new services in excess of 5 feet of cover in order to cross existing mains, provide for future improvements or cross below sewer lines is considered incidental to the installation of the service, and no addition to the contract will be allowed. Contractor may choose to install short side water services via open cut method. However, costs to replace the curb and sidewalk including trench backfill for short side services shall be considered incidental to the contract.

Method of Measurement:

The work will be measured in lineal feet along the centerline of the pipe.

Basis of Payment:

The work will be paid for at the Contract Unit Price per lineal foot for WATER SERVICE LINE TYPE K – OPEN CUT or WATER SERVICE LINE TYPE K – DIRECTIONAL DRILLING of the water service sizes specified.

562.11 PROJECT MANAGEMENT (LEAD ONLY)

The work of this Pay Item shall include all supervision work associated with coordinating and performing the water service installation at a given property. This item is only applicable when an existing lead service is discovered and where water service work on private property is required. A two hour allotment will be allowed for each property. This work will include contacting the owner, meeting with the property owner to layout the installation, obtaining property owner signature on City agreement form, payment plan, no participation form or sample refusal form, providing City with sketch of proposed and as-built installation, scheduling the work and any follow-up meetings to explain the installation. No additional compensation will be allowed for the management of the project.

Photographs or video shall be taken at each property prior to the start of construction work to document the pre-existing conditions. Monthly invoices should provide a breakdown of items and cost per property. Costs associated with preparing this breakdown shall be incidental to the contract.

Basis of Payment:
This work will be paid for up to 2 hours for each property where a water service is installed on private property at the Contract Unit Price per hour for PROJECT MANAGEMENT. No additional compensation will be allowed.

562.12 WATER SERVICE CONNECTION ON PRIVATE PROPERTY – BASEMENT OR CRAWL SPACE (LEAD ONLY)

This item shall include furnishing and installing all materials required to connect to the existing water service on interior of home up to the water meter where lead water services are discovered. The Contractor shall core drill the existing foundation wall to allow for penetration by the 1” copper water service pipe. The Contractor shall install a PVC sleeve in the foundation to protect the copper service pipe. The interior and exterior of the cored hole shall be completely sealed with hydraulic cement to prevent water infiltration. The Contractor shall exercise caution to prevent damaging the existing foundation. The Contractor shall be responsible for repairing any damage to the foundation caused by the coring operation. The Contractor shall be responsible for moving and restoring any items on the interior of the home that infringe upon the work. The Contractor is responsible for any modifications to the interior plumbing necessary to install new water service. New interior water shut-off valves (ball valves) shall be installed on either side of meter. If existing meter is determined to be in need of replacement, Contractor shall install new meter provided by City.

The Contractor shall be responsible for removing any debris generated by the work on the interior and exterior of the building and restore the area around the water service as nearly as practicable to its original condition. This work shall also include abandoning the existing water service line in place. The existing plumbing shall be capped. This work shall include all labor, equipment and materials required to excavate and crimp existing water service in order to complete interior water service connection at locations approved by Engineer where both the curb stop and interior shut-off are broken or where curb stop cannot be located. This work will be considered incidental.

This work shall consist of the removal and re-erection of fence segments as necessary to complete the work. The fence shall be removed so that all materials considered suitable by the Engineer for future use will be salvaged. The salvaged material shall be stored at locations and in a manner approved by the Engineer. Any of the material having salvage value and which has been damaged by the Contractor, shall be replaced by the Contractor at his/her own expense with new material of the same kind. The salvaged fence shall be re-erected in accordance with Section 664 of the "Standard Specifications". This work will be considered incidental.

Basis of Payment:
The work will be paid for at the Contract Unit Price for each WATER SERVICE CONNECTION ON PRIVATE PROPERTY – BASEMENT OR CRAWL SPACE.

562.13 WATER SERVICE CONNECTION ON PRIVATE PROPERTY – SLAB (LEAD ONLY)

This item shall include furnishing and installing all materials required to connect to the existing water service on interior of home up to the water meter where lead water services are discovered. The Contractor shall saw cut and remove a portion of the slab or core drill the slab to allow for penetration by the 1" copper water service pipe at the existing water service location. The Contractor shall install a PVC sleeve in the foundation when restoring the slab to protect the copper service pipe. The interior and exterior of the cored hole shall be completely sealed with hydraulic cement to prevent water infiltration. The Contractor shall exercise caution to prevent damaging the existing foundation. The Contractor shall be responsible for repairing any damage to the foundation caused by the work. The Contractor shall be responsible for moving and restoring any items on the interior of the home that infringe upon the work. The Contractor is responsible for any modifications to the interior plumbing necessary to install new water service. New interior water shut-off valves (ball valves) shall be installed on either side of meter. If existing meter is determined to be in need of replacement, Contractor shall install new meter provided by City.

The Contractor shall be responsible for removing any debris generated by the work on the interior and exterior of the building and restore the area around the water service as nearly as practicable to its original condition. 3. This work shall also include abandoning the existing water service line in place. The existing plumbing shall be capped. This work shall include all labor, equipment and materials required to excavate and crimp existing water service in order to complete interior water service connection at locations approved by Engineer where both the curb stop and interior shut-off are broken or where curb stop cannot be located. This work will be considered incidental.

This work shall consist of the removal and re-erection of fence segments as necessary to complete the work. The fence shall be removed so that all materials considered suitable by the Engineer for future use will be salvaged. The salvaged material shall be stored at locations and in a manner approved by the Engineer. Any of the material having salvage value and which has been damaged by the Contractor, shall be replaced by the Contractor at his/her own expense with new material of the same kind. The salvaged fence shall be re-erected in accordance with Section 664 of the "Standard Specifications". This work will be considered incidental.

Basis of Payment:
The work will be paid for at the Contract Unit Price for each WATER SERVICE CONNECTION ON PRIVATE PROPERTY – SLAB.

562.14 WATER SERVICE LINE TYPE L (LEAD ONLY)

This work shall include furnishing and installing all materials required to connect existing interior plumbing to new water service location. All fittings required to complete this work shall be considered incidental.

Basis of Payment:
The work will be paid for at the Contract Unit Price per lineal foot for WATER SERVICE LINE TYPE L for the size specified.

562.15 UTILITY LOCATION – PRIVATE PROPERTY (LEAD ONLY)

This work shall include all labor, equipment and materials associated with locating the existing water and sewer services on private property. Where locates are not provided for the water service, sewer service, or buffalo box, the Contractor shall complete locating services for means of installing new service line.

Basis of Payment:

The work will be paid for at the Contract Unit Price for each UTILITY LOCATION – PRIVATE PROPERTY.

562.16 WATER METER RELOCATION

This work shall include all labor and materials required to relocate existing water meter to new water service entry point into home. Meter shall be located immediately upon entrance of the service pipe into the home approximately 3' off the ground. Meter shall be installed such that it is accessible for maintenance. Contractor to provide and install new shut-off valves (ball valves) on each side of the meter, drain connection between two shut-off valves, and #4 solid copper grounding wire between upstream and downstream with bronze ground clamps. Contractor shall install AMR wire to outside face of building. AMR wire will be provided to Contractor by City. City staff will relocate AMR. This pay item is only applicable when new water service location is required.

Basis of Payment:

The work will be paid for at the Contract Unit Price for each WATER METER RELOCATION.

563.10 VALVE BOX TO BE ADJUSTED

This work shall consist of removing the existing valve box top when the roadway is excavated and protecting the section of the valve box (stem) that is to remain in place so that no debris can enter this section. The contractor is to contact the City of Joliet Water Department prior to removing the valve box to determine if the valve is centered within the Valve Box stem and can be accessed. Failure to request the City's inspection will result in the contractor being responsible for re-setting the complete valve box assembly at no additional cost to the City for valve boxes that are found to not be centered or inaccessible.

A new valve box top, meeting ASTM A-48, is to be provided and installed by the contractor at no additional cost to the City. Once the binder course is placed, the contractor will adjust the valve box to final surface elevation by making a **clean square sawcut** around the valve box and backfilling to the binder elevation with approved Portland cement concrete. The adjustment shall be completed immediately after the binder course has been placed. The adjusted valve box shall have a minimum cure time of three (3) days after adjustment, prior to the placement of the final (surface) lift of asphalt. If the contract does not have items for asphalt paving, the

contractor shall coordinate scheduling the adjustments with the City's plant mix contractor's schedule for paving the roadway.

Basis of Payment:

This work shall be paid for at the contract unit price each for VALVE BOX TO BE ADJUSTED which price shall include the cost of a new valve box top to be furnished and installed.

563.20 VALVE VAULT TO BE REMOVED

This work shall include all labor, materials, and equipment necessary to remove the frame and cone section of the vault. Remainder of the vault is to be filled with trench backfill which will be considered incidental to this item. Contractor shall be responsible for off-site disposal of valve vault.

Basis of Payment:
This work will be paid for at the contract unit price each for VALVE VAULT TO BE REMOVED.

563.30 VALVE BOX TO BE REMOVED

This work shall include all labor, materials, and equipment necessary to remove an existing valve box in its entirety as shown on the plans. Contractor shall be responsible for off-site disposal of valve box.

Basis of Payment:
This work will be paid for at the contract unit price each for VALVE BOX TO BE REMOVED.

563.40 ADJUSTING WATER SERVICE LINES

All domestic water services shall be maintained. If a water service needs to be adjusted vertically during construction, the Contractor shall provide all the necessary materials, equipment and labor required to adjust that portion of the water service. Unless otherwise specified by the Engineer, all water service pipes shall be one inch (1"), Type K copper, with the appropriate flared or compression fittings at the connection points.

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 specifications outlined in the Standard Specifications. Minimum depth of cover for all water service lines shall be 5 feet from the existing ground surface.

All water service pipes shall receive trench backfill to the existing surface when under pavement.

Basis of Payment:

This work will be paid for at the contract unit price per lineal foot for ADJUSTING WATER SERVICE LINES, which price shall include all excavation except excavation in rock, and all materials including fittings, trench backfill, and pavement replacement as required by the work.

563.50 DOMESTIC WATER SERVICE BOXES TO BE ADJUSTED

All buffalo boxes at non-conflicting locations shall be adjusted to finished grade. Those adjustments requiring extensions or repair to the buffalo box shall be compensated. These required extensions shall be determined in field. The contractor shall furnish and install all materials required for this item. A Buffalo pattern box, as produced by Tyler series 6500 or approved equal, shall be centered over the curb stop using a plastic alignment fitting. The b-box shall be properly supported and not bear directly on the water service line. The length of the b-box shall be sufficient to allow adjustment ±3 inch from finished grade. Prior to final payment all b-boxes will be tested with the turnkey to verify they are clean and free of impediments.

Basis of Payment:

This work will be paid for at the contract unit price each for DOMESTIC WATER SERVICE BOXES TO BE ADJUSTED.

563.55 DOMESTIC WATER SERVICE BOXES TO BE RELOCATED

Relocation shall consist of installing a new curb stop in the service line and relocating the existing or furnishing a new Buffalo Box. Curb stop shall be Mueller #B25155 or McDonald #6104T or approved equal. New curb stops shall be seated on a molded concrete base and centered using a plastic alignment fitting. Buffalo Boxes shall be cast iron with 2 inch minimum inside diameter Tyler series 6500 or approved equal.

The relocated Buffalo Boxes shall be adjusted to finished grade. No additional compensation shall be made for vertical adjustment to grade of relocated boxes. The contractor shall furnish and install all materials required for this item.

Basis of Payment:

This work will be paid for at the contract unit price each for DOMESTIC WATER SERVICE BOX TO BE RELOCATED.

563.60 ABANDON EXISTING WATER MAIN

The work of this Pay Item consists of installing plugs and/or caps on existing mains where portions of the existing main are to be abandoned after the new main is in service, including coordination of shut-down of mains with Owner and Engineer; re-excavation of locations; removal and disposal of waste excavated materials; cutting of mains; installation of plugs or caps; concrete thrust blocks; backfilling and compaction of excavated materials or granular trench backfill material in pavements; and clean-up.

Length of dead-end mains shall be no greater than two times the outside diameter of the main.

Basis of Payment:

The work will be paid for at the contract unit price each for ABANDON WATER MAIN, at the locations noted.

563.70 ADJUSTING SANITARY SEWER SERVICE LINE

The work of this Pay Item shall be completed in accordance with the latest edition of the "Standard Specifications for Water and Sewer Construction in Illinois", and shall consist of the removal and replacement, or adjustment and relocation, of sanitary sewer service lines in conflict with the water main at crossing locations complete in place, including connections to the existing service lines; couplings; excavation; bracing; bedding and covering of pipe; trench dewatering; finish grading; removal and disposal of waste excavated materials; protection, replacement, or repair of utilities; and backfilling with granular backfill materials.

The work shall include either the removal and replacement of at least 21' of service pipe at the existing location, slope, and elevation of the existing service pipe; or the vertical adjustment of the existing service pipe to cross below the water main. Adjustment and relocation will require replacement of enough sanitary sewer service pipe to obtain an adequate elevation difference to cross below the water main with positive slope toward the main line sewer.

Basis of Payment:
The work will be paid for at the Contract Unit Price for each ADJUSTING SANITARY SEWER SERVICE LINE, regardless of the depth, length, size, or pipe material of the sanitary sewer service.

564.00 FIRE HYDRANTS TO BE MOVED

This item shall be in accordance with the applicable portions of Section 564 of the "Standard Specifications."

Hydrants shall be located a minimum of two (2) feet behind back of curb in locations determined on the plans or by the resident Engineer. They shall be plumb and shall be set so that the lowest hose connection is at least eighteen (18) inches above the surrounding finished grade and that the 'break-away' connection is no more than three inches (3") above the finished ground surface. Ductile iron 'offset fittings', or approved equal, shall be used to make final adjustments.

A minimum of a 1/4 cubic yard of course stone shall be placed at and around the base of the hydrant to insure proper drainage of the hydrant after use. Care shall be taken to ensure that weep holes are not covered by concrete. The hydrant shall be set on a concrete block to ensure a firm bearing for the hydrant base. The resetting of existing hydrants and moving and reconnections of existing hydrants shall be handled in a manner similar to a new installation.

Watermain extensions shall be made with Iron Pipe Class 52 in accordance with AWWA C151, and with set screw-type retainer glands on all mechanical joints in accordance with AWWA C153. Tyler 5-158 MJX Flange Adapters should be used when connecting to existing flanged auxiliary valve. Tie rods, friction clamps, ductile lugs or other restraint systems approved by the Engineer, must be used to restrain **all existing pipe joints between the hydrant and the tee including the valve and the tee**. This restraining system shall be installed prior to making the vertical and/or horizontal adjustment to the fire hydrant. All fittings (including tie rods, friction clamps, or other restraint systems), ductile iron pipe and stone required to complete this work

shall be included in the unit price to move the hydrant. The City will not shut off the water main unless the auxiliary valve cannot provide a sufficient shut off to perform the work.

Basis of Payment:

This work will be paid for at the contract unit price each for FIRE HYDRANTS TO BE MOVED. All fittings required to complete this work shall be included in the unit price to move the fire hydrant.

564.10 FIRE HYDRANT TO BE REMOVED

This item shall be performed in accordance with the applicable portion of Section 564 of the Standard Specifications.

This work shall include all labor, materials, and equipment necessary to remove an existing fire hydrant and relocate it to the City of Joliet Water Department Maintenance Facility at 921 E. Washington Street. All pipe and valves to remain from the tee to the fire hydrant, shall be restrained with tie rods, friction clamps, ductile lugs or other restraint systems approved by the Engineer, prior to the removal of the fire hydrant. The City will not shut off the watermain unless the auxiliary valve cannot provide a sufficient shut off to perform the work.

Basis of Payment:

This work will be paid for at the contract unit price each for FIRE HYDRANT TO BE REMOVED. All fittings required to complete this work shall be included in the unit price to the remove the fire hydrant.

565.00 WATER METER RELOCATION

This work shall include all labor and materials required to relocate existing water meter to new water service entry point into home. Meter shall be located immediately upon entrance of the service pipe into the home approximately 3' off the ground. Meter shall be installed such that it is accessible for maintenance. Contractor to provide and install new shut-off valves (ball valve) on each side of the meter, drain connection between two shut-off valves, and #4 solid copper grounding wire between upstream and downstream with bronze ground clamps. Contractor shall install AMR wire to outside face of building. AMR wire will be provided to Contractor by City. City staff will relocate AMR.

Basis of Payment:
The work will be paid for at the contract unit price each for WATER METER RELOCATION.

550.20 P.V.C. (POLY VINYL CHLORIDE STORM SEWER, SDR 26)

The P.V.C. pipe shall conform to ASTM D3034, SDR 26. Pipe conforming to ASTM D3034 shall be made of P.V.C. Plastic having a minimum cell classification of 12454B, shall have a minimum pipe stiffness of 5 percent deflection at 115 lbs. per inch and shall withstand flattening to where the distance between the plates is twice the wall thickness plus 5 percent of the inside diameter, in accordance with the "Standard Specifications".

All material shall be protected from ultraviolet degradation until placed in trench and backfilled.

Construction of PVC Storm Sewer shall be done in accordance with Section 550 of the Standard Specifications.

Basis of Payment:

This work will be paid for at the contract unit price per linear foot for STORM SEWERS P.V.C. SDR 26 of the type and size specified, measured in place. This price shall include the cost of all pipe fittings required, all other materials, except trench backfill within the limits of the specified trench, and all sheeting and shoring required. The cost of connecting proposed storm sewers to existing storm sewers at existing drainage structures shall be considered as incidental to the cost of the proposed storm sewers. No additional compensation will be allowed.

602.00 MANHOLES

This work shall consist of the construction of manholes without frame and lid. Construction shall be specified in section 602 of the "Standard Specifications for Road and Bridge Construction," with the exception that furnishing and placing castings shall be paid for separately. Manholes shall be constructed to the size and type specified. Manholes shall be plated at the time of installation as per specification.

Basis of Payment

This work shall be paid for at the contract unit price for MANHOLE of the size and type specified. Frames and lids shall be paid for separately.

602.10 STRUCTURE TO BE ADJUSTED

This work shall consist of the adjustment of existing manholes or valve vaults (structures) as specified in Section 602, 603 and 604 of the "Standard Specifications". Metal adjusting Rings will not be allowed for use in these adjustments. All manhole lids shall be inspected and approved by the City of Joliet before resetting.

The contractor shall inspect the flow line of each structure for debris obstruction prior to removing the existing casting and excavating the roadway. It is the contractor's responsibility to contact the City of Joliet Sewer Department to arrange for City crews to clean out the structure if debris is found during the initial inspection prior to the start of excavation. Failure to report the debris will require the contractor to clean the structure of any debris at no additional cost to the City. Also, the contractor shall be responsible for supplying and installing a metal plate of the adequate shape, size, and thickness to protect the public and structure. This metal plate shall provide a seal onto the concrete structure hindering debris from entering into the structure during construction of the roadway. The contractor is responsible for removing all existing frames and lids, all existing raising rings and any damaged upper courses of brick manholes. The upper two courses of brick manholes shall be replaced with a six-inch concrete raising ring set in a Portland cement mortar bed. All unusable frames and lids shall be relocated to the nearest City of Joliet maintenance facility at no additional cost to the City.

Structures within the pavement shall remain plated until the hot mix asphalt binder course is placed. The contractor shall inspect the structure prior to adjusting the casting to final grade. Any construction debris that has entered the structure due to negligence by the contractor shall be removed at the contractor's cost. If the debris entered into the structure is not a result of negligence by the contractor, the contractor shall contact the City's Sewer Department within 48 hrs. of adjusting the structure to arrange City crews to clean out the structure. Failure to do so will require the contractor to clean out the structure at no cost to the City.

After the binder is placed, the contractor shall adjust each structure to final surface elevation by making a clean square saw cut around the structure and backfilling to the binder elevation with approved Portland cement concrete. **Adjustment Rings** shall be installed per the **Adjustment Ring** section of specification 560.50. The adjusted structure shall have a minimum cure time of three (3) days after adjustment prior to the placement of the final (surface) lift of asphalt. If the contract does not have items for asphalt paving, the contractor shall coordinate scheduling the adjustments with the City's Plant Mix Seal Coat contractor's schedule for paving the roadway. All raising rings shall be sealed using a polyurethane sealant or other approved flexible sealant. Tapered rings shall be used to install the frame to the slope of the road. The final elevation of the adjusted frame and lid on the surface course shall be parallel to the cross-slope of the road within a tolerance of 1/8" of the finish grade.

Sanitary Sewer structure must include the installation of an external chimney seal,
External Chimney Seal: External chimney seals are to be installed on all new manholes and shall conform to ASTM C923. Acceptable external chimney seals include Infi-Shield Uni-Band or an approved equivalent.

Basis of Payment:

This work shall be paid for at the contract unit price each for STRUCTURE TO BE ADJUSTED which price shall include the cost of the mortar bed as described in the Article 604.04 of the "Standard Specifications", and the concrete and rubber adjusting rings.

602.14 MANHOLE /VALVE VAULT TO BE ADJUSTED

This work shall consist of the adjustment of existing manholes or valve vaults as specified in Section 602, 603 and 604 of the "Standard Specifications". Metal adjusting Rings will not be allowed for use in these adjustments. All manhole lids shall be inspected and approved by the City of Joliet before resetting. The contractor shall be responsible for supplying and removing his steel plate.

All manholes and valve vaults shall be cleaned prior to performing the final adjustment. The contractor is responsible to remove all existing frames and lids, all existing raising rings and any damaged upper courses of brick manholes. The upper two courses of brick manholes shall be replaced with a six-inch concrete raising ring set in a Portland cement mortar bed. All unusable frames and lids shall be relocated to the nearest City of Joliet maintenance facility.

Manholes/Valve Vaults within the pavement shall be plated until the hot mix asphalt binder course is placed. After the binder is placed, the contractor shall adjust each manhole/valve vault to binder elevation by making a **clean square sawcut** around the manhole/valve vault and backfilling with approved hot mix asphalt binder mix.

Adjustment Rings shall be installed per the **Adjustment Ring** section of specification 560.50. All raising rings shall be sealed using a polyurethane sealant or other approved flexible sealant. Tapered rings shall be used to install the frame to the slope of the road.

Prior to the placement of the final lift of hot mix asphalt surface course, the Plant Mix Seal Coat Contractor shall adjust each manhole/valve vault to finish grade by making a **clean square sawcut** and backfilling with approved Portland cement concrete. The adjusted manholes/valve vaults shall have a minimum cure time of three (3) days after final adjustment prior to the placement of the final (surface) lift of asphalt.

On streets where the hot mix asphalt surface only or binder and surface courses are to be constructed in the same year, the contractor shall adjust the manholes/valve vaults to final hot mix asphalt surface elevation, backfilling with approved Portland cement concrete as stated above.

The final elevation of the adjusted frame and lid on the surface course shall be parallel to the cross-slope of the road within a tolerance of 1/8" of the finish grade.

Sanitary Sewer structure must include the installation of an external chimney seal,
External Chimney Seal: External chimney seals are to be installed on all new manholes and shall conform to ASTM C923. Acceptable external chimney seals include Infi-Shield Uni-Band or an approved equivalent.

Basis of Payment:

This work shall be paid for at the contract unit price each for MANHOLE TO BE ADJUSTED and VALVE VAULT TO BE ADJUSTED of the type specified, which price shall include the cost of the mortar bed as described in the Article 604.04 of the "Standard Specifications".

602.15 MANHOLE TO BE ADJUSTED (SPECIAL)

This work shall be performed in accordance with Section 602 of the "Standard Specifications." This work shall consist of rotating the conical section of existing manholes so as to align the opening within the proposed curb and gutter line, sealing the conical section with the remaining manhole section with a mortar mix as described in Article 602.04.

If, due to the rotation of the conical section, the manhole steps are no longer aligned or accessible, the contractor shall install new cast iron steps per Highway Standard 1527- 9. Steps of other design and material that will conform to the minimum requirements of the cast iron steps may be used when approved by the Engineer.

Adjustment Rings shall be installed per the **Adjustment Ring** section of specification 560.50. New castings shall be provided by the Contractor as requested by the engineer and installed by the Contractor per Article 602. Existing castings shall be removed by the Contractor and taken to the nearest City of Joliet maintenance facility.

Sanitary Sewer structure must include the installation of an external chimney seal,
External Chimney Seal: External chimney seals are to be installed on all new manholes and shall conform to ASTM C923. Acceptable external chimney seals include Infi-Shield Uni-Band or an approved equivalent.

Basis of Payment:

This work shall be paid for at the contract unit price each for MANHOLES TO BE ADJUSTED (SPECIAL), which price shall include all materials, labor and equipment necessary to complete the work as described above.

602.20 CATCH BASIN/INLET TO BE RELOCATED

This work includes furnishing all materials, equipment and labor necessary for the removal and relocation of an existing catch basin and/or inlet from the existing location to the proposed line and grade as shown on the plans in accordance with the Section 602 of the "Standard Specifications" as applicable.

This work shall include backfilling the removed structure excavation with trench backfill, and excavation and backfilling with trench backfill for the relocated catch basin. Installing the proposed storm sewer to the relocated catch basin and plugging the catch basin's existing storm sewer opening with brick and suitable mortar, if necessary, shall be considered incidental to the catch basin to be relocated.

Basis of Payment:

This work shall be paid for at the contract unit price each for CATCH BASIN/INLET TO BE RELOCATED, which price shall include all labor, equipment and materials necessary to satisfactorily complete the work as described above.

602.30 FRAMES AND LIDS

This work shall consist of furnishing and transporting frames and lids, in accordance with Section 604 of the “Standard Specifications”, on existing and new utility structures as directed by the Engineer. Manhole lids shall be stamped “CITY OF JOLIET” and “SANITARY”, “WATER’ AND or “STORM” accordingly. In addition, all sanitary and valve vault manhole covers shall have a concealed pick-hole with sealed gasket. Approved casting to be used on sanitary sewer manholes is EJ 1050Z1 with watertight lid or approved equal.

Adjustment Rings shall be installed per the **Adjustment Ring** section of specification 560.50.

Sanitary Sewer structure must include the installation of an external chimney seal,
External Chimney Seal: External chimney seals are to be installed on all new manholes and shall conform to ASTM C923. Acceptable external chimney seals include Infi-Shield Uni-Band or an approved equivalent.

Basis of Payment:

This work shall be paid for at the contract unit price each for FRAMES & LIDS of the type specified.

602.40 FRAME AND GRATE TO BE FURNISHED AND INSTALLED

This item shall include all materials, labor and equipment necessary to furnish and install a Frame and Grate of the type specified on a catch basin or inlet as indicated on plans per Section 604 of the “Standard Specifications”. This item also shall include any vertical adjustments necessary on the structure to meet grade requirements. The contractor is responsible to remove all existing frame and grates and relocate them to the nearest City of Joliet maintenance facility.

The top of the grate (curb back) shall include a ‘Public Notification’ statement not to pollute in accordance with CLEAN WATER ACT storm water discharge requirements. The notification shall be permanently cast in the structure.

Basis of Payment:

This work will be paid for at the contract unit price each for FRAME AND GRATE TO BE FURNISHED AND INSTALLED of the type specified.

605.00 CATCH BASIN/INLET TO BE REMOVED

This work includes furnishing all materials, equipment and labor necessary for the removal and disposal of existing catch basins and/or inlets, backfilling the removed structure excavation with trench backfill, which shall be considered incidental to this item, and plugging the existing storm sewer at the catch basin and/or inlet end and at the existing sanitary/storm manhole connection. The existing storm sewer shall be plugged with brick and Portland Cement mortar for a depth of 12 inches, or the diameter of the pipe, whichever is greater and to the satisfaction of the Engineer. This work shall be considered mandatory to the catch basin and/or inlet to be removed and no payment will be allowed until all portions are completed.

Basis of Payment:

This work will be paid for at the contract unit price each for INLET/CATCH BASIN TO BE REMOVED.

605.50 ABANDON MANHOLE STRUCTURE

The contractor shall abandon structures indicated in the plans or as directed by the Engineer. This work shall include all labor, materials, and equipment necessary to plug all pipes and remove the frame, cover, and adjustment rings of the manhole structures.

All connected pipes to the structure to be abandoned shall be plugged according to 550.40 PLUG PIPE. The Contractor shall remove the frame, cover, and adjustment rings of the manhole structures, and cone/flat-top/wall to a minimum of two (2') below finished grade. The Structure shall be filled with trench backfill and is considered incidental to this item.

Contractor shall be responsible for off-site disposal of adjustment rings. The frame and cover must be returned to the City of Joliet at 921 Washington Street (Contact information will be provided at the preconstruction meeting).

Basis of Payment:
This work will be paid for at the contract unit price each for ABANDONED MANHOLE STRUCTURE, which price shall include the cost of all labor, materials and equipment necessary to complete the work.

606.00 COMBINATION CONCRETE CURB AND GUTTER

This work includes furnishing all materials, equipment and labor necessary to install combination concrete curb and gutter of the type specified in accordance with Section 606 of the "Standard Specifications" and IDOT Highway Standard Detail 606001-04, with the exception that the sawcut contraction joint spacing shall be at fifteen feet intervals.

Depressed curbing shall be placed at all driveway entrances and as shown on the plans or as directed by the Engineer. No additional compensation shall be allowed for depressed curbing. Curb shall be constructed with a nine inch (9") minimum thickness at the flag.

The string line for slip-formed curb shall be set in accordance with the grades provided for the project. No adjustments shall be made unless supervised and/or directed by the resident engineer or project engineer. A maximum vertical construction tolerance of ± 0.02 feet is allowed. In all cases, positive flow must be maintained to all drainage structures.

The castings for all drainage structures which are in the curb line shall be placed after the mainline curb is installed. A minimum twelve foot (12 ft) gap shall be centered at the drainage structure.

Expansion joints shall be placed at the following locations:

- Start and end of all radius points;
- All construction joints and interrupted placement locations;
- Curb terminations with bullnose section at project ends; and
- Approximately five feet (5 ft) each side of curb line drainage structures.

This work shall also include backfilling and compaction behind the curbs, within the affected parkway area, and shall be considered incidental to this item.

Basis of Payment:

This work shall be paid for at the contract unit price per linear foot for COMBINATION CONCRETE CURB AND GUTTER, of the type specified.

606.10 COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT

This item shall include all labor, equipment, and material necessary for the removal and replacement of combination concrete curb and gutter in accordance with the applicable portions of Sections 606 and 440 of the "Standard Specifications" at the locations as designated by the plans or as directed by the Engineer. This item shall include the removal of the existing concrete curb and gutter and roadway necessary to install new combination concrete curb and gutter, of the same type as removed, or Type B-6.12, as directed by the Engineer. All new curbs shall be placed on a three inch (3") sub-base of coarse aggregate material gradation CA-6, which shall be considered incidental to this item. The aggregate sub-base shall extend to a point six inches (6") beyond the back of curb. Hot Mix Asphalt replacement required as a result of this work shall be paid for as HOT MIX ASPHALT REMOVAL AND REPLACEMENT, 3" or as specified.

Basis of Payment:

This work shall be paid for at the contract unit price per linear foot for COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT, which price includes the removal and disposal of excavated material, placing and compacting the aggregate subbase, and constructing new combination concrete curb and gutter of the type specified.

606.20 HAND FORMED CURB

This work includes installing combination concrete curb & gutter per specification No. 56 of the Special Provision except that this work is to be hand framed. This work is to be performed only at the locations specified on the drawings. Any other concrete curb & gutter that is hand-framed shall be considered incidental to combination concrete curb and gutter of the type specified.

Basis of Payment:

This work will be paid for at the contract unit price per linear foot for HAND FORMED CURB of the type specified.

606.30 FINE GRADING BENEATH THE CURB

The City of Joliet will be responsible for preparing the subbase to within three inches (3") of finished sub-grade.

This work shall include all equipment and labor necessary for the removal or placement and compaction required to bring the stone underneath the curb and gutter to finished sub-grade. Stone will be supplied by the City of Joliet and shall be placed by the Contractor, and compacted to 95 percent (95%) of the standard dry density as determined in the lab.

Basis of Payment:

This work will be paid for at the contract unit price per linear foot per FINE GRADING BENEATH THE CURB.

606.40 CURB REMOVAL – SPECIAL

This work included furnishing equipment and labor necessary to remove existing concrete curb in accordance with Section 440 of the Standard Specifications with the following inclusions:

The existing curb and surrounding materials shall be removed to allow for the construction of proposed curb.

No additional compensation will be allowed for variations in the horizontal position of the back of curb within 18 inches.

Basis of Payment:

This work will be paid for at the contract unit price per linear foot for CURB REMOVAL - SPECIAL, as measured in place.

602.42 TYPE 11 FRAME AND GRATE (SPECIAL)

Where Type 11 Frame and Grates (Special) are specified in the plans and contract, either as a furnished and installed item or as part of a catch basin/inlet, the Type 11 Frame and Grate (Special) shall be an East Jordan Frame No. 7210 with an M3 Grate, or an approved equivalent. This frame and grate shall be used as required by the plans within areas of depressed curb.

Basis of Payment:

This work shall be paid for at the contract unit price each for CATCH BASIN/INLET WITH TYPE 11 FRAME AND GRATE (SPECIAL) or for TYPE 11 FRAME AND GRATE (SPECIAL) TO BE FURNISHED AND INSTALLED. No additional compensation shall be allowed due to providing this specified frame and grate.

602.44 TYPE 11 FRAME AND GRATE (VANED)

Where Type 11 Frame and Grate (Vaned) are specified in the plans and contract, either as a furnished and installed item or as part of a catch basin/inlet, the Type 11 Frame and Grate (Vaned) shall be an East Jordan Frame No. 7210 with an M4 Grate, or an approved equivalent. This frame and grate shall be used as required by the plans within areas where the longitudinal slope exceeds the cross slope.

The top of the grate (curb back) shall include a 'Public Notification' statement not to pollute in accordance with CLEAN WATER ACT storm water discharge requirements. The notification shall be permanently cast in the structure.

Basis of Payment:

This work shall be paid for at the contract unit price each for CATCH BASIN/INLET WITH TYPE 11 FRAME AND GRATE (VANED) or for TYPE 11 FRAME AND GRATE (VANED) TO BE FURNISHED AND INSTALLED. No additional compensation shall be allowed due to providing this specified frame and grate at additional areas not specified on the plans.

640.00 FENCE TO BE REMOVED AND RE-ERECTED

This work shall consist of the removal and re-erection of fence segments of the type shown in the plans. The fence shall be removed so that all materials considered suitable by the Engineer for future use will be salvaged. The salvaged material shall be stored at locations and in a manner approved by the Engineer. Any of the material having salvage value and which has been damaged by the Contractor, all be replaced by the Contractor at his/her own expense with new material of the same kind. The salvaged fence shall be re-erected in accordance with Section 664 of the "Standard Specifications."

Method of Measurement:

Fence to be removed and re-erected will be measured for payment in linear feet. The length paid for will be the overall length along the top of the fence from center to center of end posts.

Basis of Payment:

This work will be paid for at the contract unit price per linear foot for FENCE TO BE REMOVED AND RE-ERECTED, and measured as specified herein, which price shall include payment for all excavation and backfilling.

This work shall also include the cost of furnishing any non-salvageable materials and installing these materials as specified. No additional compensation will be allowed the Contractor for clearing or encasing the posts in concrete.

671.00 MOBILIZATION

This item shall consist of the mobilization of equipment and material required for the Hot Mix Asphalt Surface Removal.

Basis of Payment:

This work shall be paid for at the contract unit prices each for MOBILIZATION.

701.00 TRAFFIC CONTROL AND PROTECTION

This item shall include furnishing, installing, maintaining, relocating and removing all traffic control devices used for the purpose of regulating, warning or directing traffic during the construction or maintenance of this improvement.

Traffic Control and Protection shall be provided as called for in the plans, these Special Provisions, applicable Highway Standards, applicable sections of the Standard Specifications or as directed by the Engineer.

The governing factor in the execution and staging of work for this project is to provide the motoring public with the safest possible travel conditions along the roadway through the construction zone. All traffic control devices used on the project shall conform to the plans, special provisions, traffic control standards, traffic specifications and the "Illinois Manual on Traffic Control Devices for Streets and Highways" and the "Traffic Control Devices Handbook." No modification of these requirements will be allowed without prior written approval of the Engineer.

The Contractor shall be responsible for the proper location, installation and arrangement of all traffic control devices. All traffic control devices shall remain in place until specific authorization and relocation or removal is received from the Engineer.

The Contractor shall ensure that all traffic control devices installed by him are operational 24 hours a day, including Sundays and holidays.

Basis of Payment:

This work will be paid for at the contract unit price per lump sum for TRAFFIC CONTROL AND PROTECTION.

701.10 TRAFFIC CONTROL AND PERMITS

It is the Contractor's responsibility to maintain a minimum of one thru lane of traffic, with flaggers, during construction working hours, and two lanes of traffic shall be re-established at the end of each workday, and on all weekends and holidays. No overnight closures will be allowed.

It is the Contractor's responsibility to obtain all necessary permits, bonding, and insurance required by the Illinois Department of Transportation and Railroad Companies, for work performed within the construction limits. This includes, but is not limited to additional traffic control and, or flaggers, as required.

These items will not be paid for separately, but shall be considered incidental to the contract. No additional compensation will be allowed for delays due to permit application or variations required.

701.50 PROJECT SIGN

The Contractor shall furnish all labor, material and equipment necessary to fabricate, erect, maintain and remove a project sign as shown in the contract documents. The sign shall be of the dimensions shown and covered on all surfaces with at least two (2) coats of flat white outdoor paint. The lettering shall be as shown and shall consist of flat black outdoor paint. The sign shall be as shown immediately following these "Special Provisions."

Construction shall not begin on this project until the project sign is in place at the location designated by the City. The sign shall be maintained throughout the duration of the project.

Basis of Payment:

This work will be paid for at the contract unit price each for PROJECT SIGN.

724.00 REMOVING AND RESETTING STREET SIGNS

This work shall consist of removing and resetting street signs at locations shown on the plans or as designated by the Engineer. Signs or posts damaged by the Contractor shall be replaced by him at his own expense. These signs shall be placed in a manner satisfactory to the Engineer.

This work will not be paid for separately but shall be considered incidental to the contract and no additional compensation will be allowed.

844.00 STREET LIGHTING

All existing street lighting/power poles and luminaries required to be moved shall be relocated and wired by the Commonwealth Edison Company as per their franchise agreement.

No compensation shall be allowed the Contractor for street lighting relocation work.

886.00 DETECTOR LOOP REPLACEMENT

This work shall consist of the replacement of traffic signal detector loops in accordance with the applicable portions of Sections 886, details in the plans, and/or specified herein.

The work shall be done by an approved Electrical Contractor as directed by the Engineer. Replacement of the loops shall be accomplished in the following manner: The Engineer shall mark the location of the replacement loops. The Traffic Engineer shall be called to approve loop locations prior to the cutting of the pavement. The Contractor may reuse the existing conduit (duct) located between the existing hand hole and pavement if it hasn't been damaged. All burrs shall be removed from the edges of the existing conduit, which may cause damage to the new detector loop during installation. If the existing conduit is damaged beyond repair, or it can not be located, or if additional conduits are required to provide one lead-in duct for each loop; the Contractor shall be required to drill through the existing pavement or curb, into the appropriate hand hole, and install 25mm (1") unit duct conduit. Upon establishment of the duct, the loop may be cut, installed, sealed, and spliced to the twisted-shielded controller cable in the hand hole.

Detector loop measurements shall include the saw-cut and the length of the loop lead-in, leading from the edge of pavement, to the middle of the hand hole, or in the case of temporary signals, the middle of the wood pole. Unit duct, splicing, trench and backfill, and drilling of pavement or handholes shall be incidental to detector loop quantities.

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

A minimum of two (2) working days prior to the Contractor cutting loops, the Contractor shall have the proposed loop locations marked and contact the Traffic Engineer at (815) 724-4210, to approve the layout.

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

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

Each loop detector lead-in wire shall be labeled in the hand hole using a Panduit 250W175C water proof tag, or approved equal, secured to each wire with nylon ties. The lead-in wire, including all necessary connections for proper operation, from the edge of pavement to the hand hole, shall be incidental to the price of the detector loop.

Loop sealant shall be a two component thixotropic chemically cured polyurethane, either Chemque Q-Seal 295, Percol Elastic Cement A/C Grade, or an approved equal. The sealant shall be installed 3mm (1/8”) below the pavement surface, if installed above the surface; the overlap shall be removed immediately.

Round loop(s) 1.8 m (six foot) diameter may be substituted for 1.8 m (six foot) square loops, and shall be paid for as 7.2 m (24 feet) of detector loop.

Resistance to ground shall be a minimum of 100 mega-ohms under any conditions of weather or moisture.

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

Basis of Payment

This item shall be paid for at the contract unit price per foot of DETECTOR LOOP REPLACEMENT, measured along the sawed slot in the pavement containing the loop and lead-in, rather than the actual length of wire in the slot, including the length of the loop lead-in from the edge of the pavement to the middle of the hand hole, or the wood pole, which price shall be payment in full for furnishing, installing, and testing the detector loop complete and in place. Drilling handholes, sawing the pavement, furnishing and installing unit-duct to the appropriate hand hole, cable splicing to provide a fully operable detector loop, and all trench and backfill shall be considered incidental to the cost of DETECTOR LOOP REPLACEMENT.

886.10 MAGNETIC DETECTOR REMOVAL AND DETECTOR LOOP INSTALLATION

This work shall consist of the removal of existing magnetic detectors, magnetic detector lead-in cable and magnetic detection amplifiers and related equipment, wiring, and the installation of detector lead-in cable, detector loops, detector amplifiers, and related equipment wiring. The detector loop, cable, and amplifier shall be installed according to the applicable portions of the Standard Specifications, and the applicable portions of the Special Provision for Detector Loop Replacement.

Basis of Payment

This item shall be paid for at the contract unit price per foot for DETECTOR LOOP, TYPE I, per each for INDUCTIVE LOOP DETECTOR, and per foot for ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO.14 1 PAIR. All drilling of handholes, furnishing and installing unit duct, cable splicing, trench and backfill, removal of equipment, and pulling cable from conduit, shall be incidental to this work.

Special Provisions Checklist

The following SPECIAL PROVISIONS (revision date October 1, 2020) indicated by an "X" are applicable to this contract and are included by reference. They are available on the City of Joliet Website at: https://www.joliet.gov/departments/finance/purchasing/special-provisions-general-conditions

- ☐ 102.00 MINORITY EMPLOYMENT REQUIREMENTS
- ☐ 105.00 MATERIAL INSPECTION
- ☐ 105.10 CONSTRUCTION LAYOUT STAKES
- ☐ 107.00 NOTIFICATION OF RESIDENTS
- ☐ 107.10 PROTECTION OF PROPERTY AND SURFACE STRUCTURES
- ☐ 107.20 MAILBOX PROTECTION/ RELOCATION
- ☐ 107.30 CARRIAGE STONES TO BE PROTECTED
- ☐ 107.40 EXISTING UTILITIES
- ☐ 107.45 WORK TO BE DONE BY OTHERS
- ☐ 107.50 INTERRUPTION TO UTILITIES
- ☐ 107.60 STRUCTURE PROTECTION
- ☐ 107.70 WATER MAIN PROTECTION
- ☐ 107.80 RAILS TO BE REMOVED
- ☐ 108.00 TIMELINESS OF WORK
- ☐ 108.10 PREMIUM TIME
- ☐ 109.00 CONTRACTOR SUPPLIED LABOR
- ☐ 109.07 PARTIAL PAYMENTS AND RETAINAGE
- ☐ 109.10 EQUIPMENT RENTAL
- ☐ 201.00 TREE ROOT SAWING
- ☐ 201.10 HEDGE REMOVAL AND REPLACEMENT
- ☐ 202.00 EARTH EXCAVATION – SPECIAL
- ☐ 202.10 PARKWAY EXCAVATION
- ☐ 202.20 ROADWAY EXCAVATION
- ☐ 202.30 OVERHAUL
- ☐ 202.50 TESTING FOR CONTAMINATED MATERIAL
- ☐ 202.60 REMOVAL AND DISPOSAL OF CONTAMINATED MATERIAL
- ☐ 207.00 POROUS GRANULAR EMBANKMENT, SPECIAL
- ☐ 208.00 TRENCH BACKFILL
- ☐ 211.00 FURNISHING AND PLACING TOPSOIL
- ☐ 250.00 SEEDING, TYPE 1A
- ☐ 250.10 HYDRAULIC SEEDING
- ☐ 251.00 HARDWOOD MULCH
- ☐ 252.00 SODDING
- ☐ 253.00 TREES TO BE PLANTED
- ☐ 280.00 EROSION CONTROL
- ☐ 302.00 FLOWABLE FILL
- ☐ 311.00 CITY PROVIDED STONE
- ☐ 351.00 AGGREGATE BASE COURSE
- ☐ 351.10 AGGREGATE BASE COURSE, TYPE B, VARIABLE THICKNESS
- ☐ 351.20 AGGREGATE BASE COURSE, TYPE B, SPECIAL, (2" and less)
- ☐ 356.00 REPAIR AND PREPARATION OF BASE COURSE
- ☐ 358.00 PREPARATION OF BASE (ALLEYS)
- ☐ 358.10 STREETSCAPE BRICK REMOVE AND REPLACE

Special Provisions Checklist (cont.)

- ☐ 403.00 APPLICATION OF BITUMINOUS MATERIAL (PRIME COAT)
- ☐ 406.10 SAWCUT ASPHALT SURFACE
- ☐ 406.20 SAWCUT CONCRETE SURFACE
- ☐ 406.30 ASPHALT/CONCRETE SAWING
- ☐ 406.40 TEMPORARY DRIVEWAY ACCESS
- ☐ 406.50 SURFACE TESTS
- ☐ 407.00 HOT MIX ASPHALT REMOVAL AND REPLACEMENT
- ☐ 407.10 HOT MIX ASPHALT DRIVEWAY PAVEMENT
- ☐ 423.00 PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT
- ☐ 424.00 PORTLAND CEMENT CONCRETE SIDEWALK
- ☐ 424.10 SIDEWALK REMOVAL AND REPLACEMENT
- ☐ 424.20 P.C.C. SIDEWALK STEP CONSTRUCTION
- ☐ 440.00 DRIVEWAY PAVEMENT REMOVAL AND REPLACEMENT
- ☐ 440.10 DRIVEWAY PAVEMENT REMOVAL
- ☐ 440.20 HOT MIX ASPHALT REMOVAL AREA (SPECIAL)
- ☐ 440.30 HOT MIX ASPHALT SURFACE REMOVAL–VARIABLE DEPTH
- ☐ 440.40 LATE SIDEWALK REMOVAL
- ☐ 440.50 SIDEWALK TILES TO BE SALVAGED
- ☐ 442.00 FULL DEPTH PATCHING
- ☐ 443.00 AREA REFLECTIVE CRACK CONTROL TREATMENT (SYSTEM A)
- ☐ 522.00 MODULAR CONCRETE BLOCK RETAINING WALL
- ☐ 522.10 TIMBER RETAINING WALL
- ☐ 522.20 TIMBER RETAINING WALL TO BE REMOVED AND RE-ERECTED
- ☐ 550.00 STORM SEWERS
- ☐ 550.10 DUCTILE IRON PIPE FOR STORM SEWER
- ☐ 550.30 WIDTH OF EXCAVATION FOR STORM SEWER
- ☐ 550.40 PLUG PIPE
- ☐ 551.00 STORM SEWER REMOVAL
- ☐ 551.10 REMOVE AND RELAY STORM SEWERS
- ☐ 560.00 SANITARY SEWER
- ☐ 560.10 FORCE MAIN
- ☐ 560.20 SANITARY SEWER REPLACEMENT
- ☐ 560.40 RESTRAINED JOINTS
- ☐ 560.50 SANITARY MANHOLES
- ☐ 560.60 SANITARY SERVICE REPLACEMENT
- ☐ 560.70 SUMP LINE CONNECTION - VARIOUS SIZES
- ☐ 560.80 CLEAN OUT STRUCTURE
- ☐ 560.90 SANITARY SEWER POST TELEVISING
- ☐ 561.00 DUCTILE IRON WATER MAIN
- ☐ 561.04 CONNECT TO WATER MAIN (NON-PRESSURE)
- ☐ 561.06 CASING PIPE
- ☐ 561.08 MISCELLANEOUS FITTINGS
- ☐ 561.10 ADJUSTING WATER MAIN
- ☐ 561.15 DISCONNECTING OF EXISTING WATER LINE
- ☐ 561.20 CONNECT TO WATER MAIN (PRESSURE)
- ☐ 561.22 GATE VALVES

Special Provisions Checklist (cont.)

- ☐ 561.24 BUTTERFLY VALVE
- ☐ 561.26 VALVE VAULT
- ☐ 561.27 VALVE VAULT (ADDITIONAL DEPTH)
- ☐ 561.28 VALVE BOX
- ☐ 561.30 AIR RELEASE VALVE AND VAULT
- ☐ 561.40 LINE STOP
- ☐ 561.50 INSERTION VALVE
- ☐ 561.60 FIRE HYDRANT COMPLETE WITH AUXILIARY VALVE
- ☐ 561.65 FIRE HYDRANT COMPLETE WITHOUT AUXILIARY VALVE
- ☐ 561.68 FIRE HYDRANT BARREL EXTENSION
- ☐ 562.00 WATER SERVICE LINE
- ☐ 562.01 WATER SERVICE CONNECTION
- ☐ 562.10 WATER SERVICE LINE TYPE K (LEAD ONLY)
- ☐ 562.11 PROJECT MANAGEMENT (LEAD ONLY)
- ☐ 562.12 WATER SERVICE CONNECTION ON PRIVATE PROPERTY – BASEMENT OR CRAWL SPACE (LEAD ONLY)
- ☐ 562.13 WATER SERVICE CONNECTION ON PRIVATE PROPERTY – SLAB (LEAD ONLY)
- ☐ 562.14 WATER SERVICE LINE TYPE L (LEAD ONLY)
- ☐ 562.15 UTILITY LOCATION – PRIVATE PROPERTY (LEAD ONLY)
- ☐ 562.16 WATER METER RELOCATION
- ☐ 563.10 VALVE BOX TO BE ADJUSTED
- ☐ 563.20 VALVE VAULT TO BE REMOVED
- ☐ 563.30 VALVE BOX TO BE REMOVED
- ☐ 563.40 ADJUSTING WATER SERVICE LINES
- ☐ 563.50 DOMESTIC WATER SERVICE BOXES TO BE ADJUSTED
- ☐ 563.55 DOMESTIC WATER SERVICE BOXES TO BE RELOCATED
- ☐ 563.60 ABANDON EXISTING WATER MAIN
- ☐ 563.70 ADJUSTING SANITARY SEWER SERVICE LINE
- ☐ 564.00 FIRE HYDRANTS TO BE MOVED
- ☐ 564.10 FIRE HYDRANT TO BE REMOVED
- ☐ 565.00 WATER METER RELOCATION
- ☐ 550.20 P.V.C. (POLY VINYL CHLORIDE STORM SEWER, SDR 26)
- ☐ 602.00 MANHOLES
- ☐ 602.10 STRUCTURE TO BE ADJUSTED
- ☐ 602.14 MANHOLE /VALVE VAULT TO BE ADJUSTED
- ☐ 602.15 MANHOLE TO BE ADJUSTED (SPECIAL)
- ☐ 602.20 CATCH BASIN/INLET TO BE RELOCATED
- ☐ 602.30 FRAMES AND LIDS
- ☐ 602.40 FRAME AND GRATE TO BE FURNISHED AND INSTALLED
- ☐ 605.00 CATCH BASIN/INLET TO BE REMOVED
- ☐ 605.50 ABANDON MANHOLE STRUCTURE
- ☐ 606.00 COMBINATION CONCRETE CURB AND GUTTER
- ☐ 606.10 COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT

Special Provisions Checklist (cont.)

- ☐ 606.20 HAND FORMED CURB
- ☐ 606.30 FINE GRADING BENEATH THE CURB
- ☐ 606.40 CURB REMOVAL – SPECIAL
- ☐ 602.42 TYPE 11 FRAME AND GRATE (SPECIAL)
- ☐ 602.44 TYPE 11 FRAME AND GRATE (VANED)
- ☐ 640.00 FENCE TO BE REMOVED AND RE-ERECTED
- ☐ 671.00 MOBILIZATION
- ☐ 701.00 TRAFFIC CONTROL AND PROTECTION
- ☐ 701.10 TRAFFIC CONTROL AND PERMITS
- ☐ 701.50 PROJECT SIGN
- ☐ 724.00 REMOVING AND RESETTING STREET SIGNS
- ☐ 844.00 STREET LIGHTING
- ☐ 886.00 DETECTOR LOOP REPLACEMENT
- ☐ 886.10 MAGNETIC DETECTOR REMOVAL AND DETECTOR LOOP INSTALLATION