

The "Standard Specifications for Road and Bridge Construction" prepared by the Department of Transportation of the State of Illinois and adopted by said Department on January 1, 2012, and the Supplemental Specifications prepared by the Department of Transportation of the State of Illinois and adopted on January 1, 2015, herein referred to as the Standard Specifications, shall govern the bidding, construction and execution of the proposed project. Where the term "Department" appears in the Specifications, the "City of Rockford" shall be substituted therefore, and where any term for an employee of the Department is used, the designated City of Rockford employee shall be substituted therefore. City of Rockford Water Division Specifications - Revised, dated December 9, 2013, and the General Provisions and Technical Specifications for Sanitary Sewer Construction in the Rock River Water Reclamation District dated October 24, 1983, and all standards and revisions adopted by the Board of Trustees for said Rock River Water Reclamation District shall also apply to this improvement where appropriate. Style, type and grade of all materials used for construction shall be approved by the City of Rockford Public Works Department, City of Rockford Water Division and Rock River Water Reclamation District prior to bidding, ordering or placing any materials.

Herein after the terms "Owner", "Ownership", "City", "Engineer", or any derivatives of such shall mean the City of Rockford or its designated representative and the term "Contractor" shall mean the entity who proposes to perform the work herein described or its designated subcontractors.

The following Special Provisions supplement the said specifications and, in case of conflict with any part or parts of said specifications, these Special Provisions shall take precedence and shall govern.

SECTION 1 – GENERAL

1.1 DESCRIPTION OF WORK

The project includes the complete reconstruction of Water Street and the adjacent parking areas, storm sewer replacement, water main replacement, aggregate base course, HMA paving, concrete combination curb & gutter, excavation, site lighting, and landscaping. The project includes upper and lower sites which are included as a single bid and which shall be considered a single site. The included area is between Madison Street and the Rock River and from Walnut Street south to the Union Pacific Railroad. The project does not include the former Ingersoll building or the river path adjacent to the building which is covered under a separate contract.

1.2 CONSTRUCTION STAKING COMPLETE

Contractor shall be responsible for setting and staking all grades as indicated on any applicable plans and cross sections. Any deviation from current grades without written authorization from the Owner will not be accepted for payment until the Contractor has corrected the construction to the satisfaction of the City.

Project shall be constructed as 'grade to drain' and must convey all storm water to approved inlets and structures.

1.3 CONTRACT SUBLETTING-COOPERATION AMONG SUBCONTRACTORS

The following is in addition to Section 108.01 of the IDOT Standard Specifications and shall read as follows:

"Total contract costs" shall equal the sum of the pay items listed in the contract. Prior to the approval of any subcontracts by the Owner, the contractor shall designate those Pay Items that are to be subcontracted. Subcontracted pay items shall include all labor, materials and equipment to complete the pay item, as required by the contract, including purchase and delivery of materials to the job site. The determination of Contractor's own organization work shall be those pay items that are constructed at the job site with the Contractor's labor and equipment. Labor shall include all personnel working for the Contractor. The cost of that portion of "total contract cost" which is subcontracted shall be determined by multiplying the unit cost as designated in the Pay Item, times the actual units provided, as physically constructed at the job site, and finally verified by the Owner. No division of individual Pay Items between the contractor and subcontractor(s) shall be permitted. Any violation of this paragraph may result in disqualification of the contractor from future bids.

It shall be the responsibility of the Contractor to ensure full cooperation among the subcontractors doing work on the project.

All subcontractors to be utilized by the Contractor shall provide Ownership with a Project Specific Certificate of Insurance naming City of Rockford as additional insured prior to commencement of work by said subcontractor.

1.4 CONTROL OF WORK AND CONSTRUCTION INSPECTION

The Contractor and/or their sub-contractor shall cooperate with the General Contractor and their sub-contractors regarding access to the site prior to the commencement of construction activities. The morning of the work, the Contractor will again be required to notify the residents door to door.

Any work performed without the presence of an Owner's designated representative to inspect said construction shall not be accepted for payment as directed by the Owner. Contractor shall notify the City a minimum of 24 hours in advance of the start of construction or the continuation of construction following a pause in work.

City representatives shall only be available between 7:30 am and 3:30 pm on weekdays. Inspectors will not be available on Saturdays, Sundays and official City of Rockford holidays. Except for work required to maintain warning lights, barricades and other safety/health-related systems no work shall be performed

on Saturdays, Sundays, legal holidays, or between 3:30 p.m. and 7:30 a.m. on other days without specific permission of the Owner. Additionally, no work will be allowed in certain areas of the project on days as specified by the City of Rockford.

Owner will provide services as needed for construction observation/inspection between the hours of 7:30 a.m. and 3:30 p.m., Monday through Friday, except for official City of Rockford holidays. Should the Contractor work outside these hours whether by his choice or in response to an emergency situation, Contractor shall pay for excess observation time at a rate of \$70.00 per hour per inspector for the number of construction observation/inspection hours expended by the Owner's designated representatives. The applicability of this excess engineering cost shall be determined on the basis of the representative's work hours expended **in each individual day** and shall not be predicated upon Contractor's work hours on preceding days or the Contractor's proposed schedule for completing the Project. Moneys due the Owner for excess engineering shall be deducted from the project's final application for payment.

1.5 EXISTING UTILITIES AND DRAINAGE STRUCTURES LOCATIONS

The Owner does not guarantee the completeness or accuracy of the information shown on any plans regarding gas and water mains, sewers, inlets, buffalo boxes and power lines, poles or any other existing utilities or drainage structures. The contractor shall make their own investigation to verify or determine the existence, nature and location of all utilities on the site that may interfere with construction before commencing work. The Contractor shall report to the Owner any omissions or differences in location from that shown on any project plans. Care should be taken while working near these utilities to prevent their damage.

1.6 REQUIREMENTS FOR WATER MAIN VALVE SHUT OFF

- a) Contractor shall obtain the permission of the Water Superintendent, or his designee, prior to any water main valve shut off.
- b) Contractor shall notify all water customers affected by the water main valve shut off at least 24 hours in advance, using forms supplied by the Water Division.
- c) Contractor shall notify the Water Division Operations Center Operator (779-348-7368) prior to any water main valve shut off and provide the following information (pursuant to Illinois Municipal Code 65 ILCS 5/11-20-10.5):
 - Streets and boundaries of shut down
 - Time of shut down
 - Approximate duration of shut down
 - Number of customers affected

- If non-residential customers (hospitals, nursing homes, restaurants, etc.) are affected, a count of how many individuals affected will be provided.
- d) Contractor shall notify Water Division Operations Center Operator upon completion of repairs and restoration of water service.
- e) Contractor shall demonstrate, to the satisfaction of the Owner, that water service at each residence or business affected by the shutdown has been restored once the water service line has been reconnected.
- f) Contractor shall meet with Water Division personnel at least **five (5)** days prior to start of construction to coordinate exercising valves and determining valve shut off patterns during construction. The shutdown shall be allowed to proceed only after the Water Division representative has determined that the required valves are functioning. The Contractor shall be responsible for turning valves on and off during construction and accepts the responsibility for any and all damage to City property during construction.
- g) All costs of work associated with scheduled water main valve shut off shall be included in the individual bid items and no additional compensation shall be allowed.

1.6.1 REQUIREMENTS FOR UNSCHEDULED (EMERGENCY) WATER MAIN VALVE SHUT OFF:

- a) In the event the Contractor must perform an unscheduled water main valve shut off; the Contractor shall notify the Water Division Operations Center Operator (779-348-7368) as soon as possible.
- b) The Contractor shall notify all water customers affected by the water main valve shut off and the need to boil water as soon as possible, using forms supplied by the Water Division.
- c) The Contractor shall provide the following information (pursuant to Illinois Municipal Code 65 ILCS 5/11-20-10.5):
 - Streets and boundaries of shut down
 - Time of shut down
 - Approximate duration of shut down
 - Number of customers affected
 - If non-residential customers (hospitals, nursing homes, restaurants, etc.) are affected, a count of how many individuals affected will be provided.
 - If the Contractor is involved in repairs, the Contractor shall notify Water Division Operations Center Operator upon completion of repairs when water service has been restored.

- d) If the Contractor is involved in repairs, the Contractor shall notify the Water Division Operations Center Operator upon completion of the repairs when water service has been restored.

1.7 FAILURE TO COMPLETE WORK ON TIME

The Schedule of Deductions for Each Day of Overrun in Contract Time shall be according to Section 108.09 of the IDOT Standard Specifications.

1.8 CONSTRUCTION SEAMS

All paving seams (joints) shall be raked out and rolled according to Section 406 of the Standard Specifications and as directed by the Owner. No overlapping seams will be allowed. Any roadway with seams that fail within the first two years after construction shall be milled and resurfaced to full width at the Contractor's own expense and to the satisfaction of the owner.

1.9 MAINTENANCE OF DRIVEWAYS

Contractor shall provide vehicular access to residential or commercial/industrial driveways that shall be maintained to the property line except when necessary construction precludes such access for reasonable periods of time. If backfill has been completed to the extent that safe access may be provided, and the street is open to local traffic, the Contractor shall immediately clear the street and driveways and provide and maintain access. Any aggregate used to maintain access to driveways shall be considered incidental to the various bid items.

1.10 EROSION CONTROL AND NPDES COMPLIANCE

The Contractor shall provide all materials, labor, equipment and all other incidentals to provide proper erosion control as indicated in this General Provision to this Contract.

This work shall conform to the applicable portions of section 280 of the Standard Specifications and the attached details and all requirements set forth in the General NPDES Permit No. ILR10. The management practices, controls, and other provisions contained in the erosion and sediment control plan must be at least as protective as the requirements contained in the Illinois Urban Manual.

Any deviation of installation practices from the standard details shall be submitted to the Engineer for approval prior to placement.

The Contractor shall name a person at the preconstruction meeting who shall be on the jobsite during construction and who shall be responsible for ensuring the erosion control work is completed in a timely manner.

Any disturbed areas shall be kept to a practical minimum and shall be temporarily seeded, mulched, sodded or paved within 7 calendar days; except where Construction activity will resume on a portion of the site within 14 days from when activities ceased, (e.g. the total time period that construction activity is temporarily ceased is less than 14 days) then stabilization measures do not have to be initiated on that portion of the site by the 14th day after construction activity temporarily ceased. Best management practices will be in place downslope of the disturbed areas until final stabilization has occurred.

Any excess construction materials on site must be properly disposed of. All excess concrete material must be disposed of in an approved concrete washout container. NO CONCRETE IS TO BE WASHED INTO THE PARKWAY. The type, size, location and design of the concrete washout structures may vary but each must be approved prior to use. Concrete washout structures used on this project are considered incidental to the contract and will not be considered for additional payment.

When excess topsoil and excavated material is removed from the site, the Contractor shall take special precautions to avoid tracking or spilling dirt onto the adjacent roadways. If excavated material is spilled outside of the job site, the Contractor shall remove the debris and clean the pavements to the satisfaction of the Engineer, and properly dispose of the material.

1.11 SCHEDULING OF WORK

Contractor shall abide by the City of Rockford Construction Noise Ordinance (Sec. 17-6) for all work with the following exception. In certain areas (some commercial and/or industrial areas), the Contractor may be required to work outside of these hours. Ownership may waive specific requirements of the City of Rockford Construction Noise Ordinance on an individual case basis.

Contractor acknowledges that alterations to the construction sequencing and schedule may be required for coordination with any third-party utilities. Contractor shall be responsible for any necessary coordination with utility companies. Any delay to the contract caused directly or indirectly by third party utilities shall not be cause for adjustment to the contract sum.

Contractor shall be responsible for providing updated project schedules in the provided format to be submitted each Tuesday by the end of business hours. Schedules shall be completed electronically using the format provided. Schedules shall be completed to the quality and satisfaction of project ownership.

1.12 COORDINATION WITH BUILDING DEMOLITION

The Contractor shall coordinate his activities with the building demolition contractor, at all times, and may be required to work at other locations of the improvement until building demolition by the building demolition contractor is complete. The Contractor is advised that the duration and schedules of demolition

are only rough estimates and no extra compensation or time will be allowed for delays resulting from any work performed by the building demolition contractor. Building demolition is scheduled to begin April 1, 2013 with a duration of approximately one month.

1.13 DISPOSAL OF CLEAN CONSTRUCTION AND DEMOLITION DEBRIS (CCDD)

Per guidelines set by the Illinois Environmental Protection Agency (IEPA) (Public Act 96-1416, effective July 30, 2010) construction and disposal practices at jobsites and at CCDD sites have been changed as of July 30, 2010.

As stated by the IEPA: "Clean Construction and Demolition Debris (CCDD) is uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, or reclaimed asphalt pavement generated from construction or demolition activities. When uncontaminated soil is mixed with any of these materials, the uncontaminated soil is also considered CCDD. Uncontaminated soil that is not mixed with other CCDD materials is not CCDD."

Under this contract, material to be removed from the jobsite shall be disposed of at the contractor's expense following all applicable local, state and federal requirements as well as any requirements set forth by the Illinois Environmental Protection Agency and the Illinois State Pollution Control Board. These legal requirements specifically include but are not limited to the Illinois Environmental Protection Act (415 ILCS 5), IEPA CCDD Guidelines (Public Act 96-1416), and Title 35 of the Illinois Administrative Code.

It shall be the contractor's responsibility to properly dispose of all material to be removed from the project limits including both CCDD and non CCDD material. Any additional costs incurred to the contractor for the disposal of material shall be considered incidental to various excavation and removal pay items and will not be considered for additional payment of any kind. Such additional incidental costs may specifically include but are not limited to trucking and hauling, off-site material handling, over-weight permits, tipping fees, regulatory fees and surcharges, any applicable taxes, and any disposal costs including those for hazardous and non-hazardous special waste. Non-Hazardous Special Waste Removal has been included in this contract, and the requirements for removal of such materials must be in accordance with Articles 202 and 669 of the Standard Specifications for Road and Bridge Construction.

Contractor shall make every effort to re-use all excavated material on site for trench backfill, parkway restoration, or any other uses within the scope of the contract plans and specifications. Re-use of material for any reason shall be approved by the owner prior to placement of material at the jobsite.

All excavation and removal operations shall conform to Section 202 – Earth and Rock Excavation from the Standard Specifications for Road and Bridge Construction Adopted January 1, 2012.

Some project locations may not be covered under IEPA Form LPC-662 and in such a case, the contractor shall still be fully responsible for proper disposal of any excavated material.

It should be noted that even with the completion of IEPA Form LPC-662, The City of Rockford does not provide any representation or guarantee as to the chemical composition of any material to be removed from the project site and additional testing may or may not be required prior to acceptance at a fill site. Any costs incurred by the contractor for chemical testing of removed material shall be considered incidental to the various excavation and removal pay items and will not be considered for additional payment. Furthermore, the operator of any private fill site retains the right to reject any material at their discretion based on their own determination of the suitability of the material for their site. It is recommended that the contractor take care not to stockpile or mix together material from different sites before taking that material for disposal.

1.14 PARTIAL PAYMENT

Special attention is drawn to IDOT Article 109.07 (a). The City of Rockford will deduct from the amount so determined for the first 50 percent of the completed work a sum of ten percent to be retained until after the 50 percent or more of the work is completed, the Engineer may, at his/her discretion, certify the remaining partial payments without any further retention, provided that satisfactory progress is being made, and provided that the amount retained is not less than five percent of the total adjusted contract price. When the principal items of the work have been satisfactorily completed, a semi-final estimate may be made with the consent of the surety. Payment to the Contractor under such an estimate shall not exceed 90 percent of the amount retained after making partial payments, but in no event shall the amount retained after making the semi-final payment be less than one percent of the adjusted contract price, nor less than \$500.00.

When any payment is made directly to the City of Rockford, payments for completed work shall have deducted the proportionate share of the cost to be borne by the City of Rockford. The deduction will be the estimated cost to the City of Rockford divided by the awarded contract value with this percentage applied to the value of the work in place. Any adjustments to be made because of changed quantities will be made when the final payment is being processed. No retainage will be held from the value of such payments.

1.15 PROPER BACKFILLING

All trenches shall be backfilled, from the bottom of the trench to the centerline of the pipe, with granular backfill (FA-6 for water main) or approved native material. The backfill material shall be deposited in the trench for its full width on each side of the pipe simultaneously, distributed evenly by hand, carefully packing the backfill material under the haunches of the pipe and compacted by tamping.

All trenches shall be backfilled, from the centerline of the pipe to a depth of one (1) foot above the top of the pipe, with granular backfill (FA-6 for water main) or approved native material compacted by tamping. The contractor shall use special care in placing this portion of the backfill so as to avoid injuring or moving the pipes. Ag Lime materials will not be allowed for backfill material.

When the type of backfill is not indicated in the plans, or elsewhere specified, the trench shall be backfilled, from one (1) foot above the pipe to the finished grade, with native material, or other materials approved by the Engineer, in twelve (12) inch layers compacted by tamping.

Granular backfill material is required under pavements, curbs, driveways, or sidewalks planned to be constructed within one (1) year after backfill. The area requiring such granular backfill shall be indicated in the plans. Where the excavation is made through or within two (2) feet of permanent pavements, curbs, driveways, or sidewalks, or where such structures are undercut by the excavation, or where such structures may reasonably be expected to be constructed over or within two (2) feet of the excavation within one (1) year after backfilling, the entire backfill to the subgrade of the structures shall be made with granular backfill material, as approved by the Engineer, placed in six (6) inch layers, loose measurement, and compacted to not less than ninety-five (95) percent of standard laboratory density in accordance with the requirements of ASTM Standard D-698.

1.16 BACTERIOLOGICAL SAMPLING

Bacteriological sampling shall be done in accordance with AWWA C651-99 regulations and EPA regulation section 652.203. Bacteriological sampling shall be collected from the pipeline following disinfection and final flushing. Samples shall be delivered to the City of Rockford Environmental Laboratory (1111 Cedar Street) for analysis. Samples must be submitted in Laboratory approved bottles that may be obtained from the laboratory. A Coliform Analysis Report shall be submitted with each sample (also available at this address) and shall indicate the chlorine residual (either free or total) at the time the sample was collected. Failure to record the residual shall result in the rejection of the sample. If the sample shows the presence of coliform organisms, the contractor shall be notified (contact information MUST appear on the bacteriological form) and repeat the disinfection procedure. On resampling, two (2) consecutively passing samples collected on successive days (a minimum of 24 hours between sampling) shall be required.

If valved sections of the pipeline are disinfected separately, each section will be considered a separate pipeline for disinfection, flushing and sampling.

The City of Rockford will retain a copy of all bacteriological laboratory reports and submit results to the Illinois EPA as required. A copy of the bacteriological report shall also be sent to the City Water Engineering Supervisor and the Contractor. This work will be incidental to the contract and will not be considered for further payment.

1.17 WATER MAIN PROTECTION

This work shall be constructed in accordance with the following horizontal and vertical separation requirements and the latest editions of the Standard Specifications for Water and Sewer Main Construction in Illinois, and the current Environmental Protection Agency regulations.

HORIZONTAL SEPARATION-WATER MAINS AND SEWERS

- (1) Water mains shall be located at least ten feet horizontally from any existing or proposed drain, storm sewer, sanitary sewer, combined sewer or sewer service connection.
- (2) Water mains may be located closer than ten feet to a sewer line when:
 - (a) local conditions prevent a lateral separation of ten feet; and
 - (b) the water main invert is at least 18 inches above the crown of the sewer; and
 - (c) the water main is either in a separate trench or in the same trench on an undisturbed earth shelf located to one side of the sewer.
- (3) When it is impossible to meet (1) or (2) above, both the water main and drain or sewer shall be constructed of slip-on or mechanical joint cast or ductile iron pipe, asbestos-cement pressure pipe, prestressed concrete pipe, or PVC pipe equivalent to water main standards or construction. The drain or sewer shall be pressure tested to the maximum expected surcharge head before backfilling.

VERTICAL SEPARATION-WATER MAINS AND SEWERS

- (1) A water main shall be separated from a sewer so that its invert is a minimum of 18 inches above the crown of the drain or sewer whenever water mains cross storm sewers, sanitary sewers or sewer service connections. The vertical separation shall be maintained for that portion of the water main located within ten feet horizontally of any sewer or drain crossed. A length of water main pipe shall be centered over the sewer to be crossed with joints equidistant from the sewer or drain.
- (2) Both the water main and sewer shall be constructed of slip-on or mechanical joint cast or ductile iron pipe, asbestos-cement pressure pipe, prestressed concrete pipe, or PVC pipe equivalent to water main standards of construction when:
 - (a) it is impossible to obtain the proper vertical separation as described in (1) above; or
 - (b) the water main passes under a sewer or drain.
- (3) A vertical separation of 18 inches between the invert of the sewer or drain and the crown of the water main shall be maintained where a

water main crosses under a sewer. Support the sewer or drain lines to prevent settling and breaking the water main, as shown on the Plans or as approved by the Engineer.

- (4) Construction of water main quality pipe shall extend on each side of the crossing until perpendicular distance from the water main to the sewer or drain line is at least ten feet.

This item shall be considered incidental to construction and no further compensation will be allowed.

1.18 TRAFFIC SIGNS IN THE RIGHT-OF-WAY

- a) It is the Contractor's responsibility to remove all necessary traffic signs.
- b) The Contractor will deliver the signs to the City Yards Sign Shop at 500 S. Independence by appointment only. (815-987-5521)
- c) Repair or replacement of any signs damaged during sign removal or delivery is the responsibility of the Contractor.
- d) Construction traffic control shall remain until City of Rockford crews replace the permanent signs.
- e) All work required of the Contractor for this item will be incidental to the contract, and no additional payment will be made.

1.19 SAW CUTTING

Work shall consist of sawing existing pavements to such a depth that when the pavement is removed, a clean neat edge will result with no spalling of the remaining pavement. Saw cutting shall be performed at all locations where pavement is removed and will be replaced. This work item shall be considered incidental to construction and no further compensation will be allowed.

1.20 MOBILIZATION

Refer to Article 671.02 of the Standard Specifications and delete this paragraph in its entirety.

There shall be no mobilization payments made on this Project.

1.21 RECORD DRAWINGS

The Contractor shall keep on site a set of the plans to be maintained as the official project Record Drawings. The Contractor shall mark up the set of plans with any revisions in the drawings on a daily basis. The Contractor shall record measurements to all reducers, bends, tees, and other buried fittings and appurtenances associated with the water and sewer construction. The Contractor shall also note field measurements to surface appurtenances such as manholes,

cleanouts, tapping valves, gate valves, curb stops, and fire hydrants. The dimensions shall be indicated from physical features indicated on the drawings and from the right-of-way lines and property lines indicated on the drawings. The Contractor shall take field measurements and indicate the measurements on the Record Drawings where the mains vary from plan depth/grade. The Contractor shall deliver the Record Drawings to the Engineer, along with the final request for payment on the project.

1.22 REMOVAL OF OLD CASTINGS

Any manhole and inlet castings to be replaced shall be removed from the jobsite the same day that the new casting is installed. Used castings shall be disposed of at a designated location at the City Yards for recycling. The address of the City Yards is 523 S. Central Avenue, Rockford, IL 61102.

SECTION 2 - SPECIAL PROVISIONS

2.1 TREE REMOVAL 6 – 15 UNITS DIA.

Description: This work shall be in accordance with Section 201 of the Standard Specifications for Road and Bridge Construction except that stumps and roots will be left in place in select areas. Areas along the Railroad track behind the limestone retaining wall where disturbance of the root system could affect the stability of the retaining wall or where removal of the root system could lead to unwanted erosion onto the Railroad, the stumps and root structure may be left in place at the direction of the Engineer.

Trees which the Engineer has directed the Contractor to leave the stumps will be considered “removed” for payment when the branches and stem have been satisfactorily removed and only 1” or less of the stump (measured on the downhill side) are remaining.

Method of Measurement: Measurement for this work will be made in units diameter measured 4.5’ above the ground level on the uphill side of the tree and will be determined by dividing the measured circumference by 3.1416.

Basis of payment: Tree removal will be paid at the contract unit price for TREE REMOVAL (6 TO 15 UNITS DIAMETER). Trees and shrubs that are less than 6” in diameter shall be included in Site Demolition, Special and will not be measured for payment.

2.2 TREE REMOVAL OVER 15 UNITS DIA.

Description: This work shall be in accordance with Section 201 of the Standard Specifications for Road and Bridge Construction except that stumps and roots will be left in place in select areas. Areas along the Railroad track behind the

limestone retaining wall where disturbance of the root system could affect the stability of the retaining wall or where removal of the root system could lead to unwanted erosion onto the Railroad, the stumps and root structure may be left in place at the direction of the Engineer.

Trees which the Engineer has directed the Contractor to leave the stumps will be considered "removed" for payment when the branches and stem have been satisfactorily removed and only 1" or less of the stump (measured on the downhill side) are remaining.

Method of Measurement: Measurement for this work will be made in units diameter measured 4.5' above the ground level on the uphill side of the tree and will be determined by dividing the measured circumference by 3.1416.

Basis of payment: Tree removal will be paid at the contract unit price for TREE REMOVAL (OVER 15 UNITS DIAMETER).

2.3 TEMPORARY FENCE

Description: This work shall consist of erecting and maintaining a secure enclosure around the work site. The enclosure shall be a 6' high chain link fence, as a minimum, with a lockable access gate capable of being locked during non-working hours. This item includes maintaining the fence during construction and relocating as necessary if it is installed where it will conflict with construction operations.

Method of Measurement: This item will be measured in Feet along the outside face of the fence and shall include gates or planned openings provided by the Contractor for his use.

Basis of payment: This work will be paid at the contract unit price per FOOT for TEMPORARY FENCE.

2.4 EARTH EXCAVATION

Description: This work will consist of the complete excavation and removal of all material necessary to construct the pavement to subgrade and to do any necessary regrading of parkways, sidewalks, or landscape areas. This work shall include but not be limited to the following: loose bricks and rocks, aggregate base and sub-base materials, earth, and topsoil. This work shall conform to Section 202 of the Standard Specifications. Usable excavated material from on-site grading or trenches may be used to build embankments, including those classified as Non-hazardous Special Waste, provided that they are acceptable fill material as determined by the Engineer. Any fill material which is considered Non-hazardous Special Waste to be used for embankments shall also meet the requirements of an "engineered barrier" as defined herein. The Contractor shall be responsible for the removal and disposal of all remaining waste materials.

Handling of Non-Hazardous Special Waste: A site environmental report is available for inspection at the Office of the City Engineer. Contact Austin Crull at (779) 348-7610 for an appointment to inspect the report. For the purpose of this Project, the report indicates that soils below topsoil on the entire lower site shall be classified as Non-Hazardous Special Waste according to the definitions contained in Section 669 of the IDOT Standard Specifications for Road and Bridge Construction adopted January 1, 2012 as amended.

Articles 669.01 through 669.07 and Articles 669.09 through 669.14 shall apply to this project with the exception that the first sentence of Article 669.09 does not apply. Non-Hazardous Special Waste may be reused in excavation and fill embankments providing that they meet the requirement that they are separated from human contact by an "engineered barrier" as defined below.

It is the intent of this contract to minimize the hauling and disposal of Special Waste. Excavated soil that is not considered topsoil or cannot be reused in a trench or fill that will be covered with a minimum of four feet of clean fill shall be disposed of as Special Waste. The Contractor may use excavated material that is determined by the Engineer to be "suitable" as fill along the east side of the upper or lower site. Filling must stop at a point four feet below finish grade unless the fill is to be covered with pavement.

For the sake of this contract, the Contractor must include all the requirements of Section 669 of the Standard Specifications that apply including Article 669.05 through 669.07 and shall provide qualified personnel who will be involved in any excavation below topsoil. Personal protective equipment shall include rubber boots, eye protection, rubber gloves, and if excavating in wet conditions, waterproof leg protection. For the sake of this contract the Contractor may assume that decontamination shall be Dry Decontamination as defined by 669.06 (2) a.

Non-Hazardous Special Waste may not be stockpiled without prior written permission as covered in Article 669.11 of the Standard Specifications. Water that has come in contact with contaminated soil shall be considered Special Waste. Dewatering of contaminated water to storm sewer will not be permitted.

For the purpose of this contract, an Engineered Barrier shall be separated from human contact. Any site soil classified as Non-Hazardous Special Waste shall be considered remediated if separated from human contact by pavement, sidewalk, or a minimum of four feet of clean fill.

Method of Measurement: Measurement for this work will be made in Cubic Yards based on final cross-sections or agreement to plan quantity.

Basis of Payment: This work will be paid for at the contract unit price per CUBIC YARD for EARTH EXCAVATION.

2.5 FURNISHED EXCAVATION

Description: This work shall conform to Section 204 of the Standard Specifications with the following exceptions. Furnished Excavation will be measured and paid for in place regardless of the shrinkage factor. When the area to be filled is ready for the placement of furnished Excavation, the Engineer shall cross-section the area and this shall become the basis for existing ground. When the Contractor has furnished a select grade of fill material from off-site, and compacted it to optimum density as determined by the Engineer, he will again cross-section the area and the difference between the two surfaces will be the pay quantity for furnished excavation. Embankment will not be paid under this or Earth Excavation pay items.

Method of Measurement: Measurement for this work will be made on the basis before and after cross-sections and calculated in Cubic Yards.

Basis of Payment: This work will be paid for at the contract unit price per CUBIC YARD for FURNISHED EXCAVATION.

2.6 POROUS GRANULAR EMBANKMENT

Description: This work shall be completed in accordance with Article 502.10 of the Standard Specifications except as modified below. This material shall be used for backfill of the ADA Ramps between the upper and lower sites.

Granular fill shall be placed around the perforated drain and covered with filter fabric prior to the placement of Porous Granular Embankment. The embankment shall be free-draining and meet the requirements of Article 1004.05 of the Standard Specifications.

Method of Measurement: Measurement for this work will be made and calculated in Cubic Yards.

Basis of Payment: This work will be paid for at the contract unit price per CUBIC YARD for POROUS GRANULAR EMBANKMENT.

2.7 TOPSOIL FURNISH AND PLACE 6"

Description: This work shall consist of furnishing, transporting, conditioning, and placing topsoil imported from off-site sources. The work shall be completed in accordance with Section 211 of the Standard Specifications.

Topsoil shall be provided in accordance with Article 1081.05 of the Standard Specifications except that the minimum organic content shall be 4 percent. Place topsoil and complete finish grading to the lines and grades shown on the plans. Place topsoil to a depth of 6" in all seed and planting bed areas.

Method of Measurement: Measurement for this work will be made and calculated in Square Yards for all areas where a minimum of 6" of topsoil are placed.

Basis of Payment: This work will be paid for at the contract unit price per SQUARE YARD for TOPSOIL FURNISH AND PLACE 6”.

2.8 TOPSOIL FURNISH AND PLACE 24”

Description: This work shall consist of furnishing, transporting, conditioning, and placing topsoil imported from off-site sources. The work shall be completed in accordance with Section 211 of the Standard Specifications.

Topsoil shall be provided in accordance with Article 1081.05 of the Standard Specifications except that the minimum organic content shall be 4 percent. Place topsoil and complete finish grading to the lines and grades shown on the plans. Place topsoil to a depth of 24” in all seed and planting bed areas.

Method of Measurement: Measurement for this work will be made and calculated in Square Yards for all areas where a minimum of 6” of topsoil are placed.

Basis of Payment: This work will be paid for at the contract unit price per SQUARE YARD for TOPSOIL FURNISH AND PLACE 24”.

2.9 SEEDING “ECO-GRASS”

Description: This work shall consist of furnishing, transporting, and placing seed in accordance with Section 250 of the Standard Specifications. The work shall include preparing the seed bed, eradicating competing species, placing the seed, fertilizing, watering, weeding, reseeding if necessary, and maintaining until a Notice of Termination (NOT) is issued by the City.

Seed for turf areas shown on the plans shall be Eco-Grass in accordance with the notes on the Landscape Plan Sheet L1.1. Fertilizer nutrients shall be included in the cost of the seeding at the frequency of application specified and at the amount specified on the Landscape Plan notes and as stated above.

Method of Measurement: Measurement for this work will be made and calculated in Acres for all areas within the marked construction limits. No seeding will be measured for payment due to the Contractor’s encroachment or use of property outside of the project limits.

Basis of Payment: This work will be paid for at the contract unit price per ACRE for SEEDING, ECO-GRASS.

2.10 SODDING

Description: This work shall consist of furnishing, transporting, and placing sod in accordance with Section 252 of the Standard Specifications except as specified herein, as shown on the Plans, and as directed by the owner’s representative.

Materials: Sod shall meet the minimum requirements for Salt Tolerant Sod contained in Article 1081.03 (b) of the Standard Specifications and the National Turfgrass Evaluation Program. Sod shall generally be a Kentucky Bluegrass mixture that is blended for: full sun, heavy traffic, overall quality 5.75 (NTEP), dark green, early greenup, fine bladed, disease resistant, and 5.5-9 vigorous. Fertilizer nutrients shall be applied as follows: commercial phosphate mixture soluble with a minimum 20% available phosphoric acid shall be placed prior to area to be sodded prior to breaking up the surface, apply "starter" fertilizer course grade "endoROOTS" granular 3-3-4 fertilizer manufactured by Roots Inc. 800.342.6173 or approved equal to prepared bed, apply commercial grade fertilizer of neutral character consisting of fast and slow release nitrogen potassium and phosphorous in the proportions of 15-3-8 as manufactured by Roots Inc. or approved equal to completed sod bed after one week of watering. Fertilizer will be paid separately according to the nutrient volume.

Lay sod within 24 hours of harvesting. Tamp and roll sod to ensure full contact with the subgrade. Anchor sod with wood pegs or steel staples on slopes exceeding 6:1 (17%). Saturate the lawn with a fine water spray within two hours of planting. During the first week of planting, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1 ½" below sod. Water thereafter at a minimum of 1" of water per week until after s second cutting.

Fertilizer nutrients shall be included in the cost of the sod at the frequency of application specified and at the amount specified on the Landscape Plan notes and as stated above.

Method of Measurement: Measurement for this work will be made and calculated in Square Yards for all areas sodded within the marked construction limits which shall include watering and fertilizer nutrients.

Basis of Payment: This work will be paid for at the contract unit price per SQUARE YARD for SODDING.

2.11 MOWING

Description: This work shall include all labor and equipment to cut the turf areas in accordance with Section 250 of the Standard Specifications with the following exceptions.

Each cutting will be paid for the area mowed. The engineer shall determine the need for mowing based on growth of the lawns. Cutting shall be to a uniform height of 3".

Method of Measurement: Measurement for this work will be made and calculated in Acres for all areas within the marked construction limits based on the area that the Contractor is directed to mow.

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

2.12 EROSION CONTROL BLANKET

Description: This work shall consist of furnishing, transporting, and placing erosion control blanket in accordance with Article 251.04 of the Standard Specifications, the Landscaping Plans, and the Erosion Control Plans.

Method of Measurement: Measurement for this work will be made and calculated in Square Yards for all areas blanketed within the marked construction limits.

Basis of Payment: This work will be paid for at the contract unit price per SQUARE YARD for EROSION CONTROL BLANKET.

2.13 TEMPORARY EROSION CONTROL SEEDING

Description: This item shall consist of furnishing all labor, material, and equipment to provide temporary erosion control seeding in accordance with the Erosion Control Plan and the SWPPP. Seeding shall be in accordance with Article 280.04 (f) and 1081.15 (g) of the Standard Specifications except as follows.

Method of Measurement: Measurement for this work will be made and calculated in Square Yards for all areas seeded within the marked construction limits.

Basis of Payment: This work will be paid for at the contract unit price per SQUARE YARD for TEMPORARY EROSION CONTROL SEEDING.

2.14 PERIMETER EROSION CONTROL BARRIER

Description: This item shall consist of furnishing all labor, material, and equipment to provide and install perimeter erosion control barrier in accordance with the Erosion Control Plan and the SWPPP. Perimeter Erosion Control Barrier shall be in accordance with Section 280 of the Standard Specifications. Payment for this item shall include maintenance during construction and removal when the Notice of Termination (NOT) is filed.

Method of Measurement: Measurement for this work will be measured in Feet for all areas marked within the marked construction limits.

Basis of Payment: This work will be paid for at the contract unit price per FOOT for PERIMETER EROSION CONTROL BARRIER.

2.15 INLET AND PIPE PROTECTION

Description: This work shall conform to Section 280 of the Standard Specifications. This work shall conform to all requirements of Part IV in the General NPDES Permit No. ILR10. The management practices, controls, and other provisions contained in the erosion and sediment control plan must be at least as protective as the requirements contained in the Illinois Urban Manual.

This item shall include all labor, materials and equipment needed for the installation, maintenance, removal, quantification, and disposal of the temporary erosion control system. This item must be installed, inspected and approved before construction activities begin, and proper protection must be maintained until the site is deemed stabilized by the Engineer and the volume of sediment collected is quantified and documented.

Product samples shall be submitted to the City Engineer for approval prior to construction.

Some accepted methods and manufactured products may not be approved or allowed for use. Specifically, the following products and practices will not be allowed:

- Wrapping inlet grate with geotextile filter fabric
- Use of "Dandy Bags" by Dandy Products
- Use of "Dandy Sacks" by Dandy Products

Use of "temporary" inlet filters which cover the inlet from flying debris may be approved in certain locations where deemed appropriate by the owner. This type of inlet protection will not be allowed where fine sediment suspended in water must be filtered nor will it be allowed when rainfall is anticipated during the inlet filter's period of use.

Method of Measurement: This work will be measured for payment as individual items and the unit of measurement will be Each which shall include maintenance during construction and removal when the Notice of Termination (NOT) is filed.

Basis of Payment: This work will be paid for at the contract unit price per EACH for INLET AND PIPE PROTECTION.

2.16 STABILIZED CONSTRUCTION ENTRANCE

Description: This work shall consist of all labor, equipment, and material to construct and maintain a stabilized construction entrance.

Following the removal of existing pavement material, an entrance to the site shall be constructed with course aggregate in accordance with the erosion control plan and SWPPP. The entrance shall be maintained in good working order throughout construction activities or until authorized for removal by the Engineer.

Method of Measurement: Measurement for this work will be measured for payment only once, and any replacements shall be considered maintenance. Measurement will be made and calculated in Square Yards.

Basis of Payment: This work will be paid for at the contract unit price per SQUARE YARD for STABILIZED CONSTRUCTION ENTRANCE.

2.17 AGGREGATE BASE COURSE, TYPE B, 4" CA-6

Description: This item shall be in accordance to Section 351 of the Standard Specifications and shall be placed under sidewalks and steps.

Method of Measurement: Measurement for this work will be per Square Yard basis. Weight tickets will be required to verify delivery and volume yield.

Basis of Payment: This work will be paid for at the contract unit price per SQUARE YARD for AGGREGATE BASE COURSE, TYPE B, 4", CA-6.

2.18 AGGREGATE BASE COURSE, TYPE B, 6" CA-6

Description: This item shall be in accordance to Section 351 of the Standard Specifications and shall be placed as shown on the Typical Sections.

Method of Measurement: Measurement for this work will be per Square Yard basis. Weight tickets will be required to verify delivery and volume yield.

Basis of Payment: This work will be paid for at the contract unit price per SQUARE YARD for AGGREGATE BASE COURSE, TYPE B, 6", CA-6.

2.19 AGGREGATE BASE COURSE, TYPE B, 8" CA-6

Description: This item shall be in accordance to Section 351 of the Standard Specifications and shall be placed as shown on the Typical Sections.

Method of Measurement: Measurement for this work will be per Square Yard basis. Weight tickets will be required to verify delivery and volume yield.

Basis of Payment: This work will be paid for at the contract unit price per SQUARE YARD for AGGREGATE BASE COURSE, TYPE B, 8" CA-6.

2.20 SUBBASE GRANULAR MATERIAL, TYPE B, 6" CA-2

Description: This item shall be in accordance to Section 311 of the Standard Specifications and shall be placed as shown on the details provided in the Plans and on the Typical Sections.

Following the removal of existing pavement material, and cutting to subgrade (at locations above proposed grades, if any), proof rolling of the subgrade should initially be used to locate possible weak or unstable areas at or just below the exposed subgrade level. Unsuitable areas observed at this time should be improved by scarification and re-compaction, or by undercutting and replacement with suitable, compactable material, as directed by the Engineer. Proof rolling may be accomplished with a fully loaded, tandem axle dump truck or other equipment providing an equivalent subgrade loading. Subbase Granular Material Type B (CA-2), 6" shall be placed on a compacted approved subgrade and rolled prior to the placement of CA-6.

Method of Measurement: Measurement for this work will be on a per Square Yard basis. Weight tickets will be required to verify delivery and volume yield.

Basis of Payment: This work will be paid for at the contract unit price per SQUARE YARD for SUBBASE GRANULAR MATERIAL, TYPE B, 6" CA-2.

2.21 HOT-MIX ASPHALT PRIME COAT

Description: This item shall be in accordance to Section 406 of the Standard Specifications except that Article 406.02 shall be modified in accordance with BDE Special Provision 80348 effective November 1, 2014.

Method of Measurement: Measurement for this work will be on a per Pound basis. Weight tickets and supplier delivery certification will be required to calculate final pay quantity.

Basis of Payment: This work will be paid for at the contract unit price per POUND for HOT-MIX ASPHALT PRIME COAT.

2.22 HOT-MIX ASPHALT BINDER COURSE, IL-19.0 N50, 2.5"

2.23 HOT-MIX ASPHALT BINDER COURSE, IL-19.0 N50, 3.5"

Description: This work shall be constructed in accordance with Section 406 of the Standard Specifications.

Mix designs and verification of IDOT certification must be submitted to Engineer for approval prior to notice to proceed on contract.

Vibrating Rollers will not be allowed on City Streets unless specified by the Engineer. In the absence of a vibratory roller, densities shall be 93% minimum unless specified by the Owner.

Article 406.17 shall be modified to read: "To insure thorough and continuous bond between old and new pavements, or between successive day's work or when the temperatures of the previously laid materials drops below 150 degrees

the contact surface shall be sprayed or painted with a thin, uniform coating of asphalt: SS1”.

Method of Measurement: This work will be measured in Tons based on weight tickets presented to the Engineer at the time of paving.

Basis of Payment: This work will be paid for at the contract unit price per TON for HOT-MIX ASPHALT BINDER COURSE, IL-19.0 N50, 2.5”,

2.24 HOT-MIX ASPHALT SURFACE COURSE, “MIX C” N50, 1.5”

Description: This work shall be constructed in accordance with Section 406 of the Standard Specifications.

Mix designs and verification of IDOT certification must be submitted to Engineer for approval prior to notice to proceed on contract.

Vibrating Rollers will not be allowed on City Streets unless specified by the Engineer. In the absence of a vibratory roller, densities shall be 93% minimum unless specified by the Owner.

Article 406.17 shall be modified to read: “To insure thorough and continuous bond between old and new pavements, or between successive day's work or when the temperatures of the previously laid materials drops below 150 degrees the contact surface shall be sprayed or painted with a thin, uniform coating of asphalt: SS1”.

Method of Measurement: This work will be measured in Tons based on weight tickets presented to the Engineer at the time of paving.

Basis of Payment: This work will be paid for at the contract unit price per TON for HOT-MIX ASPHALT SURFACE COURSE, MIX “C” N50, 1.5”,

2.25 PCC PAVEMENT 10”

Description: This work shall be constructed in accordance with Section 420 of the Standard Specifications. The work consists of vehicle drop-off lane and areas surrounding trench drains adjacent to overhead doors and entry ways.

Mix designs and verification of IDOT certification must be submitted to the Engineer for approval prior to notice to proceed on contract.

Where wire reinforcing is called for on the Plans, it shall be considered incidental to the pavement. Wire Reinforcing consisting of 6x6 – W2.0xW2.0 welded wire fabric in accordance with Article 1006.10 (b) of the Standard Specifications shall be installed at the midpoint of the pavement. The cost of the wire reinforcing shall be included in the square foot cost of the pavement. Transverse Joints shall be installed at 10’ intervals or as directed by the Engineer. Joints shall be sealed with

either hot poured joint sealer in accordance with Article 1050.01 and 1050.02 or a polysulfide joint sealant in accordance with Article 1050.03 of the Standard Specifications.

Method of Measurement: This work will be measured in Square Yards

Basis of Payment: This work will be paid for at the contract unit price per SQUARE YARD for PCC PAVEMENT 10",

2.26 PCC DRIVEWAY PAVEMENT 8"

Description: This work shall conform to Section 423 of the Standard Specifications for Road and Bridge Construction. The Contractor shall place a 1/2" (minimum) preformed fiber expansion joint between the driveway pavement and the adjacent curb & gutter.

Method of Measurement: This item will be measured to the nearest 0.1 foot and calculated in Square Yards.

Basis of Payment: This item will be paid at the contract unit price per SQUARE YARD for P.C.C. DRIVEWAY PAVEMENT 8".

2.27 P.C.C. SIDEWALK 5"
2.28 P.C.C. SIDEWALK 6"

Description: This item shall consist of all labor, material and equipment to construct P.C.C. sidewalk of the thickness specified in accordance with Section 424 of the Standard Specifications for Road and Bridge Construction. When the sidewalk is adjacent to curb & gutter, the Contractor shall place a 1/2" (minimum) preformed fiber expansion joint between the sidewalk and the back of curb. The surface shall be scored in five (5) foot squares with a directional broom finish. Tooled joints, which are at right angles to the edge of the walk, should be placed at five (5) foot intervals. Contraction joints shall be tooled at 5' intervals unless otherwise directed. These joints shall be at least 3/4" deep and not less than 1/8" wide. Expansion joints shall be installed in the sidewalk at 50' intervals and between new sidewalk and existing work, or as directed by the Engineer. At curb ramps, the sidewalk shall be pinned to the back of curb. The cost of joints and pinning shall be considered incidental to the sidewalk. Curing and protection shall be in accordance with Article 1020.13 of the Standard Specifications. Where welded wire reinforcing is called for on the plans, 6x6 – W2.0xW2.0 welded wire fabric in accordance with Article 1006.10 (b) of the Standard Specifications shall be installed at the midpoint of the sidewalk. The cost of the wire reinforcing shall be included in the square foot cost of the sidewalk.

Sidewalk on the Plans shall be 5" or 6" non-reinforced except as noted. Where called for on the Plans, wire reinforcing, reinforcement bars, and up to 3.0 feet of thickened edge, shall be included in the unit price for P.C.C. Sidewalk 6". The Patio area also includes 2'-0" wide decorative strips which are to be sand blasted

to expose aggregate. This operation shall also be included in the unit price for P.C.C. Sidewalk 6”.

Sidewalk will be thickened to 8” and base course thickened to 6” through alley approaches and shall be reinforced with welded wire fabric reinforcing steel equal to or better than 6”x 6” W2.0xW2.0. The additional 4” of PCC, 2” of aggregate base course, and welded wire fabric reinforcing steel will be incidental to this item.

Any water service boxes in sidewalk areas to be replaced must be adjusted to the proper height prior to concrete placement. Contractor must contact the owner prior concrete placement if a valve box is not adjustable or is broken. If replacement parts are required, contractor shall contact owner for supply of new parts. Valve boxes to be set in concrete must have protective cone installed.

Method of Measurement: Sidewalk will be measured to the nearest 0.1 foot and calculated in Square Feet at the nominal width shown on the plans. No deduction will be made for Detectable Warnings. At ADA Ramps, the side curb shown on the details will be measured for payment under this item.

Basis of Payment: Sidewalk shall be paid at the contract unit price per SQUARE FOOT for P.C.C. SIDEWALK 5” or P.C.C. SIDEWALK 6”.

2.29 DETECTABLE WARNINGS

Description: Detectable warnings shall consist of a surface of truncated domes aligned in a square pattern (parallel alignment) or triangular pattern. Dome spacing, dome size and detectable warning location are shown in Highway Standard 424001 “Curb Ramps for Sidewalks“. Detectable warning surfaces shall contrast visually with the adjacent walking surfaces by having light on dark or dark on light; and shall extend 24 inches in the direction of travel and the full width of the curb ramp, landing or sidewalk. The required texturing shall be truncated dome construction and shall consist of Federal Standard color 30166 to meet the contrast requirement.

Detectable warnings shall be manufactured products set in the poured sidewalk. Provide removable detectable warnings made of glass and carbon reinforced composite, as manufactured by ADA Solutions, Inc. of N. Billerica, MA or approved equal. **Box outs with poured colored concrete will not be allowed.** Physical characteristics: Compressive Strength 28,900 psi (ASTM D695), Flexural Strength 29,300 psi (ASTM D790), Slip Resistance 1.18 dry/1.05 Wet (ASTM C1028).

Product samples shall be submitted to the City for approval prior to construction.

This work shall be paid for in addition to the PCC Sidewalk the manufactured Detectable Warning product is set into.

Method of Measurement: Measurement for this work will be per Square Foot of Detectable Warning set in place. No measurement will be made for waste material that must be cut to fit the application.

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

2.30 PAVEMENT REMOVAL

Description: This item shall consist of all labor, and equipment to accomplish the work described herein. The work included in this item shall consist of the complete removal and disposal of pavement which is to be removed including concrete pavement, asphalt pavement, and concrete pavement with asphalt overlay unless specifically included in another pay item. Where railroad tracks are found and are to be removed because they interfere with new work, no deduction will be made for pavement removal which extends across the tracks. Any pavement which meets the requirements of CCDD may be disposed of at a CCDD site. Pavement removal which does not meet the requirement of CCDD must be disposed of at an approved site at no additional cost to the contract.

Method of Measurement: This item will be measured and calculated in Square Yards regardless of thickness or composition.

Basis of Payment: This item will be paid at the contract unit price per SQUARE YARD for PAVEMENT REMOVAL.

2.31 PAVEMENT PATCHING

Description: This work shall consist of removing and replacing pavement in Walnut Street to replace water valve and lay new water main. It shall also include curb & gutter replacement and two water services in Madison Street. The work shall conform to Section 442 of the Standard Specifications. Saw cuts will not be measured for payment and will be incidental to this pay item. Pavement replacement will be made to match the existing base course in kind regardless of Class. It is believed that the existing pavement is full depth asphalt; however, if P.C.C. Base Course is found during removal, it shall be replaced in kind.

Where new Curb & Gutter is to be installed adjacent to existing pavement, a width of pavement is to be removed to allow the forming of the new combination concrete curb & gutter. This removal and replacement shall be included for payment according to the width marked out for removal by the Engineer. Removal may include the aggregate base course if the existing aggregate base course is not satisfactory according to the Engineer.

The new Valve Box in the patch shall be adjusted to 1/4" below the top of the finished pavement and the cost shall be included in the cost of the Valve and Box. The Contractor will work diligently to complete patches in a logical work sequence once work is commenced. Any necessary aggregate base course required to

achieve grade shall be supplied, placed and properly compacted by the Contractor. This material and labor will be incidental to these bid items.

Method of Measurement: This item will be measured and calculated in Square Yards from the edge of the saw cut to the edge of pavement for Walnut Street and for the entire width of the saw cut as marked by the Engineer. If additional width is required because of settlement or unforeseen circumstances, the additional width will be included in the measurement for payment.

Basis of Payment: This item will be paid at the contract unit price per SQUARE YARD for PAVEMENT PATCHING.

2.32 DRIVEWAY PAVEMENT REMOVAL

Description: This work shall consist of all labor and equipment to remove and dispose of either asphalt or concrete driveway pavement at an approved site. The work shall be in accordance with Section 440 of the Standard Specifications for Road and Bridge Construction.

Method of Measurement: this item will be measured and calculated in Square Yards for the material removed regardless of thickness.

Basis of Payment: This work will be paid at the contract unit price per SQUARE YARD for DRIVEWAY PAVEMENT REMOVAL regardless of material type.

2.33 COMBINATION CONCRETE CURB & GUTTER REMOVAL

Description: This work shall conform to Section 440 of the Standard Specifications. The Contractor shall saw the curb & gutter to be removed to a sufficient depth to prevent spalling or damage to the remaining curb. A clean neat edge shall be left on the remaining work to allow the placement of a preformed fiber expansion joint between the new and existing work. The Contractor shall dispose of the curb & gutter that is removed at an approved disposal site.

Method of Measurement: This work will be measured to the nearest 0.1 feet along the gutter line of the curb & gutter to be removed.

Basis of Payment: This work will be paid for at the contract unit price per FOOT for COMBINATION CONCRETE CURB AND GUTTER REMOVAL.

2.34 SIDEWALK REMOVAL

Description: This work shall conform to Section 440 of the Standard Specifications. The area of sidewalk removal shall be deep enough to accommodate both the new base stone and the new sidewalk. Where sidewalk is removed adjacent to existing sidewalk that is to remain, a saw cut to insure that a clean neat edge is preserved such that a preformed fiber expansion joint can be

installed will be required. Care must be taken such that concrete joint faces remain vertical and are protected from spalling.

Contractor shall be responsible for the removal and disposal of all waste materials at an approved disposal site.

Method of Measurement: Measurement for this work will be made to the nearest 0.1 feet and calculated in Square Feet regardless of thickness.

Basis of Payment: This work will be paid for at the contract unit price per SQUARE FOOT for SIDEWALK REMOVAL.

2.35 TIE BARS 3/4" X 24"

Description: This work shall consist of all labor and materials to install reinforcement bars between P.C.C. Pavement 10" and Combination Concrete Curb & Gutter. The Contractor shall have the option of placing the bars in predrilled holes in the forms prior to pouring either the Pavement or the Curb & Gutter or drilling and grouting the bars after the work is poured. The bars may not be inserted into the plastic concrete if slip-formed curb & gutter is utilized, nor may bent bars be inserted into the plastic pavement or curb.

The bars shall be spaced 30" on center along the entire common length of the 10" Pavement and Curb & Gutter. Materials shall be in accordance with Article 1006.10 of the Standard Specifications.

Method of Measurement: This item will be measured as an Each item.

Basis of Payment: This item will be paid at the contract unit price per EACH for TIE BARS 3/4" X 24".

2.36 ELECTRIC VAULT TO BE ADJUSTED

Description: Work shall comply with the general provisions of Section 602 of the Standard Specifications. One existing ComEd vault manhole will need to have the frame and grate adjusted to the new pavement grades. This work must be done in the presence of and to the satisfaction of ComEd. The lines within the vault are currently energized and will not be removed from service without ComEd approval.

The existing frame and lid shall be removed and set aside. Any adjusting rings or concrete shims that are damaged shall be replaced. Rings shall be added or removed to set the existing casting to the final finish grade. Rings shall be sealed with Kent Seal or similar approved product. Nylon or hard plastic wedges may be used to set the casting to a slope to match the proposed pavement. A final adjusting layer of mortar to seal and support the frame shall be applied in accordance with ComEd approval. If in the opinion of ComEd the frame and lid

need to be replaced, ComEd shall supply a new frame and lid for the Contractor to use.

Method of Measurement: This work will be measured as an Each item for handholes removed as described above.

Basis of Payment: This work will be paid for at the contract unit price per EACH for ELECTRIC VAULT TO BE ADJUSTED.

2.37 REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS

Description: This work shall be in accordance with Section 202 of the Standard Specifications for Road and Bridge Construction with the following exceptions. This work is intended to include the excavation of unsuitable soil and replacement with suitable aggregate sub-base where subgrade soils fail to pass proof-rolling after efforts to dry and recompact have failed. After the Contractor has graded the site to the lines and grades shown on the plans, he shall order a loaded tandem truck to proof-roll the subgrade. Where excess deflection is observed and efforts to dry and stabilize the subgrade have failed in the opinion of the Engineer, the Contractor shall undercut the unsuitable material and replace it with Course Aggregate CA-2.

The excavated material shall be disposed of off-site at an approved disposal site. The Course Aggregate shall be placed in the excavation and rolled in place. The area shall be again proof-rolled to the satisfaction of the Engineer.

Method of Measurement: This item shall be measured in Cubic Yards based on length, width, and depth measurements taken at the time of the excavation and calculated in Cubic Yards. The removal and disposal of unsuitable materials shall include the excavation, the disposal, and the course aggregate to replace the unsuitable material.

Basis of Payment: This item will be paid at the contract unit price per CUBIC YARD for REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS.

2.38 CONCRETE STRUCTURES

Description: This work shall be in accordance with Section 503 of the Standard Specifications. The work shall include the ADA Ramp and stairway from the Upper Site to the Lower Site, the steps south of the Watch Factory, the concrete steps on the east side of the Sports Complex, the Stairs adjacent to the main entrance to the Sports Center Building between the planters, and all frost footing around the building. Materials shall conform to the requirements of Class SI Concrete unless otherwise noted. Concrete testing shall be in accordance with the approved QA/QC plan submitted by the Contractor. The Contractor shall submit concrete test reports including cylinder breaks for each pour to the Engineer. The work shall include excavation for structures and rubbed finish. Excavated material may be used on site provided that is suitable fill material.



The sequence of operation may require footings and walls to be installed prior to other footings and walls being cast. If the Contractor wishes to backfill the work prior to the curing time listed in the Standard Specifications, he must provide additional cast cylinder samples to demonstrate that the concrete has achieved the required design strength prior to backfilling.

All exposed edges shall be chamfered $\frac{3}{4}$ " to a point one-foot below grade. All exposed surfaces shall be given a rubbed finish. This work shall be considered incidental to Concrete Structures and no additional compensation will be allowed. Stair treads shall be given a "heavy" boomed finish. This work shall be incidental to the contract.

Method of Measurement: This item will be based on the measured quantity at the time that the forms are set, or the agreed quantity based on the plans. Measurement will be made and calculated in Cubic Yards.

Basis of Payment: This item will be paid at the contract unit price per CUBIC YARD for CONCRETE STRUCTURES.

2.39 PROTECTIVE COAT

Description: This work shall be in accordance with Article 503.19 of the Standard Specifications.

Method of Measurement: This work will be measured and calculated in Square Yards including vertical faces.

Basis of Payment: This work will be paid at the contract unit price per SQUARE YARD for PROTECTIVE COAT.

2.40 REINFORCEMENT BARS

Description: This work shall be in accordance with Section 508 of the Standard Specifications. Materials shall be in accordance with Article 1006.10 of the Standard Specifications.

Reinforcement bars shall not be stored on the ground and shall be relatively free of rust and scale. Field bending of bars will only be allowed to achieve form clearances and as directed by the Engineer.

Method of Measurement: This item will be measured in Pounds based on delivery tickets or agreed plan quantity.

Basis of Payment: This item will be paid at the contract unit price per POUND for REINFORCEMENT BARS.

2.41 EXPANSION BOLTS 3/4" X 15"

Description: This item shall consist of drilling and installing expansion bolts where indicated on the plans. The materials shall meet the requirements of Article 1006.09 of the Standard Specifications.

Method of Measurement: This item shall be measured on the basis of Each Expansion Bolt installed which shall include drilling.

Basis of Payment: This item will be paid at the contract unit price per EACH for EXPANSION BOLTS 3/4" x 15".

2.42 STORM SEWER CLASS A, TYPE 1, 12"

2.43 INTENTIONALLY REMOVED

2.44 STORM SEWER CLASS A, TYPE 1, 15"

2.45 STORM SEWER CLASS A, TYPE 1, 18"

2.46 STORM SEWER CLASS A, TYPE 1, 24"

2.47 STORM SEWER CLASS A, TYPE 1, 36"



Description: This item shall be in accordance with Section 550 of the Standard Specifications. All storm sewers shall be RCCP Class IV unless otherwise specified. At locations shown on the plans, the contractor shall furnish and install a reinforced concrete pipe of the size, class and type indicated with rubber gasket joints which conforms to ASTM Specification C-361.

This work shall consist of constructing storm sewers of the required inside diameter with the following necessary fittings in accordance with Section 550 of the Standard Specification and the following additions or exceptions. This item shall include the connection to drainage structures indicated on the plans. Storm sewer removal shall be incidental to this pay item.



Method of Measurement: This item will be measured in Feet from inside of drainage structure to inside of drainage structure.

Basis of Payment: This work will be paid at the contract unit price per FOOT for STORM SEWER, CLASS A, TYPE 1, 12", STORM SEWER, CLASS A, TYPE 1, 12" (WATER MIAN QUALITY), STORM SEWER, CLASS A, TYPE 1, 15", STORM SEWER, CLASS A, TYPE 1, 18", STORM SEWER, CLASS A, TYPE 1, 24", AND STORM SEWER, CLASS A, TYPE 1, 36".

2.48 STORM SEWER CLASS B, SCHEDULE 40 PVC, 6"

2.49 STORM SEWER CLASS B, SCHEDULE 40 PVC, 4"

Description: This item shall be in accordance with Section 550 of the Standard Specifications. All storm sewers designated Class B shall be PVC Schedule 40 Pipe unless otherwise specified. At locations shown on the plans, the contractor shall furnish and install PVC pipe of the size, class and type indicated conforming to Article 1040.03 of the Standard Specifications

This work shall consist of constructing storm sewers of the required inside diameter with the following necessary fittings in accordance with Section 550 of the Standard Specification and the following additions or exceptions. This item shall include the connection to drainage structures indicated on the plans.

Method of Measurement: This item will be measured in Feet from inside of drainage structure to inside of drainage structure, or end to end of PVC pipe.

Basis of Payment: This work will be paid at the contract unit price per FOOT for STORM SEWER, CLASS B, SCHEDULE 40 PVC, 6", or STORM SEWER, CLASS B, SCHEDULE 40 PVC, 4".

2.50 STORM SEWER CLASS B, 8", DIRECTIONAL BORED

Description: This item shall be in accordance with Section 550 of the Standard Specifications. This storm sewer designated Class B shall be HDPE continuous non-jointed Pipe unless otherwise specified. At locations shown on the plans, the contractor shall furnish and install HDPE pipe of the size, class and type indicated conforming to Article 1040.03 of the Standard Specifications

This work shall consist of constructing storm sewers of the required inside diameter with the following necessary fittings in accordance with Section 550 of the Standard Specification and the following additions or exceptions. This item shall include the connection to drainage structures indicated on the plans. If connecting to the trench drain requires two dissimilar pipes to be connected, they shall be connected with a Fernco coupling or equal at no additional cost to the item.

The Contractor shall take note that no plans are available for the tunnel and elevator pit. Directional bore may include boring through concrete foundation walls.

Method of Measurement: This item will be measured in Feet from inside of drainage structure to inside of drainage structure.

Basis of Payment: This work will be paid at the contract unit price per FOOT for STORM SEWER, CLASS B, 8", DIRECTIONAL BORED.

2.51 PIPE UNDERDRAIN 4"

Description: This work shall consist of all labor, equipment, and material to complete this item in place. The work shall be in accordance with Section 601 of the Standard Specifications. The work shall consist of laying a 4" diameter perforated drain pipe along the foundation of the Rockford Indoor Sports Complex, and along the foundation of the ADA ramp as shown on the structural plans. The perforated drain must be connected to the storm drain system. It must

also be wrapped in filter fabric meeting the requirements of Article 1080.05 of the Standard Specifications.

The perforated drain shall be a continuous run along the foundation of the structure. If the drain must be cut, a suitable factory coupling must be used to join the ends. The drain pipe shall be set to a uniform grade on the filter fabric and backfilled to approximately 12" x 12" and then wrapped with the loose filter fabric to form an envelope with an overlap of not less than 12". The area above the perforated drain shall then be backfilled to within 2 feet of finish grade with a free-draining fine aggregate backfill. The end of the drain pipe shall be capped with a suitable factory cap fitting if not connected to an inlet, structure, or cleanout.

This item shall include all labor and material including perforated drain, excavation, filter fabric, coarse aggregate, fine aggregate, backfilling, and connection to drainage system.

Method of Measurement: This item will be measured in Feet along the centerline of the drain pipe in place from the inside of the inlet structure to the end of the drain pipe.

Basis of Payment: This item will be paid at the contract unit price per FOOT for PIPE UNDERDRAIN 4"

2.52 RECONSTRUCT EXISTING JUNCTION CHAMBER

Description: This item includes furnishing all labor and materials needed to reconstruct manholes to grade where more than two feet of masonry will be added, removed, or rebuilt to bring the specified casting to the finished grade of the street as specified on the plans and in accordance with Section 602 of the Standard Specifications. The Junction Chamber shall have all debris cleaned from it and the Contractor shall properly dispose of the removed debris at no additional cost to the City.

This item may require saw cutting of existing walls. The cost of saw cutting shall be included in the cost of Reconstruct Existing Junction Chamber. The Contractor shall install steps in accordance with the Standard for manhole steps. After the Junction Chamber has been repaired, a thin layer of grout shall be applied to the entire repaired area.

Salvaged Frame and Grates may be used for this item if in the opinion of the Engineer they are in suitable condition to be reused. Broken, cracked or grates that rock in the frames will be deemed unsuitable.

Method of Measurement: This item will be measured on the basis of Each for Existing Junction Chambers properly reconstructed.

Basis of Payment: This work will be paid for at the contract unit price EACH for RECONSTRUCT EXISTING JUNCTION CHAMBER.

2.53 **JUNCTION BOX**

Description: This work shall consist of all labor, equipment and material to construct a cast-in-place Junction Box as shown on the plans. The box shall include: steps, frame, open grating and fasteners, closed lid, reinforcing bars, Class SI concrete, expansion anchors, and forming to achieve the lines and grades as shown on the plans. This work shall be in accordance with Section 540 of the Standard Specifications except that a pre-cast option may be allowed.

This work will require coordination with Commonwealth Edison because of the close proximity to their power pole. If bracing of the power pole is required for the safety of the workers and the protection of the pole, the Contractor shall consider this cost as included in the item.

Method of Measurement: This item will be measured for payment as an Each item. The Contractor shall supply shop drawings for the proposed structure. A precast option may be considered, but no joints will be allowed above the finish grade adjacent to the Junction Box.

Basis of Payment: This item will be paid at the contract unit price per EACH for JUNCTION BOX.

2.54 **INLET TYPE A WITH TYPE 8 GRATE**

Description: This work shall be in accordance with Section 602 of the Standard Specifications. Precast concrete base and barrel section shall be in accordance with Section 1042 of the Standard Specifications. Up to 12" of precast adjusting rings will be permitted. When final grade has been established, the frame shall be grouted in place.

Precast barrel sections in accordance with Section 1042 of the Standard Specifications are recommended. Fabricator sketches shall be submitted prior to fabrication for non-standard items. Connections to perforated drains etc. which must be field cored shall be considered incidental to the item.

Method of Measurement: This item will be measured as an Each item which shall include the base, barrel, grate, inverting the bottom, and final adjustment to grade.

Basis of Payment: This item will be paid at the contract unit price per EACH for INLET TYPE A WITH TYPE 8 GRATE.

2.55 **INLET TYPE A WITH TYPE 1 FRAME AND OPEN LID**

Description: This work shall be in accordance with Section 602 of the Standard Specifications. Precast concrete base and barrel section shall be in accordance

with Section 1042 of the Standard Specifications. Up to 12" of precast adjusting rings will be permitted. When final grade has been established, the frame shall be grouted in place.

Precast barrel sections in accordance with Section 1042 of the Standard Specifications are recommended. Fabricator sketches shall be submitted prior to fabrication for non-standard items. Connections to perforated drains etc. which must be field cored shall be considered incidental to the item.

Method of Measurement: This item will be measured as an Each item which shall include the base, barrel, grate, inverting the bottom, and setting the casting to final grade. Steps are not required.

Basis of Payment: This item will be paid at the contract unit price per EACH for INLET TYPE A WITH TYPE 1 FRAME AND OPEN LID.

2.56 INLET TYPE A WITH TYPE 1 FRAME AND CLOSED LID

Description: This work shall be in accordance with Section 602 of the Standard Specifications. Precast concrete base and barrel section shall be in accordance with Section 1042 of the Standard Specifications. Up to 12" of precast adjusting rings will be permitted. When final grade has been established, the frame shall be grouted in place.

Precast barrel sections in accordance with Section 1042 of the Standard Specifications are recommended. Fabricator sketches shall be submitted prior to fabrication for non-standard items. Connections to perforated drains etc. which must be field cored shall be considered incidental to the item. Type 1 closed lids shall have the word "STORM" imprinted on them.

Method of Measurement: This item will be measured as an Each item which shall include the base, barrel, grate, inverting the bottom, and setting the casting to final grade. Steps are not required.

Basis of Payment: This item will be paid at the contract unit price per EACH for INLET TYPE A WITH TYPE 1 FRAME AND CLOSED LID.

2.57 MANHOLE TYPE A 4' DIA. WITH TYPE 1 FRAME AND OPEN LID

Description: This work shall be in accordance with Section 602 of the Standard Specifications. Precast concrete base and barrel section shall be in accordance with Section 1042 of the Standard Specifications. Up to 12" of precast adjusting rings will be permitted. When final grade has been established, the frame shall be grouted in place.

Precast barrel sections in accordance with Section 1042 of the Standard Specifications are recommended. Fabricator sketches shall be submitted prior to

fabrication for non-standard items. Connections to perforated drains etc. which must be field cored shall be considered incidental to the item.

Method of Measurement: This item will be measured as an Each item which shall include the base, barrel, grate, inverting the bottom, and setting the casting to final grade.

Basis of Payment: This item will be paid at the contract unit price per EACH for MANHOLE TYPE A 4' DIA. WITH TYPE 1 FRAME AND OPEN LID.

2.58 **MANHOLE TYPE A 4' DIA. WITH FLAT SLAB TOP AND TYPE 1 FRAME AND OPEN LID**

Description: This work shall be in accordance with Section 602 of the Standard Specifications. Precast concrete base and barrel section shall be in accordance with Section 1042 of the Standard Specifications. Up to 12" of precast adjusting rings will be permitted. When final grade has been established, the frame shall be grouted in place.

Precast barrel sections in accordance with Section 1042 of the Standard Specifications are recommended. Fabricator sketches shall be submitted prior to fabrication for non-standard items. Connections to perforated drains etc. which must be field cored shall be considered incidental to the item.

Method of Measurement: This item will be measured as an Each item which shall include the base, barrel, grate, inverting the bottom, and setting the casting to final grade.

Basis of Payment: This item will be paid at the contract unit price per EACH for MANHOLE TYPE A 4' DIA. WITH FLAT SLAB TOP AND TYPE 1 FRAME AND OPEN LID.

2.59 **MANHOLE TYPE A 4' DIA. WITH TYPE 1 FRAME AND CLOSED LID**

Description: This work shall be in accordance with Section 602 of the Standard Specifications. Precast concrete base and barrel section shall be in accordance with Section 1042 of the Standard Specifications. Up to 12" of precast adjusting rings will be permitted. When final grade has been established, the frame shall be grouted in place.

Precast barrel sections in accordance with Section 1042 of the Standard Specifications are recommended. Fabricator sketches shall be submitted prior to fabrication for non-standard items. Connections to perforated drains etc. which must be field cored shall be considered incidental to the item. Type 1 closed lids shall have the word "STORM" imprinted on them.

Method of Measurement: This item will be measured as an Each item which shall include the base, barrel, grate, inverting the bottom, and setting the casting to final grade.

Basis of Payment: This item will be paid at the contract unit price per EACH for MANHOLE TYPE A 4' DIA. WITH TYPE 1 FRAME AND CLOSED LID.

2.60 MANHOLE TYPE A 5' DIA. WITH TYPE 1 FRAME AND OPEN LID

Description: This work shall be in accordance with Section 602 of the Standard Specifications. Precast concrete base and barrel section shall be in accordance with Section 1042 of the Standard Specifications. Up to 12" of precast adjusting rings will be permitted. When final grade has been established, the frame shall be grouted in place.

Precast barrel sections in accordance with Section 1042 of the Standard Specifications are recommended. Fabricator sketches shall be submitted prior to fabrication for non-standard items. Connections to perforated drains etc. which must be field cored shall be considered incidental to the item.

Method of Measurement: This item will be measured as an Each item which shall include the base, barrel, grate, inverting the bottom, and setting the casting to final grade.

Basis of Payment: This item will be paid at the contract unit price per EACH for MANHOLE TYPE A WITH TYPE 1 FRAME AND OPEN LID.

2.61 MANHOLE TYPE A 6' DIA. WITH FLAT SLAB TOP AND TYPE 1 FRAME AND OPEN LID

Description: This work shall be in accordance with Section 602 of the Standard Specifications. Precast concrete base and barrel section shall be in accordance with Section 1042 of the Standard Specifications. Up to 12" of precast adjusting rings will be permitted. When final grade has been established, the frame shall be grouted in place. Steps shall be provided in accordance with the standard details.

Precast barrel sections in accordance with Section 1042 of the Standard Specifications are recommended. Fabricator sketches shall be submitted prior to fabrication for non-standard items. Connections to perforated drains etc. which must be field cored shall be considered incidental to the item.

Method of Measurement: This item will be measured as an Each item which shall include the base, barrel, grate, steps, inverting the bottom, and setting the casting to final grade.

Basis of Payment: This item will be paid at the contract unit price per EACH for MANHOLE TYPE A 6' DIA. WITH FLAT SLAB TOP, AND TYPE 1 FRAME AND OPEN LID.

2.62 **INLET TYPE 700**

Description: This work shall consist of furnishing and installing the Rockford 700 Inlet in accordance with the details as noted; and in accordance with Section 602 of the Standard Specifications. An opening in the face of curb provided by the metal casting shall be constructed to allow for excess flow to enter the drainage structure if the grate should become plugged. Precast concrete base and barrel section shall be in accordance with Section 1042 of the Standard Specifications. Up to 12" of precast adjusting rings will be permitted. When final grade has been established, the frame shall be grouted in place.

Precast barrel sections in accordance with Section 1042 of the Standard Specifications are recommended. Fabricator sketches shall be submitted prior to fabrication for non-standard items. Connections to perforated drains etc. which must be field cored shall be considered incidental to the item. Additional curb width to meet the inlet casting shall be provided as shown in the details. The cost of the additional curb flag width shall be included in the cost of the Curb & Gutter.

Method of Measurement: This item will be measured as an Each item which shall include the base, barrel, grate, inverting the bottom, and adjusting the casting to final grade.

Basis of Payment: This item will be paid at the contract unit price per EACH for INLET TYPE 700.

2.63 **INLETS TO BE ADJUSTED**

Description: The work required for this item shall comply with the requirements of Section 602 of the Standard Specifications, the City of Rockford Engineering Division Standard Details and other requirements shown on the plans and included in these Special Provisions. This work shall include up to three feet of curb and gutter removal and replacement on each side of the inlet which shall be considered incidental to this inlet. The existing frame and grate shall be replaced with a new frame and grate furnished by the Contractor.

Each inlet shall have all debris cleaned from it and the Contractor shall properly dispose of the removed debris. Trench backfill material required to complete adjustment of the inlet shall be placed and compacted around the inlet and under the new pavement. The Contractor shall furnish all material, labor and equipment required to complete this work including removal and disposal of debris.

Method of Measurement: This work will be measured as an Each item.

Basis of Payment: This work will be paid at the contract unit price per EACH for INLETS TO BE ADJUSTED.

2.64 **TRENCH DRAIN**

Description: This work shall consist of furnishing and installing a Trench Drain in accordance with the details as noted; and in accordance with Section 602 of the Standard Specifications. A manufactured product is recommended, however, the trench drain may be cast-in-place or manufactured product. The drain shall have an internal slope so that the grate can be set level. The grate shall be standard duty and pedestrian safe for the locations where will be walking, and heavy duty for the overhead door location. The low end of the drain shall have a sump or catch basin to keep the grit from snow removal operations from accumulating in the drain pipe. The grate shall be removable to access the sump and trench for cleaning and maintenance.

The Plans call for an ACO modular system; however the Contractor may substitute an equal product with the shop drawings for review. The shop drawings shall show at a minimum: the components of the system, the slope of the trench, the method of anchoring the trench product and the grate, the drainage opening pattern in the grate and load capacity of the grate, and the material specifications of the system. The grates that are subject to pedestrian traffic only shall be stainless steel. The heavy duty grates may be either galvanized steel or M222 weathering steel.

Method of Measurement: This item will be measured to the nearest 0.1 feet from end to end of the grate. This item shall include a sloped trench, removable grates, sump, and all connecting parts and fittings to comprise a total drain system, together with the labor and equipment to install it.

Basis of Payment: This item will be paid at the contract unit price per FOOT for TRENCH DRAIN.

2.65 **PVC CLEANOUT**

Description: This item shall include all labor, equipment and material to furnish and install cleanouts for storm water and sanitary sewer pipes in accordance with the details shown on the plans. Cleanouts that occur in lawn areas shall be set to a grade that is 2" higher than the surrounding grade and surrounded in a concrete collar sloping away from the cleanout. Cleanouts that occur in sidewalk areas shall be set below grade in a covered frame. The frame shall have a minimum of one stainless steel screw to hold the cover in place and the frame and cover shall be set flush with the sidewalk.

Cleanouts shall be made of Schedule 40 PVC and shall have threaded fittings at the top to gain access. Sanitary sewer cleanouts must meet the minimum IBC code and the approval of RRWRD.

Method of Measurement: This item will be measured as an Each item which shall include the wye, PVC riser, cap, and frame & lid or concrete collar as depicted in the details.

Basis of Payment: This item will be paid at the contract unit price EACH for PVC CLEANOUT.

2.66 TRENCH BACKFILL

Description: This work shall consist of furnishing, placing, and compacting imported fine aggregate backfill in accordance with Section 208 of the Standard Specifications.

The Contractor is cautioned that the lower site has been declared a non-hazardous special waste site and Section 669 of the Standard Specifications apply to personal protective equipment and training of personnel working in trenches. The reuse of native material is encouraged if it is suitable as trench backfill. This shall not relieve the Contractor from the requirements for adequate compaction in the trenches.

Method of Measurement: Measurement for this work will be made and calculated in accordance with the trench backfill standard details for the City of Rockford. Reuse of existing native material will not be measured as trench backfill.

Basis of Payment: This work will be paid for at the contract unit price per CUBIC YARD for TRENCH BACKFILL.

2.67 DUCTILE IRON WATER MAIN 8", CLASS 52 (POLYETHYLENE WRAPPED)

Description: This work shall include all labor, equipment, and material to furnish and install ductile iron pipe water main in accordance with the Standard Specifications for Water and Sewer Construction in Illinois – 6th Edition and the City of Rockford Water Division Specifications.

All water mains shall conform to AWWA C151 & C111 and be constructed of Class 52 Ductile Iron pipe, cement mortar lined inside conforming to AWWA Standard C104 and bituminous coated outside. All fittings (bends, tees, crosses, and plugs) required to complete this installation shall be as shown upon the plans or as directed by the Engineer.

Pipe to pipe joints on straight runs of main shall be push-on type. All joints on fittings, valves, and bends shall be mechanical type with ductile iron retainer glands. To ensure electrical conductivity, brass wedges shall be used with push-on joints in accordance with Section 41-2.05C of the Standard Specifications for Water and Sewer in Illinois. All mechanical joints shall be tightened to the manufacturer's specifications with a torque stick. Thrust restraint shall be provided by thrust blocks wherever there is a change in horizontal direction, tees, and on

dead ends. On vertical down and vertical up bends and reducers, restrained glands are required.

Pipe fittings shall be 250 PSI rated ductile iron, fully complying with the provisions of AWWA Standard C110. All fittings shall be cement mortar lined in accordance with the provisions of AWWA Standard C111. Fittings shall be furnished with ductile iron retainer glands and all joint accessories. Thrust Blocks shall be PC Concrete, a minimum of 12" thick formed between the pipe or fitting and the undisturbed trench wall. Pipe fittings and thrust blocking will not be paid separately but shall be included in the unit price cost of the water main.

Trenches shall be excavated to a depth sufficient to provide a minimum cover of 6 feet and a maximum cover of 8 feet from the top of pipe to the finish ground surface. All trenches shall be backfilled, from the bottom of the trench to the centerline of the pipe, with granular backfill. The backfill material shall be deposited in the trench for its full width on each side of the pipe simultaneously, distributed evenly by hand, and compacted by tamping. All trenches shall be backfilled from the centerline of the pipe to a depth of one foot above the top of pipe with FA-6 granular backfill and compacted by tamping. Pipe to be located under or within two feet of the pavement shall be backfilled from one foot above the top of pipe to subgrade elevation with approved native soil or trench backfill. The trench shall be compacted in 6-inch layers to not less than 95% of standard laboratory density.

The water main, including valves, fittings, hydrant barrels, and appurtenances, shall be fully encased in polyethylene film meeting the requirements of these Specifications. The film shall be furnished in tube form for installation on pipe and all pipe-shaped appurtenances such as bends, reducers, offsets, etc. Sheet film shall be provided and used for encasing all odd-shaped appurtenances such as valves, tees, crosses, etc.

The polyethylene tubing shall be installed on the pipe prior to being lowered into the trench. Tubing length shall be sufficient to provide a minimum overlap at all joints of one foot or more. Overlap may be accomplished with a separate sleeve tube placed over one end of the pipe prior to connecting another section of pipe, or by bunching extra overlap material at the pipe ends in accordion fashion. After completing the pipe jointing and positioning the overlap material, the overlap shall be secured in place with plastic adhesive tape wrapped circumferentially around the pipe not less than three (3) turns.

After encasement, the circumferential slack in the tubing film shall be folded over at the top of the pipe to provide a snug fit along the barrel of the pipe. The fold shall be held in place with plastic adhesive tape applied at intervals of approximately three (3) feet along the pipe length. In addition, any rips, punctures, or other damage to the tubing shall be, repaired as they are, detected. These repairs shall be made with adhesive tape and over lapping patches cut from sheet or tubing material.

At odd-shaped appurtenances such as gate valves, the tubing shall overlap the joint and be secured with plastic adhesive tape. After which the appurtenant piece

shall be wrapped with a flat film sheet or split length of tubing by passing the sheet under the appurtenance and bringing it up around the body. Seams shall be made by bringing the edges together, folding over twice, and taping down. Whenever encasement is terminated, it shall extend for at least two (2) feet beyond the joint area.

Openings in the tubing for branches, service taps, air release valves and similar appurtenances shall be made by cutting an X-shaped slit and temporary folding back the film. After installing the appurtenance, the cut tabs shall be secured with tape and the encasement shall be completed as necessary for an odd-shaped appurtenance.

Polyethylene encasement material shall conform to the requirements of AWWA Standard C-105 (ANSI Standard A21.5) for tube installation and 8-mil nominal film thickness.

After the pipe has been laid and partly backfilled as specified, all newly laid pipe or any valved sections of it shall, unless otherwise expressly specified, be subjected to a hydrostatic pressure equal to 50% more than the operating pressure at the lowest elevation of the pipe section, but not to exceed the pressure rating of the type of pipe specified. The duration of each pressure test shall be for a period of not less than one hour and not more than 6 hours. The basic provisions of AWWA C-600 and C-603 shall be applicable.

Each valved section of pipe shall be, slowly filled with water and the specified test pressure applied. Before applying the specified test pressure, all air shall be expelled completely from the pipe, valves and hydrants. If permanent air vents are not specified, the contractor shall install corporation stops at all points located at a higher elevation than the immediately adjacent sections of main so that air can be expelled as the line is filled with water. After air has been expelled, corporation stops shall be closed and test pressure applied.

After test pressure has been reached and the system allowed to stabilize, not more than plus or minus five pounds per square inch gauge (+or- 5 PSIG) deviation will be allowed for the duration of the test.

All exposed pipe, fittings, valves, hydrants and joints shall be carefully examined. All joints showing visible leaks shall be repaired by the contractor. Any cracked or defective pipe, fittings, valves, or hydrants discovered in consequence of the pressure test shall be removed and replaced by the contractor. The test shall be repeated until satisfactory to the City.

A leakage test shall be conducted if the pressure test cannot be satisfactorily completed. Leakage shall be defined as the quantity of water that must be supplied into the newly laid pipe, or any valved sections thereof, to maintain pressure within five pounds per square inch (5 PSI). Leakage shall not be measured by a drop in pressure in a test section over a period of time.

No pipe installation will be, accepted if the leakage is greater than specified in AWWA Standard C600-87.

After the backfill has been completely made, the contractor shall disinfect the pipeline in compliance with the provisions of AWWA Standard C651 and the provisions herein specified.

Prior to disinfection, the pipeline or valved section thereof, shall be flushed at a minimum flow velocity of two and one-half (2-1/2) feet per second. Following full development of flow, flushing shall continue until the discharge runs clear or until the City directs flushing operations to cease.

In no event shall the duration of flushing be less than ten (10) minutes. Water used in flushing shall be introduced into the pipeline at a point of connection with the existing distribution system designated by the City.

After flushing, the water main shall be disinfected in accordance with AWWA Standard C651. Water used in disinfecting the pipeline shall be introduced into the pipeline through the pressure test connection made under the provisions of Section 12.28 Hydrostatic Testing.

Bacteriological sampling shall be collected from the pipeline following disinfection and final flushing. Samples shall be delivered to the City of Rockford Environmental Laboratory (1111 Cedar Street) for analysis. Samples must be submitted in Laboratory approved bottles that may be obtained from the laboratory. A Coliform Analysis Report shall be submitted with each sample (also available at this address) and shall indicate the chlorine residual (either free or total) at the time the sample was collected. Failure to record the residual shall result in the rejection of the sample. If the sample shows the presence of coliform organisms, the contractor shall be notified (contact information MUST appear on the bacteriological form) and repeat the disinfection procedure. On re-sampling, two (2) consecutively passing samples collected on successive days (a minimum of 24 hours between sampling) shall be required.

If valved sections of the pipeline are disinfected separately, each section will be considered a separate pipeline for disinfection, flushing and sampling.

The City of Rockford will retain a copy of all bacteriological laboratory reports and submit results to the Illinois EPA as required. A copy of the bacteriological report shall also be sent to the City Water Engineering Supervisor and the Contractor. This work will be incidental to the contract and will not be considered for further payment.

Where acceptable material is excavated for backfilling trenches it will be allowed to be reused. Where fine aggregate backfill must be brought to the job trench backfill will be paid for separately. Bedding shall be included in the cost of the water main.

Method of Measurement: Measurement for this work will be per Foot in place. Measurement will be through fittings and all fittings required for water main will not

be measured separately, but shall be included in the cost of the associated water main.

Basis of Payment: This work will be paid for at the contract unit price per FOOT for DUCTILE IRON WATER MAIN 8", CLASS 52 (POLYETHYLENE WRAPPED).

- 2.68** **GATE VALVE AND VALVE BOX, 4"**
- 2.69** **GATE VALVE AND VALVE BOX, 6"**
- 2.70** **GATE VALVE AND VALVE BOX, 8"**

Description: This work shall consist of furnishing all labor, equipment and material necessary to install 4", 6", and 8" Gate Valves, complete with valve boxes at the locations shown on the plans or as directed by the Engineer and in accordance with the City of Rockford Water Main Specifications and Section 602 of the IDOT Standard Specifications.

A cast iron valve box shall be provided for every valve, and set to the finish grade. Valve boxes shall be Tyler/Union cast iron 6850 Series with "WATER" imprinted on the top cover and with a debris cap and with an adapter II by Adapter Inc. installed. The valve-operating nut shall be readily accessible for operation through the valve box opening.

Gate valves shall be iron body, bronze-mounted, non-rising stem, double disc gate valves with parallel seat or resilient wedge type, opening left (counter clockwise), and shall fully comply with the provisions of AWWA Standard C500 for double disc type and AWWA Standard C509 for resilient seat type. Gate valves shall be furnished with "O" ring stem seals.

All joints shall be mechanical joint type and comply with AWWA Standard C111 mechanical joints. The approved restrained gland type shall be individually activated wedge type gland (e.g. Megalug style; Iniflange style) shall be used for restraint due to its increased resistance to joint separation as pressure or external forces increase and its ability to provide joint resiliency and deflection. The wedge type gland shall have a working pressure up to 350 PSI along with a factor of safety of 2:1. The wedges shall be ductile iron heat treated to a minimum hardness of 370 BHN. It shall also have individual activated wedge screws with separately engineered heads designed to break off when the desired torque is reached, leaving a hex head in case future removal is required.

The following manufacturers are listed as offering valves in essential compliance with these specifications. Responsibility rests with the supplier for demonstrating that a particular valve model complies fully with these specifications. Manufacturers other than those listed may be acceptable provided the supplier can satisfy the City's specifications indicating that all components they provide are American Made.

1. Mueller Company, Decatur, Illinois
2. American Flow Control, Birmingham, Alabama
3. Kennedy Valve, Elmira, New York

Cost of the valve box shall be included in the contract unit price bid for this item.

Method of Measurement: Measurement for this work will be per Each in place which shall include adjustment to final grade.

Basis of Payment: This work will be paid for at the contract unit price per EACH for GATE VALVE AND VALVE BOX, 4", GATE VALVE AND VALVE BOX, 6", and GATE VALVE AND VALVE BOX, 8".

2.71 FIRE HYDRANT, COMPLETE WITH AUXILIARY VALVE AND VALVE BOX

Description: This work shall consist of furnishing and installing fire hydrants and the associated piping, fittings, and thrust blocking in accordance with the City of Rockford Water Division requirements and the Standard Specifications for Water and Sewer Construction in Illinois 6th Edition. This item shall include the hydrant, valve and box, blocking, poly wrap, trench backfill, sufficient 6" lead to make the connection, and making the connection to the 6" tee.

All hydrants shall stand plumb and have their nozzles parallel or at right angles to the curb. No portion of the pumper hose nozzle cap shall be less than 24" from the curb face, driveway, or other vehicular traffic surface. Hydrants shall be set with the indicated bury line to finish grade, and with the centerline of all nozzles at least 18" but not more than 24" above finish grade. Break-a-way flange shall be set not less than 2" or more than 6" above finish grade.

Each Hydrant shall be placed upon a two foot square concrete base set upon undisturbed soil. The hydrant shall be braced until the backfill is made. Fire hydrants shall comply with all of the general provisions of the latest revision of AWWA Standard C502 and with the special requirements hereinafter provided.

Each hydrant shall be connected to the main by a 6" diameter branch line controlled by an independent 6" gate valve placed 18" in front of the hydrant. Restrained joints shall be used on the tee branch, both sides of the auxiliary control valve, and the hydrant shoe. A cast iron valve box shall be provided for each valve. The valve-operating nut shall be readily accessible for operation through the valve box opening, which shall be set flush with the finish surface. All aspects of the valve and valve box shall comply with section 2.67 of these special provisions.

The inlet connection shall be six (6) inch oversized mechanical joint type, which is designed to be installed on Class D Pit Cast or Class 250 Cast Iron pipe and Class 52 Ductile Iron pipe by using two (2) types of available gaskets furnished with the hydrant. Gaskets for oversized cast iron and ductile iron are to be color coded to identify which gasket is to be used on which pipe. The interior shoe and lower valve plate shall be coated with an epoxy at a minimum of four (4) mils thickness. Ductile iron restrained retainer glands, bolts, nuts, and gaskets, shall conform to AWWA Standard C111.

The main valve shall be five and one-quarter (5-1/4) inches in size, closing with water pressure. The upper valve plate and seat ring shall both be of solid, one-piece bronze construction, and the seat ring shall be attached to the hydrant shoe by threading into a bronze fitting. The zinc content in the bronze shall not exceed sixteen (16) percent. The main valve assembly shall include provisions to restrain movement of the main valve and stem in any direction other than parallel to the axis of the stem.

Lower barrel length shall be based on a nominal six (6) foot bury (trench) depth. Barrel and stem extensions shall be available in six (6) inch lengths and longer lengths in increments of six (6) inches. The manufacture's name, size of main valve opening, and year of manufacture shall be cast in the upper barrel of the hydrant.

The outlet connections shall be:

- (a) One (1) four (4) inch pumper nozzle, 5.0109 inch ODM, 4 TPI (NHT).
- (b) Two (2) two and one-half (2-1/2) inch hose nozzles, 3.0686 inch ODM, 7-1/2 TPI (NHT).

Nozzles shall be fastened mechanically into the upper barrel and have the nozzle caps chained to the upper barrel. Both hydrant operating nut and nozzle cap nuts shall be one (1) inch square at the base tapering to seven-eighths (7/8) inch at the top and not less than one (1) inch in height. The hydrant-operating nut shall turn right (clockwise) to open.

Hydrants shall be of the "break-away" flange and stem coupling design. The breakaway design shall allow for three hundred sixty (360) degree facing nozzles by infinite degrees. Safety stem coupling shall be of frangible design, which provides for a clean break or tear into halves upon impact. Stem coupling shall be secured to the stem with stainless steel pins and fasteners.

All fire hydrants, public and private, shall have a Harrington Integral Hydrant Storz nozzle installed on hydrants during assembly and shall meet or exceed the requirements of AWWA C502 regarding material and pressure testing. The Storz nozzle shall have a brass metal face seal and hard anodized aluminum Storz ramps and lugs. The aluminum's finish shall be hard coat anodized to Mil-A-8625f, Type 3, dark gray. The adapter shall be made of forged or extruded 6061-T6 aluminum. The blind cap shall have hard anodized aluminum Storz ramps and lugs, made of forged or extruded 6061-T6 aluminum. The center cap shall be equipped with a suction seal. The cap shall be connected to the adapter of the hydrant with a 0.15" vinyl coated aircraft cable.

Fire hydrants installed in public R.O.W. and in easements maintained by the City, shall have the upper barrel, above the ground line, painted a minimum of one (1) coat of "Yellow" Rustoleum Industrial grade Iron Oxide Primer and two (2) finish coats of "Traffic Yellow" Rustoleum Industrial grade oil base Alkyd Enamel. Hydrants installed on private property, in conjunction with the owner's fire

protection system, shall be painted "Red". Painting and coatings shall be in accordance with AWWA Standard C502.

Each threaded nozzle and cap, shall be coated with a premium, synthetic, food grade, non-drying thread sealant and anti-seize compound, approved by the specific hydrant manufacturer, immediately before or after installation.

Only the following manufacturers and models are accepted by the City of Rockford.

1. Kennedy Guardian K-81A
2. Mueller Super Centurion A-423

Method of Measurement: Measurement for this work will be per Each.

Basis of Payment: This work will be paid for at the contract unit price per EACH for FIRE HYDRANT, COMPLETE WITH AUXILIARY VALVE AND VALVE BOX.

2.72 DUCTILE IRON WATER SERVICE 4"

Description: This work shall conform to the City of Rockford Water Division Specifications and the Standard Specifications for Water and Sewer Construction in Illinois 6th Edition. This item shall consist of furnishing and installation of Ductile Iron service line. The valve and valve box shall be placed on the right-of-way line except as shown on the plans. The work includes the cost of all connections, bends, fittings, caps, disconnecting of the existing service and reconnecting it to the newly installed service, excavation and polywrap. These services shall be installed at the locations shown on the plans. The final location is to be verified by the Contractor and Resident Engineer.

Method of Measurement: Measurement for this work will be per Foot.

Basis of Payment: This work will be paid for at the contract unit price each for DUCTILE IRON WATER SERVICE 4".

2.73 DUCTILE IRON WATER SERVICE 6"

Description: This work shall conform to the City of Rockford Water Division Specifications and the Standard Specifications for Water and Sewer Construction in Illinois 6th Edition. This item shall consist of furnishing and installation of Ductile Iron service line. The valve and valve box shall be placed on the right-of-way line except as shown on the plans. The work includes the cost of all connections, bends, fittings, caps, disconnecting of the existing service and reconnecting it to the newly installed service, excavation and polywrap. These services shall be installed at the locations shown on the plans. The final location is to be verified by the Contractor and Resident Engineer.

Method of Measurement: Measurement for this work will be per Foot.

Basis of Payment: This work will be paid for at the contract unit price each for DUCTILE IRON WATER SERVICE 6”.

2.74 2” COPPER WATER SERVICE, COMPLETE

Description: This work shall conform to the City of Rockford Water Division Specifications and the Standard Specifications for Water and Sewer Construction in Illinois 6th Edition. This item shall consist of furnishing and installation of copper water service line complete with copper tubing, corporation stop valve, curb stop box, and a mechanical union to connect the existing water service line. Curb stop boxes shall be placed on the right-of-way line and set flush to finish grade.

All water services are required to be installed and tapped by a licensed plumber and inspected by the City of Rockford (building Department) prior to backfilling. A crimping tool shall not be used to temporarily stop a water service except in an emergency. If a crimping tool is used to stop a service line, the final repair shall be directed by the Engineer, but in no case shall uncrimping the line be allowed.

Service branch pipes two (2) inches in diameter and smaller shall be seamless “Type K soft” copper tubing for underground service, conforming to ASTM B-88-47.

Each service shall be provided with a valve at the point of connection with the main. For copper services, the valve at the main shall be a corporation stop; for ductile iron services, connection to the main shall be made by means of either a tapping valve and sleeve or installation of a tee and standard gate valve. Corporation stops shall be buried. Gate valves shall be provided with a valve box.

Copper service connections shall be connected to the main by a corporation stop and shall be controlled by a curb stop accessible through a curb box. The curb stop and box shall be, installed on the R.O.W. line and shall not be located in or under any service walk or driveway. If any curb stop box is located in a walk or driveway, an A.Y. McDonald, cast iron box receptacle (part 5639) must be, used. Where the entire area between the curb and R.O.W. line is paved, the top of the curb box must be fitted with a pavement sleeve.

Service connections shall be installed perpendicular to the water main at the point of connection and extend in a straight line to the boundary of the R.O.W. or easement in which the main is located. Where a service perpendicular to the main will not reach the property to be served, the service shall be laid in a straight line between the main and the property line.

The separation between the service connection and sanitary sewers, storm sewers, sewer appurtenances, or other sewer structures shall be the same as required for water mains.

Tubing shall be seamless Type K copper tubing, suitable for underground service, and conforming to ASTM B-88-47 Type K, soft. Copper is to be of one continuous piece. No joints, couplings, etc. allowed from main to curb stop, *unless* authorized by the City Engineer, Water Superintendent, or their representative.

Compression joint is hereby defined to be a joint whereby plain end copper tubing is connected to a fitting and locked into place by compressive forces created when a nut threaded onto the body of the fitting is tightened. A compression joint shall require no preparation of the end of the tubing other than simple cleaning.

A compression joint shall consist of:

- (a) a receptacle in the fitting body for the end of the copper tubing, the outside of which receptacle shall be threaded to accept the coupling nut; and
- (b) a gasket which shall provide the hydraulic seal for the joint and transmit the compressive forces to the gripper band; and
- (c) a gripper band which shall produce circumferential indentations in the tubing, thereby restraining the tubing and preventing joint separation; and
- (d) a coupling nut which shall thread onto the body of the fitting and, upon tightening, compress the gasket and gripper band; and
- (e) a device or means of providing positive electrical continuity through the joint.

The gasket shall be made of a synthetic rubber material capable of providing a watertight seal when installed at temperatures ranging from minus twenty (-20) degrees Fahrenheit to one hundred (100) degrees Fahrenheit. It shall be capable of maintaining a watertight seal through repeated temperature cycles between thirty-two (32) degrees Fahrenheit and eighty (80) degrees Fahrenheit, and shall be undamaged by water temperatures up to one hundred sixty (160) degrees Fahrenheit. The gasket shall be, totally confined by the fitting body/coupling nut assembly.

The gripper band shall be made from corrosive resistant steel. It shall be concave in shape so as to produce two parallel circumferential indentations in the tubing, and shall overlap itself upon compression.

The coupling nut shall be made of waterworks bronze (ASTM B-62).

The fitting body receptacle and coupling nut eye shall be manufactured to a close tolerance to Type K copper water tube, so that the tubing cannot be inserted into the coupling assembly unless the tubing is truly round in cross section and axially straight.

Compression couplings shall include provision for positive electrical connection between the tubing and the fitting body. The electrical connection shall be adequate to conduct 200 amps without damage to the gasket or any other part of the joint.

Compression coupling joints shall not pull apart at loads less than 2000 pounds.

Corporation stop valves shall be manufactured of waterworks bronze (ASTM B62), with full diameter stop orifice, and thread patterns conforming to AWWA Standard C800 figure 1 for Type K copper service tube.

Design and dimension of corporation stops must conform, with Mueller H-15000 stops to allow use in the City's tapping machines.

Corporation stop valves shall be, furnished in one (1) inch, one and one-half (1-1/2) inch and two (2) inch sizes for use with Type K copper tubing in the same standard water tube sizes.

Corporation stop valves shall be furnished with compression joints.

Curb stop valves shall be manufactured of waterworks no-lead brass (ASTM Standard B62), with full round top orifices, and ninety (90) degree stop rotation. Tee heads must be designed for connection to curb box shut-off rods similar to Mueller #82865 or #580563.

Curb stop valves shall be "O" ring seal plug or ball types. Inverted or tapered plug valves, as well as stop and waste designs, are not accepted.

Curb stop valves shall be, furnished in one (1) inch, one and one-half (1-1/2) inch, and two (2) inch sizes for use with Type K copper tubing.

The following manufacturers are listed as offering curb stop valves in essential compliance with these specifications. Responsibility rests with the supplier to demonstrate that a particular curb stop model complies fully with these specifications. Manufacturers other than those listed may be acceptable, and will be given full consideration, provided the supplier can satisfy the City that these specifications are met.

1. Mueller Company, Decatur, Illinois
2. A.Y. McDonald Manufacturing Company, Dubuque, Iowa

Curb stop boxes shall be extension type, with arch pattern bases, for a nominal six (6) foot trench depth. Upper sections shall be of steel and shall telescope a minimum of twelve (12) inches. Provisions shall be made to prevent the upper sections from turning or from pulling out of the base sections.

Upper sections for three-quarter (3/4) inch and one (1) inch curb stop boxes shall be one (1) inch size. Upper sections for larger curb stop boxes shall be one and one-quarter (1-1/4) inch in size. The base sections shall be adequately sized to accommodate Mueller Oriseal pattern curb stops.

Stationary rods thirty-six (36) inches long shall be furnished with curb stop boxes. Rod design shall center the upper end of the rod in the upper box section.

Lids shall be furnished with curb stop boxes. Lids shall have brass bushings iron pipe threaded, and shall be cast with lettering to indicate a water service valve.

Curb stop boxes shall be coated, inside and outside, with coal tar enamel. Stationary rods and lids shall also be coated with coal tar enamel.

The following manufacturers are listed as offering curb stop boxes in essential compliance with these specifications. Manufacturers other than those listed may be acceptable, and will be given full consideration, provided the supplier can satisfy the City that these specifications are met.

<u>Stop size</u>	<u>Manufacturer</u>	<u>Box Number</u>	<u>Lid Number</u>
1	A.Y. McDonald	5601	5601-L
1	Mueller	H-10314	89982
1-1/2 & 2	Mueller	H-10386	89990

Service saddles shall be of the double strap type in pipe sizes up to sixteen (16) inch, and triple strap in larger pipe diameters. Saddles shall be designed for a working pressure of three hundred (300) PSI.

Outlet opening shall be furnished with AWWA "CC" type tapered threads in one and one-half (1-1/2) inch, and two (2) inch sizes.

The saddle body shall be made of ductile iron with an enamel coating, and complying with ASTM Standard A536. Straps and nuts shall be made of forged low alloy steel, electro-galvanized with di-chromate seal and conforming to ASTM Standards A108 and B633. The inlet gasket shall be of "Buna-N" rubber, cemented in place.

In soils considered corrosive, service saddle material of construction shall be: Saddle body made of waterworks no-lead brass, with straps and nuts made of silicon bronze, all in compliance with AWWA Standard C800.

The following manufacturers are listed as offering service saddles in essential compliance with these specifications. Responsibility rests with the supplier to demonstrate that a particular saddle fully complies with these specifications. Manufacturers other than those listed may be acceptable, and will be given full consideration, provided the supplier can satisfy the City that these specifications are met.

1. Smith-Blair, Incorporated, Texarkana, Texas
2. Ford Meter Box Company, Wabash, Indiana

Service fittings shall be manufactured of waterworks bronze (ASTM B-62).

Services fittings shall be, furnished in one (1) inch, one and one-half (1-1/2) inch, and two (2) inch sizes for use with Type K copper tubing in the same standard water tube sizes.

Also included in this item are the cost of all connections, disconnecting of the existing private service and reconnecting it to the newly installed service, excavation and trench backfill. Also included in this item are the cost of all connections, and backfilling. These services shall be installed at the locations shown on the plans. The final location is to be verified by the Contractor and the Resident Engineer.

Method of Measurement: Measurement for this work will be per Each.

Basis of Payment: This work will be paid for at the contract unit price EACH for 2" COPPER WATER SERVICE, COMPLETE.

2.75 TAPPING VALVE WITH TAPPING SLEEVE AND VALVE BOX 6"

Description: This work shall consist of a pressure connection to a 10" water main for a 6" service. All labor, equipment, and material shall be included to install a 6" tapping sleeve on a 10" water main and perform the wet tap. It shall also include a 6" tapping gate valve and valve box.

Tapping gate valves shall be iron-bodied, bronze mounted, non-rising stem, "double disc" gate valves with parallel seats or "resilient seat wedge" type, opening left (counter clockwise), and shall fully comply with the latest provisions of AWWA Standard C500 for double disc type and C509 for resilient type. Auxiliary type will not be accepted.

Valves shall be furnished with "O" ring stem seals.

Seat openings shall be larger than the nominal size of the valve by an amount sufficient to pass a full diameter tapping machine cutter through the valve.

Tapping valves shall be furnished with standard AWWA mechanical joint outlet end and flanged inlet end. Flanged end will have a raised face to match the groove in the tapping sleeve outlet flange. Both the flange and mechanical accessories along with the ductile iron retainer glands (RWDS-21-1994) will be furnished.

The following manufacturers are listed as offering valves in essential compliance with these specifications. Responsibility rests with the supplier for demonstrating that a particular valve model complies fully with these specifications. Manufacturers other than those listed may be acceptable provided the supplier can satisfy the City's specifications indicating that all components they provide, are "American made".

1. Mueller Company, Decatur, Illinois
2. Kennedy Valve, Elmira, New York

Method of Measurement: Measurement for this work will be per Each in place for the various size water mains. Backfilling in accordance with 1.15 above shall be considered incidental to this item. Pavement restoration will be measured under separate pay items.

Basis of Payment: This work will be paid for at the contract unit price per EACH for TAPPING VALVE WITH TAPPING SLEEVE AND VALVE BOX.

2.76 CONNECT TO EXISTING WATERMAIN 8"

Description: The work shall consist of all labor, equipment, and material to complete a non-pressure connection to the existing 8" water main located in Walnut Street as shown on the plans. The work shall include exercising the isolation valves with the City of Rockford Water Division personnel prior to excavation. It shall also include saw cutting and removing the pavement and a length of existing water main and an existing 8" valve. The Contractor shall make the connection to the existing 8" water main in accordance with the City of Rockford Water Division Specifications.

The Fire Department of Rockford has granted permission to leave the existing water main to be abandoned out of service during the new water main construction. Hydrants that are affected must be tagged "out of service" by the Contractor.

Method of Measurement: Measurement for this work will be per Each. The pavement patching will be measured and paid separately.

Basis of Payment: This work will be paid for at the contract unit price per EACH for CONNECT TO EXISTING WATERMAIN 8".

2.77 REMOVE EXISTING FIRE HYDRANT AND LEAD

Description: This work shall conform to the Standard Specifications for Water and Sewer Main Construction in Illinois – 6th Edition, and the City of Rockford Water Division Specifications. Where shown on the plans, the existing fire hydrant assembly and the associated valve, valve box or vault, and hydrant lead shall be excavated and removed. The pipe remaining in the ground shall be plugged with non-shrink grout or removed as shown on the Demolition and Utility Plan.

Method of Measurement: This item shall include removal and proper disposal of all material. The excavated hole shall be properly backfilled according to 1.15 above and shall include trench backfill where required. Trench backfill will be paid separately when existing native material is not acceptable as backfill. In either case, compaction of the trench is required. Measurement for this work will be per Each.

Basis of Payment: This work will be paid for at the contract unit price per EACH for EXISTING FIRE HYDRANT AND LEAD TO BE REMOVED.

2.78 REMOVE EXISTING POST INDICATOR VALVE

Description: This work shall conform to the Standard Specifications for Water and Sewer Main Construction in Illinois – 6th Edition, and the City of Rockford Water Division Specifications. Where shown on the plans, the existing post indicator valve assembly and the associated valve, valve box, electrical connection if any, and water line shall be excavated and removed. The pipe remaining in the ground shall be removed as shown on the Demolition and Utility Plan.

Method of Measurement: This item shall include removal and proper disposal of all material. The excavated hole shall be properly backfilled and shall include trench backfill where required. Trench backfill will be paid separately when existing native material is not acceptable as backfill. In either case, compaction of the trench is required. Measurement for this work will be per Each.

Basis of Payment: This work will be paid for at the contract unit price per EACH for REMOVE EXISTING POST INDICATOR VALVE.

2.79 REMOVE EXISTING VALVE AND VALVE VAULT

Description: This work shall include the removal of existing valve and valve vaults where shown on the plans. The contractor shall remove the frame and cover and deliver to City Yards. The existing valve vault shall be excavated and removed for the full depth of the structure. The contractor shall sawcut the existing water main and remove the valve and associated appurtenances. The existing pipes shall be capped or plugged as indicated on the plans and described under separate items.

This item shall include removal and proper disposal of all material. The excavated hole shall be properly backfilled and shall include trench backfill where required.

Method of Measurement: Measurement for this work will be per Each.

Basis of Payment: This work will be paid for at the contract unit price per each for REMOVE EXISTING VALVE AND VALVE VAULT.

2.80 POST INDICATOR VALVE ASSEMBLY, 8" (GROUND MOUNT)

Description: This item includes all labor, equipment and material to install a ground mounted post indicator valve according to the manufacturer's instructions and standards herein. It shall be the responsibility of the water main Contractor to deliver the main to the building side of the post indicator valve at the elevation indicated on the Plans. The building Contractor shall be responsible for making the plumbing connection including any coring of holes in the building foundation and any blocking or mechanical joints at the building face. This item shall include:

Material: Cast iron adjustable type indicator post, accommodate 3" thru 14", non-rising stem, inside screw gate valves, locking type operating branch turn counterclockwise to open, adjustable, non-breakable plastic window, (reads "open" or "shut"), ul/fm. The following manufacturers are listed as offering Post Indicator Valves in essential compliance with these specifications. Responsibility rests with the supplier for demonstrating that a particular valve model complies fully with these specifications. Manufacturers other than those listed may be acceptable provided the supplier can satisfy the City's specifications indicating that all components they provide, are "American made".

Mueller Company, Decatur, Illinois – Model A-20806
Kennedy Valve, Elmira, New York – Model 2945A
Stockham, Cullman, Alabama – Model G-951A

Valve: 2" to 12" gate valve, 175 psi wp, flanged, iron body, resilient wedge, tripleo-ring seals, stainless steel bonnet bolts, non-rising stem with mounting bonnet flange for indicator post, valve stem operating nut to be national standard measuring 1 1/2" from point to opposite flat, matching indicator post, turn counterclockwise to open, ul/fm. The following manufacturers are listed as offering valves in essential compliance with these specifications. Responsibility rests with the supplier for demonstrating that a particular valve model complies fully with these specifications. Manufacturers other than those listed may be acceptable provided the supplier can satisfy the City's specifications indicating that all components they provide, are "American made".

Mueller Company, Decatur, Illinois – Model P-2360
Kennedy Valve, Elmira, New York – Model 8701A
Clow Valve Co. Oskaloosa, Iowa – Model F6102

Monitor switch: Monitor switch - electric, two single pole, double throw contacts, cast aluminum housing with corrosion resistant parts, ul/fm. The following manufacturers are listed as offering indicator switches in essential compliance with these specifications. Responsibility rests with the supplier for demonstrating that a particular valve model complies fully with these specifications. Manufacturers other than those listed may be acceptable provided the supplier can satisfy the City's specifications indicating that all components they provide, are "*American made*".

Potter Electric, St. Louis, Missouri - Model PCVS-2
System Sensor, St. Charles, Illinois - Model P1BV2

Verify electrical characteristics with electrical contractor prior to purchase.

This item also includes coordinating with building contractor for electrical connection. Trench backfill is also incidental to installments of post indicator valve.

Method of Measurement: Measurement for this work will be per Each.

Basis of Payment: This work will be paid for at the contract unit price per EACH for POST INDICATOR VALVE ASSEMBLY, 8" (GROUND MOUNT).

2.81 REMOVE MANHOLES

Description: This item shall include all labor and equipment required to remove manholes and storm structures including trench drains in accordance with Section 602 of the Standard Specifications. Where existing frame and lid is declared to be salvage by the Engineer, it is to be set carefully aside within the right of way and arrangements made for pick-up by the City of Rockford. If the removal leaves a pipe to be abandoned in place, the cost of plugging the opening with brick & non-shrink mortar or manufactured plug shall be included in the cost of removing the manhole.

Trench backfill will be paid separately when necessary; however, native soil may be used if it meets the requirements for trench backfill. Regardless of the source, the Contractor must compact the granular material.

Method of Measurement: This item will be measured as an Each item for manholes completely removed to the base.

Basis of Payment: This work will be paid for at the contract unit price EACH for REMOVE MANHOLES.

2.82 CUT AND PLUG EXISTING WATER MAIN

Description: This work shall include the labor, equipment and materials to cut and plug existing water mains at the locations shown in the plans, and the requirements of the City of Rockford Water Division. The Contractor shall cut the existing water main and plug the remaining pipe ends with non-shrink hydraulic mortar and bricks. As an alternative, the Contractor may use a manufactured mechanical plug approved by the Engineer. This item shall include removal and proper disposal of all material. The excavated hole shall be properly backfilled and shall include trench backfill where required. Trench backfill will be paid separately if native soil is not acceptable backfill.

This work shall include all items indicated on the plans as "cut and plug". Where hydrant leads and valve removals include plugging the remaining water main ends, this item will not be included for payment.

Method of Measurement: Measurement for this work will be per Each regardless of the size of the water mains.

Basis of Payment: This work will be paid for at the contract unit price per EACH for CUT AND PLUG EXISTING WATER MAIN.

- 2.83 **COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12**
- 2.84 **COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.18 (MODIFIED)**
- 2.85 **COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24**

Description: This work shall conform to Section 606 of the Standard Specifications and shall be constructed in accordance with the details as shown herein. One inch (1") Preformed expansion joint material, with caulking or equal, shall be installed at 100 foot intervals, at all radii, and 5 feet each side of inlets when not at radii. Each expansion joint shall be finished with a City approved caulking material that fills the void between the preformed expansion joint material and the face of the curb. Expansion Joints shall have one dowel in accordance with Article 1006.11(b) of the Standard Specifications and the Plan Details.

Replacement of curb and gutter must be completed and cured before bituminous surface course is placed.

Method of Measurement: Measurement for this work will be per Foot measured in the gutter line of the curb & gutter.

Basis of Payment: This item will be paid for at the contract unit price per FOOT for COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12, COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.18 (MODIFIED), AND COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24.

2.86 NON-HAZARDOUS SPECIAL WASTE DISPOSAL

Description: This work shall be done in accordance with Section 669 of the Standard Specifications for Road and Bridge Construction. A site environmental report is available for inspection at the Office of the City Engineer. Contact Austin Crull at (779) 348-7610 for an appointment to inspect the report. For the purpose of this Project, the report indicates that soils below topsoil on the entire site west of the UP Railroad Spur Track shall be classified as Non-Hazardous Special Waste according to the definitions contained in the IDOT Standard Specifications for Road and Bridge Construction Adopted January 1, 2012 as amended.

Sections 669.01 through 669.07 and Section 669.09 through 669.14 shall apply to this project with the exception that the first sentence of 669.09 does not apply. Non-Hazardous Special Waste may be reused in excavations and fills providing that they meet the requirements that they are separated from human contact by an "Engineered Barrier" as defined below **and are satisfactory** backfill material.

It is the intent of this contract to minimize the hauling and disposal of Special Waste. Excavated soil that is not considered topsoil or cannot be reused in a

trench or fill that will be covered with a minimum of four feet of clean fill shall be disposed of as Special Waste. The Contractor may use excavated material that is determined by the Engineer to be "suitable" as fill along the east side of the building or in deep fills on the site. Filling must stop at a point four feet below finish grade and clean fill must be used to finish the embankment.

For the sake of this contract, the Contractor shall include all of the requirements of Section 669 that apply as stated above in the including the requirements of Section 669.05 through 669.07 and shall provide qualified personnel who will be involved in any excavation below topsoil. Personal protective equipment shall include rubber boots, eye protection, rubber gloves, and water-proof leg protection if excavating in wet conditions. For the sake of this contract, the Contractor shall assume that decontamination shall be Dry Decontamination as defined by 669.06 (2) a.

Soils may be reused in excavations providing that they are separated from human contact by an engineered barrier as defined below. Soils in excess of that needed for backfill below an engineered barrier must be disposed in accordance with Section 669 of the IDOT Standard Specifications for Road and Bridge Construction. Special Waste and shall be disposed of as Special Waste. De-watering of contaminated water to storm sewers will not be permitted.

Non-Hazardous Special Waste may not be stockpiled without prior written permission as covered in Section 669.11 of the Standard Specifications for Road and Bridge Construction.

Water which has come in contact with contaminated soil shall be considered Non-Hazardous Special Waste: Unless determined to be clean by independent testing by the Contractor, any subsoil excavated and not covered by an engineered barrier shall be considered Special Waste. This does not include topsoil or Clean Construction Demolition Debris as defined by the IEPA.

Engineered Barrier: Any site soil classified as Non-Hazardous Special shall be considered remediated if separated from human contact by pavement, sidewalk, or a minimum of four feet of clean fill.

Method of Measurement: Measurement for this work will be per Ton. The Contractor shall furnish weight tickets and a signed manifest to be included for payment.

Basis of Payment: This item will be paid for at the contract unit price per TON for NON-HAZARDOUS SPECIAL WASTE DISPOSAL.

2.87 SIGN PANEL, TYPE 1

Description: This work shall be completed in accordance with Section 720 of the Standard Specifications. Signs shall be made according to the latest edition of the MUTCD and Illinois Addendum. The Contractor shall submit shop drawings in color for approval prior to fabricating the signs.

Method of Measurement: Measurement for this work will be per Square Foot.

Basis of Payment: This work will be paid for at the contract unit price per SQUARE FOOT for SIGN PANEL, TYPE 1.

2.88 TELESCOPING STEEL SIGN SUPPORT

Description: This work shall be completed in accordance with Section 728 of the Standard Specifications. Where signs must be placed in paved areas or sidewalk, a hole shall be blocked out or core drilled for the base sleeve to be installed. After the post base is installed, the hole shall be filled with concrete flush with the surface of the pavement or sidewalk. The hole shall be no larger than 6" in diameter. The Contractor shall tape the outside of the post to prevent concrete from getting into the holes in the post and to break the bond for removal purposes.

Method of Measurement: Measurement for this work will be per Foot in accordance with the Standard Specifications.

Basis of Payment: This work will be paid for at the contract unit price per FOOT for TELESCOPING STEEL SIGN SUPPORT.

- 2.89 THERMOPLASTIC PAVEMENT MARKING LINE 4"**
- 2.90 THERMOPLASTIC PAVEMENT MARKING LINE 6"**
- 2.91 THERMOPLASTIC PAVEMENT MARKING LINE 8"**
- 2.92 THERMOPLASTIC PAVEMENT MARKING LINE 24"**

Description: This work shall be completed in accordance with Section 780 of the Standard Specifications. Thermoplastic shall be applied as soon as it is practical after the HMA Surface Course is placed. The pavement marking shall only be applied to a clean surface. If landscaping and topsoil are to be placed after the HMA surface course is placed, then the Contractor may be required to pressure wash the areas to be marked at the discretion of the Engineer.

Lines shall be neat and crisp along the edges and uniform in width and length. The application density shall be a minimum of 100 mils in accordance with the Standard Specifications and glass beads shall be applied immediately after the paint is applied. For lines wider than the width of the hand operated machines, multiple passes are required. Wider lines, i.e. Stop Bars must have a uniform coverage so that they do not have the appearance of "stripes".

Method of Measurement: Measurement for this work will be per Foot, for the line width indicated, in accordance with the Standard Specifications.

Basis of Payment: This work will be paid for at the contract unit price per FOOT for THERMOPLASTIC PAVEMENT MARKING LINE 4", THERMOPLASTIC PAVEMENT MARKING LINE 6", THERMOPLASTIC PAVEMENT MARKING LINE 8", AND THERMOPLASTIC PAVEMENT MARKING LINE 24".

2.93 THERMOPLASTIC PAVEMENT MARKING LETTERS AND SYMBOLS

Description: This work shall be completed in accordance with Section 780 of the Standard Specifications. Thermoplastic shall be applied as soon as it is practical after the HMA Surface Course is placed. The pavement marking shall only be applied to a clean surface. If landscaping and topsoil are to be placed after the HMA surface course is placed, then the Contractor may be required to pressure wash the areas to be marked at the discretion of the Engineer.

Lines shall be neat and crisp along the edges and uniform in width and length. The application density shall be a minimum of 100 mils in accordance with the Standard Specifications and glass beads shall be applied immediately after the paint is applied. For lines wider than the width of the hand operated machines, multiple passes are required. Wider lines, i.e. Symbols must have a uniform coverage so that they do not have the appearance of "stripes".

Method of Measurement: Measurement for this work will be per Square Foot for the Symbol indicated on the Plans.

Basis of Payment: This work will be paid for at the contract unit price per SQUARE FOOT for THERMOPLASTIC PAVEMENT MARKING LETTERS AND SYMBOLS.

2.94 PAVEMENT MARKING REMOVAL

Description: This work shall be completed in accordance with Section 783 of the Standard Specifications. Existing Pavement Markings at Walnut Street and Water Street shall be removed where they are in conflict with new pavement markings. Only those cross-walk markings and lane lines that are on pavement that is to remain and in conflict with new pavement marking shall be removed.

Pavement marking removal may consist of grinding or water blasting, but either method shall remove the existing markings to the satisfaction of the Engineer.

Method of Measurement: Measurement for this work will be per Square Foot for the lines to be removed.

Basis of Payment: This work will be paid for at the contract unit price per SQUARE FOOT for PAVEMENT MARKING REMOVAL.

2.95 **LIGHTING ENCLOSURE, SPECIAL**

This work shall consist of all labor, equipment, and material to furnish, install, and test a Lighting Panel as shown on the Plans. Electrical service shall be furnished as shown on the Plans. This item shall consist of a stainless steel weatherproof cabinet equal to Hoffman Enclosures Part No. WS626318SS. The cabinet shall include: a concrete foundation, NEMA PB1 rated panel with 200% neutral bus with bolt-on circuit breakers as indicated on the electrical schedules. Provide a copper ground bus in each panel board. Main circuit breakers shall be non-interchangeable thermal magnetic trip unit; two or three pole as required and suitable for the voltage and amperage of the panel board. AIC bracing shall be fully rated. Panel board shall be copper with ampere and voltage ratings as indicated, manufactured by Square D, or approved equal by Siemens, GE, or Cutler Hammer. Do not use tandem circuit breakers. The cabinet shall have an interior lighting circuit.

The Contractor shall furnish one set of Record Drawings to be delivered to the City Traffic Engineer and one set to be kept in a waterproof container in the Enclosure.

Lighting unit shall be electrically held, 12-pole units with replaceable contacts and holding coils. Contactors shall be Class 8903 as manufactured by Square D or approved equal by Siemens, GE, or Cutler Hammer.

The Panel Board shall be a single-phase 120/240 volt solid neutral design with sequence style bussing and full capacity neutral, composed of an assembly of push on molded case automatic circuit breakers with thermal and magnetic trip and tri-free position separate from either ON or OFF positions. Panel boards which accommodate tandem (half size) circuit breakers are NOT acceptable. Provide interrupting ratings of 10,000 AIC at 240 volts, unless noted otherwise on Panel Schedule. All circuit breakers shall be fully rated to match the short circuit ratings of the Panel Board.

Method of Measurement: Measurement for this work will be per Each.

Basis of Payment: This work will be paid for at the contract unit price per Each for LIGHTING ENCLOSURE, SPECIAL.

2.96 **ELECTRICAL SERVICE INSTALLATION (UPPER SITE)**

Description: The work included in this item shall be in accordance with Section 804 of the Standard Specifications. The Contractor shall furnish and install a Service Installation, Type B as shown on the Plans. Coordination with Commonwealth Edison is required to provide service to the meter and disconnect. The Contractor in cooperation with Commonwealth Edison may provide either aerial service or underground service. The Contractor shall provide a bracket for the meter and disconnect or a pad for the transformer specified by Commonwealth Edison; and a

meter and external disconnect on the lighting controller. 120/240 volt service is required.

Inspection and any permit fees by the City of Rockford Building Department shall be considered incidental to the service installation.

Method of Measurement: This item will be measured as an Each item.

Basis of Payment: This item will be paid at the contract unit price per EACH for an ELECTRICAL SERVICE INSTALLATION.

2.97 ELECTRICAL PANEL WITH ENCLOSURE, WALL MOUNTED

Description: The Electrical Panel enclosure shall be a stainless steel exterior grade enclosure be a NEMA PB1. The panel board construction with bolt-on circuit breakers. Bussing shall be copper 200% neutral bus with ampere and voltage ratings as indicated. Provide copper ground bus in each panel board. Circuit breakers shall be NEMA AB1 bolt-on type thermal magnetic trip circuit breakers with common trip handle for all poles listed as Type SWD for lighting circuits. Do not use tandem circuit breakers. AIC bracing shall be fully rated. Panel board shall be NQOD series manufactured by Square D or approved equal by Siemens, GE, or Cutler Hammer.

Method of Measurement: This item will be measured as Each which shall include furnishing, mounting, connections, circuit breakers, and testing in accordance with the City of Rockford Building Department. Any permits necessary shall be included and no additional compensation will be allowed.

Basis of Payment: This work will be paid at the contract unit price per EACH for ELECTRICAL PANEL WITH ENCLOSURE, WALL MOUNTED.

2.98 LIGHT, POLE MOUNTED, DECORATIVE TYPE S1

Description: This work shall include all labor, equipment, and material to complete this item as shown on the lower site Lighting Plan. The work shall include the pole, luminaire, lamp, ballast, fuses, and banner arms. The work shall include furnishing, installing, and testing the decorative lights as shown on the plans. The work shall be in substantial conformance with Sections 830 and 821 of the Standard Specifications.

The light shall be pole mounted, INVUE MESA, 277v Metal Halide, with 400w luminaire as indicated on the lighting schedule or approved equal.

Method of Measurement: This item will be measured as an Each item and shall include all components for the complete functioning of the lighting unit as shown on the Plan schedule.

Basis of Payment: This item will be paid at the contract unit price per EACH for LIGHT, POLE MOUNTED, DECORATIVE TYPE S1.

2.99 **LIGHT, POLE MOUNTED, DECORATIVE TYPE S4**

Description: This work shall include all labor, equipment, and material to complete this item as shown on the lower site Lighting Plan. The work shall include the pole, luminaire, lamp, ballast, fuses, and banner arms. The work shall include furnishing, installing, and testing the decorative lights as shown on the plans. The work shall be in substantial conformance with Sections 830 and 821 of the Standard Specifications.

The light shall be pole mounted, INVUE MESA, 277v Metal Halide, with 400w luminaire as indicated on the lighting schedule or approved equal.

Method of Measurement: This item will be measured as an Each item and shall include all components for the complete functioning of the lighting unit as shown on the Plan schedule.

Basis of Payment: This item will be paid at the contract unit price per EACH for LIGHT, POLE MOUNTED, DECORATIVE TYPE S4.

2.100 **LIGHT, POLE MOUNTED, DECORATIVE TYPE F1**

Description: This work shall include all labor, equipment, and material to complete this item as shown on the lower site Lighting Plan. The work shall include the pole, luminaire, lamp, ballast, fuses, and banner arms. The work shall include furnishing, installing, and testing the decorative lights as shown on the plans. The work shall be in substantial conformance with Sections 830 and 821 of the Standard Specifications.

The light shall be pole mounted, HOLOPHANE LEGEND ROADWAY, LED 240v, as indicated on the lighting schedule or approved equal.

Method of Measurement: This item will be measured as an Each item and shall include all components for the complete functioning of the lighting unit as shown on the Plan schedule.

Basis of Payment: This item will be paid at the contract unit price per EACH for LIGHT, POLE MOUNTED, DECORATIVE TYPE F1.

2.101 **LIGHT, POLE MOUNTED, DECORATIVE TYPE F2**

Description: This work shall include all labor, equipment, and material to complete this item as shown on the lower site Lighting Plan. The work shall include the pole, luminaire, lamp, ballast, fuses, and banner arms. The work shall include furnishing, installing, and testing the decorative lights as shown on the plans. The work shall be in substantial conformance with Sections 830 and 821 of the Standard Specifications.

The light shall be pole mounted, HOLOPHANE LEGEND ROADWAY, LED 240v, as indicated on the lighting schedule or approved equal.

Method of Measurement: This item will be measured as an Each item and shall include all components for the complete functioning of the lighting unit as shown on the Plan schedule.

Basis of Payment: This item will be paid at the contract unit price per EACH for LIGHT, POLE MOUNTED, DECORATIVE TYPE F2.

2.102 LIGHT, POLE MOUNTED, DECORATIVE TYPE F3

Description: This work shall include all labor, equipment, and material to complete this item as shown on the lower site Lighting Plan. The work shall include the pole, luminaire, lamp, ballast, fuses, and banner arms. The work shall include furnishing, installing, and testing the decorative lights as shown on the plans. The work shall be in substantial conformance with Sections 830 and 821 of the Standard Specifications.

The light shall be pole mounted, STERNBERG 56 LED, 4ARC TWIN LED 120v as indicated on the lighting schedule or approved equal. It is the intent of this fixture to match the existing Luminaires in Height Village as nearly as possible.

Method of Measurement: This item will be measured as an Each item and shall include all components for the complete functioning of the lighting unit as shown on the Plan schedule.

Basis of Payment: This item will be paid at the contract unit price per EACH for LIGHT, POLE MOUNTED, DECORATIVE TYPE F3.

2.103 LIGHT, CEILING MOUNTED, TYPE F4

Description: This work shall include all labor, equipment, and material to complete this item as shown on the lower site Lighting Plan. The work shall include the luminaire, lamp, ballast, fuses, and mounting hardware. The work shall include furnishing, installing, and testing the lights as shown on the plans. The work shall be in substantial conformance with Sections 830 and 821 of the Standard Specifications.

The light shall be ceiling mounted LITHONIA 114w LED ARCHWAY polycarbonate enclosure with symmetric optical diffuser, as indicated on the lighting schedule or approved equal.

Method of Measurement: This item will be measured as an Each item and shall include all components for the complete functioning of the lighting unit as shown on the Plan schedule.

Basis of Payment: This item will be paid at the contract unit price per EACH for LIGHT, CEILING MOUNTED, TYPE F4.

2.104 WALKWAY LIGHT, RECESSED MOUNTED, TYPE F5

Description: This work shall include all labor, equipment, and material to complete this item as shown on the lower site Lighting Plan. The work shall include the luminaire, lamp, ballast, fuses, and mounting hardware. The work shall include furnishing, installing, and testing the lights as shown on the plans. The work shall be in substantial conformance with Sections 830 and 821 of the Standard Specifications.

The light shall be a BEGA 8.4w recessed wall/step mounted LED luminaire 3000K color temp BRONZE finish, as indicated on the lighting schedule or approved equal. The electrical Contractor shall work with the concrete Contractor to imbed conduit and recess box-outs in the correct location.

Method of Measurement: This item will be measured as an Each item and shall include all components for the complete functioning of the lighting unit as shown on the Plan schedule.

Basis of Payment: This item will be paid at the contract unit price per EACH for WALKWAY LIGHT, RECESSED MOUNTED, TYPE F5.

2.105 LIGHT POLE FOUNDATION 24" (UPPER SITE)

Description: This work shall include all labor, equipment, and material to complete this item as shown on the upper site Lighting Plan. The work shall be in substantial conformance with Section 836 of the Standard Specifications including Article 1070.02. Each foundation shall be reinforced and grounded as shown on the Plan Details.

Method of Measurement: This item will be measured per Foot from the bottom of the excavation to the top of the sonno tube, and shall include excavation, anchor rods, finishing, and backfilling to adjustment to final grade.

Basis of Payment: This item will be paid at the contract unit price per FOOT for LIGHT POLE FOUNDATION 24" (UPPER SITE).

2.106 LIGHT POLE FOUNDATION 24" (LOWER SITE)

Description: This work shall include all labor, equipment, and material to complete this item as shown on the upper site Lighting Plan. The work shall be in substantial conformance with Section 836 of the Standard Specifications including Article 1070.02. Each foundation shall be reinforced and grounded as shown on the Plan Details.

Method of Measurement: This item will be measured per Foot from the bottom of the excavation to the top of the sonno tube, and shall include excavation, anchor rods, finishing, and backfilling to adjustment to final grade.

Basis of Payment: This item will be paid at the contract unit price per FOOT for LIGHT POLE FOUNDATION 24" (LOWER SITE).

2.107 HANDHOLE, COMPOSITE CONCRETE

Description: This work shall include all labor, equipment, and material to complete this item as shown on the lower site Lighting Plan. The work shall be in substantial conformance with Section 814 of the Standard Specifications including Article 1088.05. The top of the handhole shall have the word "ELECTRIC" imprinted on it. Handholes shall have bolt-down lids with stainless steel hardware and a water tight seal.

The size of the box shall be as shown on the Electrical Plans. The Contractor shall submit catalog cuts prior to ordering materials.

Method of Measurement: This item will be measured as an EACH item and shall include excavation, bedding stone, installation, and adjustment to final grade.

Basis of Payment: This item will be paid at the contract unit price per EACH for HANDHOLE, COMPOSITE CONCRETE.

2.108 UNDERGROUND CONDUIT, RIGID NON-METALIC PVC 1"

Description: This work shall include all labor, equipment, and material to complete this item as shown on the upper and lower site Lighting Plan. The work shall be in substantial conformance with Section 810 of the Standard Specifications. The Contractor at his option may use coilable non-metallic conduit in accordance with Article 1088.01(c) of the Standard Specifications. Conduit shall run as nearly as possible in straight lines between fixtures, however, sharp 90 degree turns are not allowed. All empty conduits are to be provided with a pull cord with a tensile strength of not less than 200 pounds.

The location of the conduit shall be as shown on the Electrical Plans. The Contractor shall submit catalog cuts prior to ordering materials.

Method of Measurement: This item will be measured as per Foot along the path of the conduit and will include vertical portions at the fixtures.

Basis of Payment: This item will be paid at the contract unit price per FOOT for UNDERGROUND CONDUIT, RIGID NON-METALIC PVC 1".

2.109 UNDERGROUND CONDUIT, RIGID NON-METALIC PVC 2”

Description: This work shall include all labor, equipment, and material to complete this item as shown on the lower site Lighting Plan. The work shall be in substantial conformance with Section 810 of the Standard Specifications. The Contractor at his option may use coilable non-metallic conduit in accordance with Article 1088.01(c) of the Standard Specifications. Conduit shall run as nearly as possible in straight lines between fixtures, however, sharp 90 degree turns are not allowed. All empty conduits are to be provided with a pull cord with a tensile strength of not less than 200 pounds.

The location of the conduit shall be as shown on the Electrical Plans. The Contractor shall submit catalog cuts prior to ordering materials.

Method of Measurement: This item will be measured as per Foot along the path of the conduit and will include vertical portions at the fixtures.

Basis of Payment: This item will be paid at the contract unit price per FOOT for UNDERGROUND CONDUIT, RIGID NON-METALIC PVC 2”.

2.110 UNDERGROUND CONDUIT, RIGID NON-METALIC PVC 4”

Description: This work shall include all labor, equipment, and material to complete this item as shown on the lower site Lighting Plan. The work shall be in substantial conformance with Section 810 of the Standard Specifications. The Contractor at his option may use coilable non-metallic conduit in accordance with Article 1088.01(c) of the Standard Specifications. Conduit shall run as nearly as possible in straight lines between fixtures, however, sharp 90 degree turns are not allowed. All empty conduits are to be provided with a pull cord with a tensile strength of not less than 200 pounds.

The location of the conduit shall be as shown on the Electrical Plans. The Contractor shall submit catalog cuts prior to ordering materials.

Method of Measurement: This item will be measured as per Foot along the path of the conduit and will include vertical portions at the fixtures.

Basis of Payment: This item will be paid at the contract unit price per FOOT for UNDERGROUND CONDUIT, RIGID NON-METALIC PVC 4”.

2.111 CONDUIT ATTACHED TO STRUCTURE, 3” LTC/MC

Description: This work shall include all labor, equipment, and material to complete this item as shown on the upper site Lighting Plan. The work shall be in substantial conformance with Section 811 of the Standard Specifications. The conduit shall be in accordance with the National Electrical Code and the requirements of the City of Rockford Building Department, and in accordance with Article 1088.01(a) of the Standard Specifications. Conduit shall run as nearly as possible in straight lines

between fixtures, however, sharp 90 degree turns are not allowed. This work shall include junction boxes as required by Code, and all drilling and fasteners necessary for a complete installation.

The location of the conduit shall be as shown on the Electrical Plans. The Contractor shall submit catalog cuts prior to ordering materials.

Method of Measurement: This item will be measured as per Foot along the path of the conduit and will include vertical portions at the fixtures.

Basis of Payment: This item will be paid at the contract unit price per FOOT for CONDUIT ATTACHED TO STRUCTURE, 1/2" LTC/MC.

2.112 CONDUIT ATTACHED TO STRUCTURE, 1/2" LTC/MC

Description: This work shall include all labor, equipment, and material to complete this item as shown on the upper site Lighting Plan. The work shall be in substantial conformance with Section 811 of the Standard Specifications. The conduit shall be in accordance with the National Electrical Code and the requirements of the City of Rockford Building Department, and in accordance with Article 1088.01(a) of the Standard Specifications. Conduit shall run as nearly as possible in straight lines between fixtures, however, sharp 90 degree turns are not allowed. This work shall include junction boxes as required by Code, and all drilling and fasteners necessary for a complete installation.

The location of the conduit shall be as shown on the Electrical Plans. The Contractor shall submit catalog cuts prior to ordering materials.

Method of Measurement: This item will be measured as per Foot along the path of the conduit and will include vertical portions at the fixtures.

Basis of Payment: This item will be paid at the contract unit price per FOOT for CONDUIT ATTACHED TO STRUCTURE, 1/2" LTC/MC.

2.113 CONDUIT EMBEDDED IN STRUCTURE, 1/2" PVC

Description: This work shall include all labor, equipment, and material to complete this item as shown on the upper site Lighting Plan. The work shall be in substantial conformance with Section 812 of the Standard Specifications. The Contractor at his option may use coilable non-metallic conduit in accordance with Article 1088.01(c) of the Standard Specifications. Conduit shall run as nearly as possible in straight lines between fixtures, however, sharp 90 degree turns are not allowed. The Contractor shall work with the Contractor who is constructing the ADA Ramps to ensure that the conduit placement is correct to achieve clearances. No sharp bends will be allowed. Connections to recessed boxes must be tightly sealed to prevent concrete from leaking into the recess or conduit.

The location of the conduit shall be as shown on the Electrical Plans. The Contractor shall submit catalog cuts prior to ordering materials.

Method of Measurement: This item will be measured as per Foot along the path of the conduit and will include vertical portions at the fixtures.

Basis of Payment: This item will be paid at the contract unit price per FOOT for CONDUIT EMBEDDED IN STRUCTURE 1/2" PVC.

2.114 CONDUIT ENCASED, 4" SCHEDULE 40 PVC

Description: This work shall include all labor, equipment, and material to complete this item as shown on the lower site Lighting Plan. The work shall be in substantial conformance with Section 812 of the Standard Specifications except that the encased conduit is a duct bank. This work shall include all conduit, reinforcement, cradles, concrete encasement, excavation, marker tape, and backfill as shown on the plans. Each empty conduit is to be provided with a pull cord with a tensile strength of not less than 200 pounds.

The location of the conduit shall be as shown on the Electrical Plans. The Contractor shall submit catalog cuts prior to ordering materials.

Method of Measurement: This item will be measured as per Foot along the path of the duct bank. The conduit will be measured as if the bank were a single conduit. Vertical conduit will not be measured.

Basis of Payment: This item will be paid at the contract unit price per FOOT for CONDUIT ENCASED, 4" SCHEDULE 40 PVC.

2.115 CONDUIT ENCASED, 3" SCHEDULE 40 PVC

Description: This work shall include all labor, equipment, and material to complete this item as shown on the lower site Lighting Plan. The work shall be in substantial conformance with Section 812 of the Standard Specifications except that the encased conduit is a duct bank. This work shall include all conduit, reinforcement, cradles, concrete encasement, excavation, marker tape, and backfill as shown on the plans. Each empty conduit is to be provided with a pull cord with a tensile strength of not less than 200 pounds.

The location of the conduit shall be as shown on the Electrical Plans. The Contractor shall submit catalog cuts prior to ordering materials.

Method of Measurement: This item will be measured as per Foot along the path of the duct bank. The conduit will be measured as if the bank were a single conduit. Vertical conduit will not be measured.

Basis of Payment: This item will be paid at the contract unit price per FOOT for CONDUIT ENCASED, 3" SCHEDULE 40 PVC.

2.116 ELECTRIC CABLE IN CONDUIT, No. 10, 600v, XLP

Description: This work shall include all labor, equipment, and material to complete this item as shown on the upper and lower site Lighting Plan. The work shall be in substantial conformance with Section 817 of the Standard Specifications. All wiring must comply with the NEC and the requirements of the City of Rockford (Building Department).

The conductors shall be No. 10 600 volt XLP rated in accordance with Article 1066.02 and 1066.03(a) of the Standard Specifications. The number of conductors shall be as shown on the Electrical Plans. Wire runs shall be continuous from the Panel Board to the lighting fixture with no splices. The Contractor shall submit catalog cuts prior to ordering materials.

Method of Measurement: This item will be measured as per Foot along the path of the conduit and will include vertical portions at the fixtures. Slack will be allowed at handholes and fixtures in accordance with the Standard Specifications.

Basis of Payment: This item will be paid at the contract unit price per FOOT for ELECTRIC CABLE IN CONDUIT, No. 10, 600v, XLP.

2.117 ELECTRIC CABLE IN CONDUIT, No. 8, 600v, XLP

Description: This work shall include all labor, equipment, and material to complete this item as shown on the upper and lower site Lighting Plan. The work shall be in substantial conformance with Section 817 of the Standard Specifications. All wiring must comply with the NEC and the requirements of the City of Rockford (Building Department).

The conductors shall be No. 8 600 volt XLP rated in accordance with Article 1066.02 and 1066.03(a) of the Standard Specifications. The number of conductors shall be as shown on the Electrical Plans. Wire runs shall be continuous from the Panel Board to the lighting fixture with no splices. The Contractor shall submit catalog cuts prior to ordering materials.

Method of Measurement: This item will be measured as per Foot along the path of the conduit and will include vertical portions at the fixtures. Slack will be allowed at handholes and fixtures in accordance with the Standard Specifications.

Basis of Payment: This item will be paid at the contract unit price per FOOT for ELECTRIC CABLE IN CONDUIT, No. 8, 600v, XLP.

2.118 GFCI 20 AMP DUPLEX RECEPTACLE

This work shall consist of furnishing and installing a 20 Amp heavy duty NEMA 5-20R, commercial rated GFI protected receptacle in outdoor enclosure.

Receptacles shall carry the following 3rd party compliance and be approved for outdoor use by the City of Rockford Building Department: UL 498, Federal Spec WC 596, Standard CSA-C22.2, No. 144, and conform to NEMA WD-1 and WD-6.

Method of Measurement: This work will be measured as an Each item which shall include furnishing, installing, testing, and any permits necessary.

Basis of Payment: This item will be paid at the contract unit price EACH for GFCI 20 AMP DUPLEX RECEPTACLE.

2.119 TRANSFORMER PAD

Description: This work shall include all labor, equipment, and material to complete this item as shown on the lower site Lighting Plan. The work shall be in conformance with the details shown on the lower site electrical Plan and the requirements of Commonwealth Edison. Grounding must comply with the NEC and the requirements of the City of Rockford (Building Department). The pad shall be set on stable compacted soil and shall be set level with the adjacent grade draining away from the pad.

Materials must meet the requirements of the Standard Specifications for cast-in-place concrete Class SI or the requirements of the Standard Specifications for Precast Concrete Products.

Method of Measurement: This item will be measured as per Each as set in place.

Basis of Payment: This item will be paid at the contract unit price per EACH for TRANSFORMER PAD.

2.120 PEDESTRIAN RAIL, TYPE A

Description: This work shall include all labor, equipment, and material to complete this item as shown on the Plans. The work shall be in substantial conformance with Section 509 of the Standard Specifications with the following exceptions. Welding shall comply with American Welding Society (AWS) Code D1.1. Welders shall be qualified in accordance with AWS Standard Qualification Procedure.

The rail height shall be 3'-6" except as noted. Railing panels shall be straight segments unless otherwise noted. Posts and pickets are to be plumb and true. Where the railing is to follow the grade, the panel assembly is to be racked to remain plumb. Post and panel assemblies shall be connected with stainless steel embedded nuts and bolts. All hardware shall be tamper proof except base mounting bolts.

The Contractor shall submit shop drawings for approval prior to fabrication. The Contractor shall also supply color samples prior to coating. Holes for assembly shall be drilled prior to powder coating. Excessive field drilling will be the basis for rejection of the panel. If minor field drilling is required to achieve tolerances, the hole shall be given a coat of zinc rich paint after drilling. Base mounting plates shall be

sealed with an exterior grade silicone caulk on three sides (open side downhill). All panels shall be blast white cleaned after fabrication, primed, and powder coated. The color shall be silver.

Where mounting is in turf areas, concrete foundations 48" deep and 12" in diameter shall be poured and set to grade 1" more or less above finish ground level. The railing shall then be anchored to the foundations as it would be along the sidewalk. The cost of the foundations shall be included in the cost of the pedestrian rail.

Method of Measurement: This item will be measured as per Foot along the face of the rail.

Basis of Payment: This item will be paid at the contract unit price per FOOT for PEDESTRIAN RAIL, TYPE A.

2.121 DECORATIVE FENCE 4'

Description: This work shall include all labor, equipment, and material to complete this item as shown on the upper and lower Site Plan. The ornamental fence shall be set one foot outside of the railroad right of way. The Ornamental shall be of aluminum construction, commercial/industrial grade, three-rail construction, and set in concrete bases a minimum of 42" into the ground. The fence panels must be capable of supporting a 300 pound load mid-panel without permanent damage.

The style of the ornamental fence shall be very nearly similar to the Echelon II by Ameristar Fence Products, Tulsa, Oklahoma. The Contractor shall supply all materials necessary for the installation including: foundations, posts and rails, fasteners, and hardware. The Contractor will be required to submit shop drawings prior to fabrication and ordering materials.

Materials: The aluminum tubing shall conform to the requirements of ASTM B221. Coating shall be a multi-coat system consisting of cleaning and priming, with a final powder coat finish a minimum thickness of 2 mils. The color shall be silver. Fabrication shall include holes for fasteners prior to fabrication. Field drilling will only be allowed to achieve fastener clearance. Excessive field drilling shall be cause for rejection of the panel. The Contractor shall have on hand a small amount of touch-up paint of the same color to repair drill holes and marks.

Method of Measurement: This item will be measured as per Foot along the centerline of the fence.

Basis of Payment: This item will be paid at the contract unit price per FOOT for DECORATIVE FENCE 4'

2.122 DECORATIVE FENCE 6'

Description: This work shall include all labor, equipment, and material to complete this item as shown on the upper and lower Site Plan. The ornamental fence shall be

set one foot outside of the railroad right of way. The Ornamental shall be of aluminum construction, commercial/industrial grade, three-rail construction, and set in concrete bases a minimum of 42" into the ground. The fence panels must be capable of supporting a 300 pound load mid-panel without permanent damage.

The style of the ornamental fence shall be very nearly similar to the Echelon II by Ameristar Fence Products, Tulsa, Oklahoma. The Contractor shall supply all materials necessary for the installation including: foundations, posts and rails, fasteners, and hardware. The Contractor will be required to submit shop drawings prior to fabrication and ordering materials.

Materials: The aluminum tubing shall conform to the requirements of ASTM B221. Coating shall be a multi-coat system consisting of cleaning and priming, with a final powder coat finish a minimum thickness of 2 mils. The color shall be silver. Fabrication shall include holes for fasteners prior to fabrication. Field drilling will only be allowed to achieve fastener clearance. Excessive field drilling shall be cause for rejection of the panel. The Contractor shall have on hand a small amount of touch-up paint of the same color to repair drill holes and marks.

Method of Measurement: This item will be measured as per Foot along the centerline of the fence.

Basis of Payment: This item will be paid at the contract unit price per FOOT for DECORATIVE FENCE 6'

2.123 IRRIGATION SLEEVES 4"

Description: This work shall consist of furnishing and installing four inch (4") diameter PVC conduit sleeves below proposed grade for the installation of a water service line intended to provide water to the irrigation system. The PVC conduit sleeves shall be placed 3 feet below proposed grade under roadways and 18" below grade under sidewalks. The conduit shall be extended three feet beyond the proposed back of curb. The conduit material shall conform to AWWA C900 and shall have a thickness as indicated by PC 100. Where possible, the conduit shall be placed without joints. If joints are required to achieve the length of conduit required, the joints shall conform to the following requirements: 1) The gaskets shall be flexible seals that conform to ASTM F477. The spigot pipe ends shall be beveled with no burrs. Joints shall meet or exceed ASTM D3139 for pressure and vacuum situations. However, no test of the joint is required. Installation of the irrigation service line through the sleeve will not require the use of skid material. However, the irrigation service line will be pulled through the conduit instead of pushed through the conduit. Therefore, each sleeve shall be placed with a pull cord capable of pulling 25 pounds with a maximum tensile strength of 200 pounds. The ends of the conduit shall be sealed with duct tape prior to burial. After installation of the irrigation service line the conduit ends shall be sealed with hydrophobic polyurethane grout rated NSF 61 potable water approved. The hydrophobic polyurethane grout shall not be placed in quantities that can cause extensive physical damage to the conduits.

Irrigation wiring shall be placed in a separate ¾" sleeve of the same length. The cost of the wiring sleeve shall be included in the cost of the 4" sleeve.

The Contractor shall mark the ends of the sleeve with temporary posts, and shall show the location of the sleeves on the final Record Drawings

Method of Measurement: Irrigation sleeves will be measured for payment in place per Foot which shall include the cost of the ¾" wiring conduit.

Basis of Payment: This item will be paid for at the contract unit price per FOOT for IRRIGATION SLEEVES 4".

2.124 IRRIGATION SYSTEM SPECIAL, (UPPER LOT)

Description: This work shall consist of designing, furnishing, and installing all items necessary for the completion of an Automatic Irrigation System located throughout the upper lot, including parking lot perimeter, street frontages, interior islands and medians, and around the foundation of the Watch Factory building as indicated on Irrigation Plans. Work shall be completed in accordance with Irrigation Notes included on Irrigation Plans, and shall include, but is not limited to, providing and installing the following:

- (a) Plumbing Equipment: Including meter, master valve, backflow prevention device, ball valves, drain valves, reducer, unions, piping, and related miscellaneous items required to complete the intended work in place. Provide and install a separate meter for irrigation at the RPZ location. The meter shall be compatible with the City of Rockford metering system.
- (b) Utility Enclosure: Insulated above grade fiberglass utility enclosure installed per manufacturer's instructions (Model LB4000 by Hubbel Power Systems Inc. or equal) including padlock and three keys.
- (c) Concrete Pad: 65"x56", 4" thick concrete pad including 4" depth compacted aggregate base course for utility enclosure.
- (d) Irrigation Equipment: Including mainline, lateral lines, PVC sleeves, rotor heads pop-up spray heads, solenoid valves, wiring, valve boxes, controller, and related miscellaneous items required to complete the intended work in place.
- (e) Irrigation Mainline: PVC mainline pipes (1 ¼" and larger) shall have a minimum working pressure of 160 PSI meeting ASTM D2241 and D2672. Material shall conform to ASTM 1784. Fittings shall be Schedule 40 PVC. Snap-on saddle tees are not acceptable. Polyethylene lateral pipes (1" and smaller) shall have a minimum working pressure of 100 PSI meeting NSF Standard # 14. Material shall conform to ASTM D2239 and D1248. Fittings shall be PVC or nylon insert and/or brass saddle tees. All clamps shall be stainless steel worm gear type.

- (f) Electrical Connection: Including the conduit and wire. The conduit and wire shall be in accordance with the applicable sections of the special provisions. The irrigation system shall use a single two-wire cable for activation of all valves and sensors. Size wires appropriately for the length of run. Minimum wire size shall be per Code or larger. Connections below grade and in valve boxes shall be waterproof. The irrigation cable may be direct buried.

The Contractor shall include the cost of the first seasonal winterization and the first spring start-up in the cost of the system. The lump sum cost shall include the delivery of a complete set of Record Drawings, operating manuals, warranties, with the request for final payment for this item.

Method of Measurement: Measurement for this work will be per Lump Sum.

Basis of Payment: This work will be paid for at the contract unit price per LUMP SUM for IRRIGATION SYSTEM SPECIAL, (Upper Lot) and include all items necessary to complete the IRRIGATION SYSTEM SPECIAL, (Upper Lot).

2.125 IRRIGATION SYSTEM SPECIAL, (LOWER LOT)

Description: This work shall consist of designing, furnishing, and installing all items necessary for the completion of an Automatic Irrigation System located in the Central Island and landscaped medians. Work shall include, but is not limited to, providing and installing the following: programmable controller with remote control, master valve, piping, valves, sprinklers, rotor or pop-up heads, zone valves and tags, electrical wiring and boxes, rain sensor, solenoid valves, controls, wiring, backflow prevention, and deduct flow meter, and final record drawings.

The Contractor shall furnish the Engineer with shop drawings for approval indicating the piping layout, sizes and zones, sprinkler head and quick coupler locations, RPZ and controller location, rain sensor location, and sprinkler head locations. The sprinkler heads shall be the appropriate type for the area being irrigated and compatible with the plant material and environmental exposure. Where possible, the sprinkler heads should be located immediately adjacent to the back of curb or edge of sidewalk. Head layout shall provide complete head-to-head coverage, and be adjustable so as not to spray pedestrians, buildings, etc. Pop-up heads shall be used in turf areas and areas near pedestrian traffic.

Irrigation valves and valve boxes shall be located in landscape beds whenever possible. All remote valve boxes shall be set flush with finish grade and contain one cubic foot of clean gravel below the valve. Label remote boxes with 1" alpha-numeric notation corresponding to the applicable alpha controller and numeric station.

The Contractor shall provide and install a separate meter for irrigation at the RPZ location. The meter shall be compatible with the City of Rockford metering system.

The irrigation system shall use a single two-wire cable for activation of all valves and sensors. Size wires appropriately for the length of run. Minimum wire size shall be per Code or larger. Connections below grade and in valve boxes shall be waterproof. The irrigation cable may be direct buried.

PVC mainline pipes (1 1/4" and larger) shall have a minimum working pressure of 160 PSI meeting ASTM D2241 and D2672. Material shall conform to ASTM 1784. Fittings shall be Schedule 40 PVC. Snap-on saddle tees are not acceptable. Polyethylene lateral pipes (1" and smaller) shall have a minimum working pressure of 100 PSI meeting NSF Standard # 14. Material shall conform to ASTM D2239 and D1248. Fittings shall be PVC or nylon insert and/or brass saddle tees. All clamps shall be stainless steel worm gear type.

The irrigation controller shall meet the following minimum requirements:

- Minimum 4 start times per day and minimum 4 independent programs.
- 365-day calendar with Leap Year intelligence and non-volatile program memory independent of battery back-up.
- Four cycle modes including Odd or Even date, custom and cyclical, and non-watering day option for all programs.
- Provide for 4 undedicated stations for future use. Only one valve per station is permitted.

Sprinkler heads, electric valves, and automatic controller shall be from the same manufacturer. Contractors may only use one of the following manufacturers:

- Hunter
- Rain Bird
- Toro
- Weathermatic

The Contractor shall include the cost of the first seasonal winterization and the first spring start-up in the cost of the system. The lump sum cost shall include the delivery of a complete set of Record Drawings, operating manuals, warranties, with the request for final payment for this item.

Method of Measurement: Measurement for this work will be Lump Sum for the complete functional system.

Basis of Payment: This work will be paid for at the contract unit price per LUMP SUM for IRRIGATION SYSTEM SPECIAL, (Lower Lot) and include all items necessary to complete the IRRIGATION SYSTEM SPECIAL, (Lower Lot).

2.126 WASHOUT BASIN

Description: This work shall consist of constructing and removing concrete truck washout basin(s) within the project limits. The General Contractor shall be responsible for this item regardless of the number of subcontractors. He can make each subcontractor responsible for furnishing their own, or supply a central wash-out. Regardless of the method, the ultimate responsibility for the washout basin and the adherence to the SWPPP rests with the General Contractor.

Construction and materials shall be according to the details in the plans, erosion control plan, and as directed by the Engineer.

Disposal of the excavated material and concrete waste or any material required to construct the washout basin will be performed according to Article 202.03 of the Standard Specifications.

Upon removal of the washout basin, the disturbed ground shall be restored to the original or proposed grades, and materials. The restoration shall be completed with the materials specified in the plans for the adjacent areas.

Method of Measurement: This work will be measured as a Lump Sum for all washout containers and activities. It shall be all inclusive of upper and lower sites but shall not include building work which is a separate contract.

Basis of Payment: This work will be paid for at the contract unit price per LUMP SUM for WASHOUT BASIN.

2.127 TRAFFIC CONTROL AND PROTECTION

Description: Work shall consist of furnishing, installing and maintaining all signs, signals, temporary pavement markings, other required traffic control markings, barricades, warning lights, and other devices which are to be used to regulate, warn or guide traffic during construction of this improvement. All work shall be in conformance with the current edition of the Manual on Uniform Traffic Control Devices and the Standards of the Illinois Department of Transportation.

Contractor shall be required to furnish all traffic control devices necessary for the convenience and protection of vehicular and pedestrian traffic. Whenever the operation of the Contractor endangers or interferes with vehicular traffic or pedestrians, as determined by the Owner, the Contractor shall furnish any additional traffic control devices necessary to direct and protect his workmen and the public at no extra cost to satisfy the requirements of the Owner. The Contractor will be required to furnish the necessary flaggers as required by the Standards or as directed by the City Traffic Engineer on a continuous basis whenever construction operations are in progress that interferes with public streets.

It is understood that the Site Contractor and the Building Contractor may be different companies and will be sharing a common entrance. It is also recognized that others including utility companies and demolition contractors may be using the same entrance. The Site Contractor shall take full responsibility for Traffic Control starting on the day of his mobilization for this work. Bi-weekly coordination meetings are held to work out coordination and schedule issues.

The Contractor shall be responsible for the proper location, installation and arrangement of all traffic control devices furnished by him. Whenever operations indicate that relocation of a proposed or existing traffic control device is advisable,

as determined by the Owner, the Contractor shall remove, relocate and reinstall the device in question.

All advance warning signs for lane closure, intermediate information signs and standard signs shall be installed in accordance with Illinois Highway Standard 702001-05. Cones will not be allowed as a traffic control device.

The "WORKERS" (W21-1a(0)-48) signs shall be replaced with symbol "Right or Left Lane Closed Ahead" (W4-2R or L (0)- 48) signs.

Daily or periodic lane closures shall be erected no earlier than 9:00 AM and shall be removed no later than 3:30 PM regardless of the day of the week. In the event that a lane closure will remain for more than one calendar day, the Contractor shall notify the City of Rockford Traffic Engineer and the Illinois Department of Transportation Traffic Operations (815) 284-5474 (Walnut Street) at least 24 hours in advance. Emergency lane closures shall be erected and removed at the explicit direction of the Owner.

All advance warning signs and traffic control devices shall be removed or covered by the Contractor when such signs and devices are not in effect or at the direction of the Owner.

If street closure is required for work, "No Parking" signs must be posted no more than 48 hours and no less than 24 hours prior to the start of work at that location. Signs should include time and date of closure along with time and date of expected re-opening of street. Signs must also include direct reference to City Ordinance 16-44.

Basic layout for traffic control devices shall be in accordance with Standards 701501-03, 701601-04, 701701-04, 701801-03, and 702001-05 as indicated in the Plans and Specifications.

Contractor shall be responsible for the maintenance of all traffic control devices installed by him as designated in the Plans and Specifications or as required by the Owner. The Contractor shall check Traffic Control Devices at least once daily and following inclement weather and restore or replace devices that need attention.

Contractor shall provide the City of Rockford with the name, address and telephone number of two (2) persons who will be responsible for maintaining the traffic control devices and who will be available to the City on an immediate basis 24 hours a day. If, for any reason, one or both of the persons become unavailable, the Contractor shall furnish the same information for other individuals who will be available.

Contractor shall be required to remove all traffic control devices which were furnished, installed or maintained by him under this contract and such devices shall remain the property of the Contractor upon said removal. All traffic control devices must remain in place until specific authorization for removal is received from the Owner.

During any construction, a minimum of one twelve (12) foot traffic lane in each direction shall be maintained. Any deviation from this requirement must be approved by the City of Rockford, and IDOT for Walnut Street, with detour signing provided by the Contractor at the request of the Owner. No extra compensation will be allowed for detour signing.

Method of Measurement: Contractor acknowledges that the nature of this project requires varying scopes of work at many locations throughout a large area. It is the Contractor's responsibility to plan his work accordingly. As such, no additional payment will be made on this Lump Sum item for any location additions or deletions or changes in scope of work at any particular location.

Basis of Payment: This work shall be paid for at the contract unit price per LUMP SUM for TRAFFIC CONTROL AND PROTECTION.

2.128 **PIPE HANDRAIL**

Description: This work shall consist of preparing submittals, fabricating, furnishing, transporting, and installing metal railings as specified on the Plans. The work shall include the preparation of shop drawings, all anchoring hardware, caulk, and cleanup necessary for the fabrication and installation of metal handrail. The work includes handrail on the ADA ramp on the upper site, the tunnel ramp, the stairs on the upper site, the stairs on the lower site, and the ramp at the NE corner of the Sports Complex. The pipe handrail shall be 1 1/2" I.D. Standard nominal dimension pipe.

Submittals: Prior to fabrication, prepare and submit shop drawings for all metal handrails based on field measurements. Shop drawing submittals shall include individual descriptions, dimensions, and materials for each railing. Include details showing typical cross-sections, elevations, corners, steps, connections, and any special conditions. Provide elevation views for each individual rail.

Submit manufacturer's literature, certificates, and color samples of finish material to the Engineer for review and approval prior to fabrication.

Materials: All materials shall be schedule 40 steel tube unless otherwise indicated on the plans. The Contractor shall custom fabricate railings to the dimensions shown on the approved shop drawings. All welds shall be ground smooth and the fabricated railing shall be cleaned in accordance with SSPC-SP 5/NACE No. 1 "white Metal Blast Cleaning". After cleaning, apply a conversion coating suited to the organic coating to be applied over it. The manufacturer shall then apply a two-coat finish consisting of epoxy primer and TGIC polyester topcoat with a minimum total dry film thickness of not less than 8 mils. The color shall be silver. The Contractor shall supply a color sample for approval prior to coating.

For railings that are post mounted, fabricate the railing such that the posts are plumb and true and the rail is parallel with the slope of the steps. The railing shall

be anchored to the concrete surface or CMU surface with stainless steel anchors. Railings on the upper site stairs, which are not adjacent to walls, shall have anti-skateboard devices attached to the top surface with tamperproof screws. Where plates or posts are attached to the concrete or CMU surfaces, a thin bead of exterior grade silicone caulk shall be applied to keep rainwater and salt from getting under the mounting surface.

Method of Measurement: This item will be measured along the full length of the top rail including "P" ends. Vertical surfaces will not be included in the measured length. Railings ends that return to the mounting surface will be included in the total payment length. The measurement will include measuring along the sloped surface.

Basis of Payment: This work will be paid for at the contract unit price per FOOT for PIPE HANDRAIL.

2.129 CONSTRUCTION LAYOUT

Description: This work shall consist of verifying site control points and bench marks, and all layout required by the Contractor to establish line and grade for the work. The Contractor shall preserve the original site control and shall inform the Engineer if any control points are in danger of being disturbed so that they can be replaced by the Engineer.

The Contractor shall furnish personnel with sufficient skill and training along with the necessary equipment to perform the layout of the work. The Contractor shall be responsible for having the finished work conform to the lines, grades, elevations, and dimensions called for on the plans. Any inspection or checking of the Contractor's layout by the Engineer shall not relieve the Contractor of the responsibility of achieving the proper dimensions, grades, and elevations shown on the plans.

CAD Files will be made available to the successful bidder upon request. The files are in Civil 3-D format only and any manipulation or conversion will be the responsibility of the Contractor and at his risk. A Disclaimer will be required and any disagreement between the CAD file and the "Issued for Construction Plans" will be referred to the full size paper plans.

Method of Measurement: This item will be measured as a Lump Sum item in accordance with Article 1.2 above.

Basis of Payment: This work will be paid for at the contract unit price per LUMP SUM for CONSTRUCTION LAYOUT.

2.130 -
2.165

TREES
SHRUBS

Description: This work shall conform to Section 253 of the Standard Specifications and shall include all labor, equipment, and material to perform the work shown on the landscape Plans. The work shall include all mulching, bracing, wrapping, watering, weeding, and replacing plants when required.

The Contractor shall provide quality, size, genus & species and variety of trees and shrubs as shown on the Plans in accordance with "American Standard for Nursery Stock" latest edition. All trees are to be provided balled and burlapped. All shrubs are to be provided either balled and burlapped or container grown. Mulch shall be 6-month old, well-rotted, shredded, native hardwood bark mulch, not greater than 4" in length and 1/2" in width free of wood chips and sawdust. Any fertilizer nutrients recommended by the nurseryman shall be considered incidental to the planting.

The Engineer or his designated representative shall visit the nursery with the Contractor and tag the nursery stock to be delivered to the job site. If plant material must be substituted, a list of the substitutions shall be submitted to the Landscape Architect for approval. If approval is given, the Contractor shall proceed with the planting operation. The Contractor may request a time extension for seasonally sensitive plant species. If granted by the Landscape Architect and Owner, the Contractor may delay planting the seasonally sensitive species until the following spring or fall. In the case of delayed planting, however, the Contractor accepts the responsibility of any restoration and cleaning necessary because of the delay.

The Contractor shall guarantee trees, shrubs, and ground cover for a period of one year from the date of substantial completion to be in good, healthy, and flourishing condition. The Contractor shall make as many periodic inspections as necessary, at no extra cost to the contract, during the guarantee period to determine the changes, if any, should be made to the Owner's maintenance program. The Contractor shall submit in writing to the Owner any recommended changes.

At the end of the guarantee period, the Engineer shall inspect all guaranteed work for Final Acceptance upon written request of the Contractor. Upon final inspection and approval of the Engineer, the Engineer shall certify to the Owner as to the Final Acceptance of the plantings.

Method of Measurement: These items will be measured as an Each item by plant species. Shredded Bark Mulch is measured and paid separately.

Basis of Payment: This work will be paid for at the contract unit price per EACH for TREES (INDIVIDUAL PAY ITEMS PER SPECIES AS INDICATED) AND SHRUBS (INDIVIDUAL PAY ITEMS PER SPECIES).

2.166
2.167

PERENNIAL PLANTS ORNAMENTAL TYPE, GALLON POT
PERENNIAL PLANTS PRAIRIE TYPE, GALLON POT

Description: This work shall conform to Section 254 of the Standard Specifications and shall include all labor, equipment, and material to perform the work shown on the landscape Plans. The work shall include all mulching, bed preparation, watering, weeding, fertilizer nutrients, weed barrier, and replacing plants when required.

The Contractor shall provide quality, size, genus & species and variety of perennial plants as shown on the Plans in accordance with "American Standard for Nursery Stock" latest edition. All plants shall be delivered in pots and containers in a healthy and vibrant condition. Mulch shall be 6-month old, well-rotted, shredded, native hardwood bark mulch, not greater than 4" in length and 1/2" in width free of wood chips and sawdust.

The planting bed shall be prepared by loosening the soil to a depth of 12". Remove stones larger than 1" in size, sticks, roots, rubbish, and any other extraneous material and dispose of in an acceptable manner. Apply a superphosphate fertilizer directly to the subgrade before loosening. Add topsoil as necessary to achieve a highly organic well drained soil. Spread fertilizer and any soil conditioners and blend with topsoil mixture. Fine grade the planting beds to the desired shape. Mulch planting beds and rake to a uniform appearance taking care not to smother the plants.

If plant material must be substituted, a list of the substitutions shall be submitted to the Landscape Architect for approval. If approval is given, the Contractor shall proceed with the planting operation. The Contractor may request a time extension for seasonally sensitive plant species. If granted by the Landscape Architect and Owner, the Contractor may delay planting the seasonally sensitive species until the following spring or fall. In the case of delayed planting, however, the Contractor accepts the responsibility of any restoration and cleaning necessary because of the delay.

The Contractor shall guarantee perennial plants and ground cover for a period of one year from the date of substantial completion to be in good, healthy, and flourishing condition. The Contractor shall make as many periodic inspections as necessary, at no extra cost to the contract, during the guarantee period to determine the changes, if any, should be made to the Owner's maintenance program. The Contractor shall submit in writing to the Owner any recommended changes.

At the end of the guarantee period, the Engineer shall inspect all guaranteed work for Final Acceptance upon written request of the Contractor. Upon final inspection and approval of the Engineer, the Engineer shall certify to the Owner as to the Final Acceptance of the plantings.

Method of Measurement: These items will be measured as an Unit. A Unit is equal to 100 plants. Groundcovers 3" Pot will be measured the same as Gallon Pot. Shredded Bark Mulch is measured and paid separately.

Basis of Payment: This work will be paid for at the contract unit price per UNIT for PERENNIAL PLANTS ORNAMENTAL TYPE, GALLON POT AND PERENNIAL PLANTS PRAIRIE TYPE, GALLON POT.

2.168 GROUND COVER 3”POT

Description: This work shall conform to Section 254 of the Standard Specifications and shall include all labor, equipment, and material to perform the work shown on the landscape Plans. The work shall include all mulching, bed preparation, watering, weeding, fertilizer nutrients, weed barrier, and replacing plants when required.

The Contractor shall provide quality, size, genus & species and variety of perennial plants as shown on the Plans in accordance with “American Standard for Nursery Stock” latest edition. All plants shall be delivered in pots and containers in a healthy and vibrant condition. Mulch shall be 6-month old, well-rotted, shredded, native hardwood bark mulch, not greater than 4” in length and ½” in width free of wood chips and sawdust.

The planting bed shall be prepared by loosening the soil to a depth of 12”. Remove stones larger than 1” in size, sticks, roots, rubbish, and any other extraneous material and dispose of in an acceptable manner. Apply a superphosphate fertilizer directly to the subgrade before loosening. Add topsoil as necessary to achieve a highly organic well drained soil. Spread fertilizer and any soil conditioners and blend with topsoil mixture. Fine grade the planting beds to the desired shape. Mulch planting beds and rake to a uniform appearance taking care not to smother the plants.

If plant material must be substituted, a list of the substitutions shall be submitted to the Landscape Architect for approval. If approval is given, the Contractor shall proceed with the planting operation. The Contractor may request a time extension for seasonally sensitive plant species. If granted by the Landscape Architect and Owner, the Contractor may delay planting the seasonally sensitive species until the following spring or fall. In the case of delayed planting, however, the Contractor accepts the responsibility of any restoration and cleaning necessary because of the delay.

The Contractor shall guarantee ground cover for a period of one year from the date of substantial completion to be in good, healthy, and flourishing condition. The Contractor shall make as many periodic inspections as necessary, at no extra cost to the contract, during the guarantee period to determine the changes, if any, should be made to the Owner’s maintenance program. The Contractor shall submit in writing to the Owner any recommended changes.

At the end of the guarantee period, the Engineer shall inspect all guaranteed work for Final Acceptance upon written request of the Contractor. Upon final inspection and approval of the Engineer, the Engineer shall certify to the Owner as to the Final Acceptance of the plantings.

Method of Measurement: These items will be measured as a Unit. a Unit which is equal to 100 plants. Shredded Bark Mulch is measured and paid separately.

Basis of Payment: This work will be paid for at the contract unit price per UNIT for GROUND COVER 3" POT.

2.169 LIVE PLUG MIXES

This work shall be completed in general conformance with Section 254 of the Standard Specifications as well the 'Native Live Plug Notes' contained in the Landscape Plans, and shall include all labor, equipment, and material to perform the work shown on the landscape Plans. The work shall include all mulching, bed preparation, watering, weeding, and replacing plants when required. Work shall be performed by a Contractor with experience in natural and native live plug installation.

The Contractor shall provide quality, size, genus & species and variety of live plug as shown on the Plans in accordance with "American Standard for Nursery Stock" latest edition. All plants shall be delivered in a healthy and vibrant condition. Mulch shall be 6-month old, well-rotted, shredded, native hardwood bark mulch, not greater than 4" in length and 1/2" in width free of wood chips and sawdust.

The planting bed shall be prepared by loosening the soil to a depth of 12". Remove stones larger than 1" in size, sticks, roots, rubbish, and any other extraneous material and dispose of in an acceptable manner. Apply a superphosphate fertilizer directly to the subgrade before loosening. Add topsoil as necessary to achieve a highly organic well drained soil. Spread fertilizer and any soil conditioners and blend with topsoil mixture. Fine grade the planting beds to the desired shape.

As LIVE PLUG MIXES are being installed primarily on an embankment, Contractor shall install SC150 Erosion Control Blanket (by North American Green). Erosion Control Blanket shall be considered incidental to LIVE PLUG MIXES pay item and shall be included in the square yard price. Immediately prior to installation of Erosion Control Blanket, broadcast Mycorrhizal Innoculum over the soil at a rate of 1.4 lbs per 1,000 sf.

Plant Live Plugs through the Erosion Control Blanket in accordance with manufacturer's instructions, ensuring that hole is 1/2" deeper than the Live Plug. Place plug firmly in soil and pinch soil over plug so that the plug's planting medium is covered.

If plant material must be substituted, a list of the substitutions shall be submitted to the Landscape Architect for approval. If approval is given, the Contractor shall proceed with the planting operation. The Contractor may request a time extension for seasonally sensitive plant species. If granted by the Landscape Architect and Owner, the Contractor may delay planting the seasonally sensitive

species until the following spring or fall. In the case of delayed planting, however, the Contractor accepts the responsibility of any restoration and cleaning necessary because of the delay.

The Contractor shall guarantee Live Plug plantings for a period of one year from the date of substantial completion to be in good, healthy, and flourishing condition. The Contractor shall make as many periodic inspections as necessary, at no extra cost to the contract, during the guarantee period to determine the changes, if any, should be made to the Owner's maintenance program. The Contractor shall submit in writing to the Owner any recommended changes.

At the end of the guarantee period, the Engineer shall inspect all guaranteed work for Final Acceptance upon written request of the Contractor. Upon final inspection and approval of the Engineer, the Engineer shall certify to the Owner as to the Final Acceptance of the plantings.

Method of Measurement: This item will be measured and calculated in Square Yards.

Basis of Payment: This work will be paid for at the contract unit price per SQUARE YARD for LIVE PLUG MIXES.

2.170 SHREDDED BARK MULCH 3"

Description: This work shall consist of furnishing, transporting, spreading, and shaping shredded bark mulch in accordance with the Landscape Plans.

Mulch shall be 6-month old, well-rotted, shredded, native hardwood bark mulch, not larger than 4" in length and 1/2" in width, free of wood chips and sawdust. The Contractor shall spread the mulch uniformly and rake smooth taking care not to damage any plants or block irrigation heads or drainage openings. Mulch around trees shall be formed in a saucer, not mounded around the trunk.

Method of Measurement: This item will be measured and calculated in Square Yards.

Basis of Payment: This work will be paid for at the contract unit price per SQUARE YARD for SHREDDED BARK MULCH 3".

2.171 RAILROAD TRACK REMOVAL

Description: This work shall consist of the removal of existing railroad rail and ties from abandoned service tracks as indicated on the Plans. The work shall consist of the complete removal of rails, fasteners, ties, cutting off the rails, and removal and disposal of the rail and old wood ties.

Method of Measurement: Measurement for this work will be per Foot along the centerline of the tracks.

Basis of Payment: This work will be paid for at the contract unit price per FOOT for RAILROAD TRACK REMOVAL which price shall include any labor and trench backfill necessary for a complete installation.

2.172 GUARDRAIL REMOVAL

Description: This work shall consist of the removal of existing wooden or metal guardrail and posts as indicated on the Plans. The work shall consist of the complete removal of rails, fasteners, posts, and removal and disposal of the rail and old wood ties. There is no salvage value.

Method of Measurement: Measurement for this work will be per Foot along the centerline of the rail, or in the absence of the rail to the end post.

Basis of Payment: This work will be paid for at the contract unit price per FOOT for GUARDRAIL REMOVAL.

2.173 REMOVE RETAINING WALL

Description: This work shall consist of select removal of existing retaining walls as indicated on the Plans. No records are available to indicate what footings and reinforcing exists in the walls. Further, there is a great deal of variety in the height and length of the various walls to be removed. In the case of the wall along the west side of the Railroad, the wall needs to be sawed along a definite grade line and only the top removed. All walls not designated for partial removal shall be completely removed. The Contractor shall visit the site and consider the full scope of removal and disposal prior to bidding this item.

The concrete may be disposed of as CCDD if it meets the criteria listed in the CCDD special Provision.

Method of Measurement: Measurement for this work will be per Foot along the centerline of the wall. If the Contractor or the Engineer believes that there are buried or obscured portions, the Contractor may be asked to expose the full extent of a wall so that an accurate measurement may be taken prior to removal. The wall which is designated for partial removal shall be considered removed when the saw cut is made and the upper portion is removed. Saw cutting shall be included in the price for removal.

Basis of Payment: This work will be paid for at the contract unit price per FOOT for REMOVE RETAINING WALL.

2.174 REMOVE WOOD POWER POLE

Description: This work shall consist of the removal of wooden power poles at various locations as designated on the Demolition Plan. ComEd will deenergize and remove

the transformers and wires. The Contractor shall then remove the poles and fill the holes. No salvage value is expected. If alley arms or hardware are left on the poles it shall be considered included in the removal item.

Method of Measurement: Measurement for this work will be per Each vertical wood pole to be the removed, regardless if they are connected with bracing.

Basis of Payment: This work will be paid for at the contract unit price per EACH for REMOVE WOOD POWER POLE.

2.175 REMOVE CHAIN LINK FENCE

Description: This work shall consist of the complete removal of chain link fence as designated on the Plans, regardless of height. The Contractor shall completely remove the fence and concrete foundations and any attachments, and fill the remaining holes. Gates will be considered the same as fence removal. Any fence that is attached to or imbedded into a wall or foundation shall be considered removed if it is sawed off flush at the bottom of the post and the material removed.

There is no salvage value in the removal. The Contractor shall dispose of the removed fence at an approved facility. Removal shall include the wire mesh, posts, braces, gates, and hardware. Payment will not be made for incomplete removal if the Contractor leaves clamps, bolts, and fittings scattered around the removal area.

Method of Measurement: Measurement for this work will be per Foot along the face of the fence. Gates will be included in the measurement.

Basis of Payment: This work will be paid for at the contract unit price per Foot for REMOVE CHAIN LINK FENCE.

2.176 MANHOLE TO BE ADJUSTED (SANITARY)

Description: This work shall be performed in accordance with Section 602 of the Standard Specifications and the Standards of the Rock River Water Reclamation District and shall be constructed according to the contract details. This item includes furnishing all labor and materials needed to bring the sanitary manhole to the new grade of the street, as specified by the Engineer. The Contractor shall be responsible for contacting and coordinating all manhole adjustments with the Rock River Water Reclamation District (RRWRD), at no additional cost to the owner.

Contractor shall be responsible for all manhole castings during construction operations. It shall be the responsibility of the Contractor to clean out any debris from inside each manhole prior to adjustment. The Contractor shall notify the RRWRD of any castings that are discovered to be broken or in need of replacement. The Contractor shall use high early strength concrete on all adjustment.

Method of Measurement: Measurement for this work will be per Each.

Basis of Payment: This work will be paid for at the contract unit price per EACH for MANHOLES TO BE ADJUSTED (SANITARY).

2.177 MANHOLE TO BE RECONSTRUCTED (SANITARY)

Description: This work shall be performed in accordance with Section 602 of the Standard Specifications and the Standards of the Rock River Water Reclamation District and shall be constructed according to the contract details. This item includes furnishing all labor and materials needed to bring the sanitary manhole to the new grade of the street, as specified by the Engineer. The Contractor shall be responsible for contacting and coordinating all manhole adjustments with the Rock River Water Reclamation District (RRWRD), at no additional cost to the owner.

Contractor shall be responsible for all manhole castings during construction operations. It shall be the responsibility of the Contractor to clean out any debris from inside each manhole prior to adjustment. The Contractor shall notify the RRWRD of any castings that are discovered to be broken or in need of replacement. The Contractor shall use high early strength concrete on all adjustment.

Method of Measurement: Measurement for this work will be per Each.

Basis of Payment: This work will be paid for at the contract unit price per EACH for MANHOLES TO BE RECONSTRUCTED (SANITARY).

2.177 CORE DRILL

Description: This work shall include all labor, equipment and materials to complete this work as shown on the plans. This item specifically refers to the core drilling of one retaining wall and one junction chamber. Although core drilling of drainage structures is normally included in the cost of making connections, these two locations warrant special consideration. Other locations unless specifically listed in the Plans or Specifications will not be included for payment.

Core drilling of the existing gravity wall for a storm sewer penetration will require special equipment to drill through an unknown wall thickness. The second location is to provide an opening for a 24" storm sewer into a concrete junction chamber on the upper parking lot. The Contractor shall core drill through the wall of the existing structure to avoid damage to the remaining box.

Method of Measurement: Measurement for this work will be per Inch Diameter for the size of the hole to be drilled.

Basis of Payment: This work will be paid for at the contract unit price per INCH DIAMETER for CORE DRILL.

2.179 PREPARE, CLEAN, AND PAINT TUNNEL

Description: This work shall include all labor, equipment and materials to complete this work. This work shall include the removal of all conduits, hardware, tunnel overhead door, lights, and paint from the tunnel walls and ceiling. An inspection was made December 3, 2014 by Anderson Environmental which found that **lead based paint is present** in the tunnel. Worker precautions must be taken during removal, and the removed paint must be disposed of at an approved facility.

The man door north of the elevator opening shall be blocked up with solid core CMU and water-proofed on the north side. The side facing the tunnel shall be given two coats of thin-coat grout and finished flush with the tunnel wall. Rough edges and concrete anchors shall be removed, and any holes patched with a non-shrink grout. Any cracks or damaged areas shall be similarly patched with non-shrink grout and rubbed. The entire surface shall then be blast cleaned to prepare the surfaces (including the floor) for a paint coating. When the surfaces have been cleaned and all dirt and grease or oil has been removed, the concrete surfaces shall be treated with a high alkali resistant conditioner.

The walls and ceiling shall be painted with high quality exterior grade masonry paint. The minimum coating thickness is 8 mils. Two coats may be necessary to achieve the desired thickness. Following the curing of the painted surface, a clear anti-graffiti coating shall be applied to the walls and ceiling. The floor of the tunnel shall be coated with a non-slip exterior grade floor coating such as Valspar Anti-skid Floor Paint.

The color of the walls and ceiling will be determined by the owner. The Contractor shall supply color samples for approval. The color of the non-slip floor coating shall be gray. Color samples shall be supplied to the owner for approval. The area to be cleaned and painted shall include all areas that have a roof covering, i.e. from the entry at the ADA Ramp to the exit at the lower level wall.

Method of Measurement: Measurement for this work will be per Lump Sum for the work described.

Basis of Payment: This work will be paid for at the contract unit price per LUMP SUM for PREPARE, CLEAN, AND PAINT TUNNEL

2.180 RAILROAD PROTECTIVE LIABILITY INSURANCE

Description: The Contractor shall obtain and keep in force during the term of this contract Railroad Protective Liability Insurance in accordance with applicable portions of Articles 107.11 and 107.12 of the Standard Specifications.

Method of Measurement: Measurement for this work will be per Lump Sum which shall include railroad flaggers if necessary.

Basis of Payment: This work will be paid for at the contract unit price per LUMP SUM for RAILROAD PROTECTIVE LIABILITY INSURANCE.

2.181 RETAINING WALL IN-FILL

Description: The Contractor shall provide all labor, equipment, and material to fill selected areas of retaining wall on the lower site. These areas include areas in both the reinforced concrete walls and the mortared limestone walls. The in-fill areas are generally where stairs are to be removed or where openings must be filled as shown on the Plans.

The Contractor shall take care in removing stairways that will cause an opening in the walls. The concrete fill must approximate the front face of the wall in profile. If the wall is battered the form must be battered to match. Any masonry that is loosened by the removal shall be reset and incorporated in the work. It is not the intent to match the pattern of the masonry, only the facial profile and height. The Contractor shall key the concrete fill into the toe and sides of the existing wall so that it forms an integrated patch.

Method of Measurement: Measurement for this work will be per Each regardless of size or type of wall to be filled.

Basis of Payment: This work will be paid for at the contract unit price per EACH for RETAINING WALL IN-FILL.

2.182 ACCESSIBLE PARKING SIGN

Description: The Contractor shall provide all labor, equipment, and material to furnish and install Handicap Accessible parking signs at the locations indicated on the Plans. This work shall include the concrete base, pipe bollard painted traffic yellow, metal post, and R7-8 and R7-1101 signs as shown on Detail 4 on Sheet C11.3. The signs shall be in accordance with the MUTCD latest edition and the Illinois supplement.

The Contractor shall place the center of the sign post one foot behind the back of curb and centered on the accessible parking stall.

Method of Measurement: Measurement for this work will be per Each.

Basis of Payment: This work will be paid for at the contract unit price per EACH for ACCESSIBLE PARKING SIGN.

2.183 BICYCLE RACKS

Description: This item shall consist of all labor, equipment, and material to furnish and install Bicycle Racks as shown on the Landscape Plans.

Materials: This item shall be equal to (lower and upper lot):
Model: Ring 1.5" x 25" x 27"; Manufacturer: Landscape Forms
431 Lawndale Ave., Kalamazoo, MI 49048; 800-521-2546
Color: Stainless Steel
Model: 130-20-S1 "Loop" style 11 rack; Manufacturer: Du-Mor Inc.
Color: Powder Coated (Blue)

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The Contractor shall furnish and install the bicycle racks as shown on the plans. Bicycle racks shall be imbedded in concrete pavement and installed according to the manufacturer's instructions. The Contractor shall submit catalog cuts and product information prior to ordering materials.

Method of Measurement: Measurement for this work will be per Each.

Basis of Payment: This work will be paid for at the contract unit price per EACH for BICYCLE RACKS.

2.184 TRASH RECEPTACLES

Description: This item shall consist of all labor, equipment, and material to furnish and install Trash Receptacles as shown on the Landscape Plans.

Materials: This item shall be equal to:
Model: Chase Park, Side opening, 24" x 40" 36 gallon capacity
Manufacturer: Landscape Forms
431 Lawndale Ave., Kalamazoo, MI 49048
800-521-2546
Color: Polyester powder coat finish, silver

The Contractor shall furnish and install the trash receptacles as shown on the plans. Trash receptacles shall be anchored to concrete pavement and installed according to the manufacturer's instructions. The Contractor shall submit catalog cuts and product information prior to ordering materials.

Method of Measurement: Measurement for this work will be per Each.

Basis of Payment: This work will be paid for at the contract unit price per EACH for TRASH RECEPTACLES.

2.185 TABLE AND CHAIRS

Description: This item shall consist of all labor, equipment, and material to furnish and install Tables and Chairs as shown on the Landscape Plans.

Materials: This item shall be equal to:
Model: Chipman 45" x 29" round table with 22" x 24" x 33"
aluminum stacking chairs

Manufacturer: Landscape Forms
431 Lawndale Ave., Kalamazoo, MI 49048
800-521-2546
Color: Polyester powder coat finish, silver

The Contractor shall furnish and install the tables and chairs as shown on the plans. Anchoring of the tables and chairs is not required. River Path stools shall be anchored to concrete pavement and installed according to the manufacturer's instructions. The Contractor shall submit catalog cuts and product information prior to ordering materials.

Method of Measurement: Measurement for this work will be per Unit which shall include 1 Table and 4 Chairs.

Basis of Payment: This work will be paid for at the contract unit price per UNIT for TABLE AND CHAIRS.

2.186 CONCRETE STAIRWAY REMOVAL

Description: This item of work shall consist of all labor, equipment, and material to remove the concrete stairs at two locations between the railroad right of way and the retaining wall on the lower site. This item of work shall include replacing the soil that is displaced and restoring the slope to a uniform shape.

Care shall be taken to completely remove the steps and handrails without damaging the masonry retaining wall that is to remain.

Method of Measurement: Measurement for this work will be per Each regardless of size or length.

Basis of Payment: This work will be paid for at the contract unit price per EACH for CONCRETE STAIRWAY REMOVAL.

2.187 REMOVAL OF LIGHTING UNIT

Description: This item of work shall consist of all labor, equipment, and material to remove the existing site lighting units including pole and luminaire, and dispose of them. This item does not include the concrete foundation which is paid separately.

Any lighting unit that is still energized shall have the power removed prior to removal. The Contractor shall coordinate this activity with either the City or Commonwealth Edison depending on the energy source.

Method of Measurement: Measurement for this work will be per Each regardless of size or length.

Basis of Payment: This work will be paid for at the contract unit price per EACH for REMOVAL OF LIGHTING UNIT.

2.188 SAMPLING MANHOLE (SANITARY)

Description: This item shall of work include furnishing of all labor and materials required to install Sampling Manholes at locations shown on the Plans and in accordance with Section 602 of the Standard Specifications and with the General Provisions and Technical Specifications of the Rock River Water Reclamation District. Sampling Manholes shall be 4' diameter in compliance with Figure 1 of the RRWRD Standard drawings attached to the Permit Application. Each manhole shall have a Neenah R-1670 non-rocking lid.

The Contractor shall furnish shop drawings for approval prior to ordering materials. Contractor shall contact RRWRD a minimum of 48 hours prior to installation to arrange for inspection.

This item of work shall include furnishing and installing the Sampling Manholes, inspection or permit review fees charged by RRWRD if any, and connection to the building sanitary sewer by a licensed plumber approved by RRWRD. An I/C Permit has been prepared for this project, but needs to be filed by the contractor performing the work

Method of Measurement: Measurement for this work will be per Each.

Basis of Payment: This work will be paid for at the contract unit price EACH for SAMPLING MANHOLE (SANITARY).

2.189 ADJUST CLEANOUT

Description: This item of work shall consist of all labor, equipment, and material to raise or lower existing cleanouts, either sanitary or roof drains, to the final finish grade in accordance with the Plans. This item does not include adjustment of new cleanouts. The cost of adjusting new cleanouts to the finish grade is included in the new item. Sanitary cleanouts shall be in accordance with RRWRD standards and specifications and all others shall be in accordance with the plans and specifications contained herein.

Method of Measurement: Measurement for this work will be per Each regardless of type.

Basis of Payment: This work will be paid for at the contract unit price per EACH for ADJUST CLEANOUT.

2.190 SANITARY SEWER SERVICE, 6-INCH DIAMETER, COMPLETE

Description: This work shall consist of furnishing and installing all items necessary for the completion of a sanitary sewer service, 6-inch diameter, complete. Work shall include the connection to the existing sewer line and the following:

The sanitary sewer system installation shall conform to the following specifications: Standard Specifications for Water and Sewer Main Construction in Illinois and the Rock River Water Reclamation District's General Provisions and Technical Specifications for Sanitary Sewer Construction except as modified by these specifications. In the case of apparent contradiction between these specifications and the General Provisions and Technical Specifications for Sanitary Sewer Construction, these specifications shall govern.

The Contractor shall notify the Rock River Water Reclamation District forty-eight (48) hours prior to beginning any sanitary sewer system work to have a District inspector present during all construction. The Contractor shall be responsible for securing any necessary permits, and for securing all bonds, insurance, etc. and paying all fees required by any or all permits. The Contractor shall comply with all provisions of permits secured for this project. Copies of all secured permits shall be provided to the City of Rockford, Public Works Department and District Engineering Manager prior to the start of construction. Any construction not supervised by a District inspector shall not be accepted.

The Contractor shall be responsible for all tests of materials and final installation required by the Rock River Water Reclamation District. All deficiencies noted by the inspectors shall be corrected by the Contractor without cost to the District prior to final payment.

Final inspection, testing and acceptance tests shall be in accordance with District's General Provisions and Technical Specifications for Sanitary Sewer Construction and the requirements of the Rock River Water Reclamation District, except as modified by these specifications.

Contractor shall also keep at the site at all times during its progress a competent person to comply with OSHA trenching and excavation requirements. The competent person shall be one who is capable of identifying existing and probable hazards in the surroundings, or working conditions which are unsanitary, hazardous or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them. The methods and means to comply with construction site safety are the sole responsibility of the Contractor. District staff is not responsible for Contractor's compliance procedures.

All services shall be 6" diameter water main-quality PVC SDR 26 meeting the requirements of ASTM D-2241 and having O-ring joints per ASTM D-3139, as indicated on the Standard District Detail Sheet and installed per the District Standard Detail Sheet. Bedding shall be Class IA in accordance with ASTM D 2321, except as noted on the District Standard Detail Sheet. The actual location may vary from the location shown on the plans based on actual site conditions at no additional cost.

All work shall be in accordance with State and Local plumbing codes, District standard details and technical specifications. Final connections shall be made by a licensed plumber approved by RRWRD. Material shop drawings for pipe,

fittings, and any other appurtenances shall be submitted to the District for approval prior to delivery to the site.

Method of Measurement: Measurement for this work will be per Each and shall include all items necessary to complete this item.

Basis of Payment: This work will be paid for at the contract unit price per EACH for SANITARY SEWER SERVICE, 6-INCH DIAMETER, COMPLETE.

2.191 SANITARY SEWER, CLASS B SCHEDULE 40 PVC, 6"

Description: This work shall consist of furnishing and installing all items necessary for the completion of a sanitary sewer service, 6-inch diameter, from the easement or right of way line at the cleanout or sampling manhole, to the point of connection. Work shall include the connection to the building and the following:

The sanitary sewer system installation shall conform to the following specifications: Standard Specifications for Water and Sewer Main Construction in Illinois and the Rock River Water Reclamation District's General Provisions and Technical Specifications for Sanitary Sewer Construction except as modified by these specifications. In the case of apparent contradiction between these specifications and the General Provisions and Technical Specifications for Sanitary Sewer Construction, these specifications shall govern.

All work shall be in accordance with State and Local plumbing codes, District standard details and technical specifications. Final connections shall be made by a licensed plumber approved by RRWRD. Material shop drawings for pipe, fittings, and any other appurtenances shall be submitted to the District for approval prior to delivery to the site.

The Contractor shall notify the Rock River Water Reclamation District forty-eight (48) hours prior to beginning any sanitary sewer system work to have a District inspector present during all construction. The Contractor shall be responsible for securing any necessary permits, and for securing all bonds, insurance, etc. and paying all fees required by any or all permits. The Contractor shall comply with all provisions of permits secured for this project. Copies of all secured permits shall be provided to the District Engineering Manager prior to the start of construction. Any construction not supervised by a District inspector shall not be accepted.

The Contractor shall be responsible for all tests of materials and final installation required by the Rock River Water Reclamation District. All deficiencies noted by the inspectors shall be corrected by the Contractor without cost to the District prior to final payment.

Final inspection, testing and acceptance tests shall be in accordance with District's General Provisions and Technical Specifications for Sanitary Sewer Construction and the requirements of the Rock River Water Reclamation District, except as modified by these specifications.

Contractor shall also keep at the site at all times during its progress a competent person to comply with OSHA trenching and excavation requirements. The competent person shall be one who is capable of identifying existing and probable hazards in the surroundings, or working conditions which are unsanitary,

hazardous or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them. The methods and means to comply with construction site safety are the sole responsibility of the Contractor. District staff is not responsible for Contractor's compliance procedures.

All services shall be 6" diameter Schedule 40 PVC with glued connections meeting the requirements of ASTM D1785 / D2665 as indicated on the Standard District Detail Sheet and installed per the District Standard Detail Sheet. Bedding shall be Class IA in accordance with ASTM D 2321, except as noted on the District Standard Detail Sheet. The actual location may vary from the location shown on the plans based on actual site conditions at no additional cost.

Method of Measurement: Measurement for this work will be per Each and shall include all items necessary to complete this item.

Basis of Payment: This work will be paid for at the contract unit price per EACH for SANITARY SEWER, CLASS B SCHEDULE 40 PVC, 6".

2.192 SANITARY SEWER, CLASS B SCHEDULE 40 PVC, 4"

Description: This work shall consist of furnishing and installing all items necessary for the completion of a sanitary sewer service, 4-inch diameter, from wyes to the building point of connection. Work shall include the connection to the building and the following:

The sanitary sewer system installation shall conform to the following specifications: Standard Specifications for Water and Sewer Main Construction in Illinois and the Rock River Water Reclamation District's General Provisions and Technical Specifications for Sanitary Sewer Construction except as modified by these specifications. In the case of apparent contradiction between these specifications and the General Provisions and Technical Specifications for Sanitary Sewer Construction, these specifications shall govern.

All work shall be in accordance with State and Local plumbing codes, District standard details and technical specifications. Final connections shall be made by a licensed plumber approved by RRWRD. Material shop drawings for pipe, fittings, and any other appurtenances shall be submitted to the District for approval prior to delivery to the site.

The Contractor shall notify the Rock River Water Reclamation District forty-eight (48) hours prior to beginning any sanitary sewer system work to have a District inspector present during all construction. The Contractor shall be responsible for securing any necessary permits, and for securing all bonds, insurance, etc. and paying all fees required by any or all permits. The Contractor shall comply with all provisions of permits secured for this project. Copies of all secured permits shall be provided to the District Engineering Manager prior to the start of construction. Any construction not supervised by a District inspector shall not be accepted.

The Contractor shall be responsible for all tests of materials and final installation required by the Rock River Water Reclamation District. All deficiencies noted by the inspectors shall be corrected by the Contractor without cost to the District prior to final payment.

Final inspection, testing and acceptance tests shall be in accordance with District's General Provisions and Technical Specifications for Sanitary Sewer Construction and the requirements of the Rock River Water Reclamation District, except as modified by these specifications.

Contractor shall also keep at the site at all times during its progress a competent person to comply with OSHA trenching and excavation requirements. The competent person shall be one who is capable of identifying existing and probable hazards in the surroundings, or working conditions which are unsanitary, hazardous or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them. The methods and means to comply with construction site safety are the sole responsibility of the Contractor. District staff is not responsible for Contractor's compliance procedures.

All services shall be 6" diameter Schedule 40 PVC with glued connections meeting the requirements of ASTM D1785 / D2665 as indicated on the Standard District Detail Sheet and installed per the District Standard Detail Sheet. Bedding shall be Class IA in accordance with ASTM D 2321, except as noted on the District Standard Detail Sheet. The actual location may vary from the location shown on the plans based on actual site conditions at no additional cost.

Method of Measurement: Measurement for this work will be per Each and shall include all items necessary to complete this item.

Basis of Payment: This work will be paid for at the contract unit price per EACH for SANITARY SEWER, CLASS B SCHEDULE 40 PVC, 4".

2.193 REMOVE EXISTING CONCRETE FOUNDATION

Description: This item shall consist of all labor, equipment, and material to remove the concrete foundations. These foundations consist mostly of concrete light pole bases as identified on the Demolition Plan. The work shall include the complete removal of the concrete base and removing a minimum of 4 feet of conduit and wire attached to it.

One foundation in the Walnut Street right of way is believed to be a former mast arm foundation. Care shall be exercised to avoid damage to the adjacent pavement during this removal.

Method of Measurement: Measurement for this work will be per Each.

Basis of Payment: This work will be paid for at the contract unit price per EACH for REMOVE EXISTING CONCRETE FOUNDATION.

2.194 STONE RIPRAP, CLASS A5

Description: This item of work shall consist of all labor, equipment, and material to furnish and place Stone Riprap as shoreline stabilization as shown on the Plans. This work shall include the excavation and disposal of shoreline mud, roots, and other unsuitable soils, the placement of filter fabric, bedding stone, and Class A5

riprap in accordance with Section 281 of the Standard Specifications. Removal of any obstructions shall be at the discretion of the Engineer; however it is not the intent to remove any existing sea walls, steel sheeting, or building foundations that are not designated as specific demolition items.

The Contractor shall take special care to work around existing and proposed drainage openings. Riprap shall be placed as soon as it is practical after work has begun but not before the Turbidity Barrier is in place.

The Riprap for this project must come from a State approved material source and a gradation report must be furnished to the Engineer.

Method of Measurement: This work will be measured in Square Yards for the surface area of the riprap as it is placed. The measurement shall include filter fabric and bedding.

Basis of Payment: Payment will be made at the contract unit price per SQUARE YARD for STONE RIPRAP, CLASS A5.

2.195 TURBIDITY BARRIER, TYPE 1

Description: This item of work shall consist of all labor, equipment, and material to furnish, install, maintain, and remove a Turbidity Barrier (silt curtain) in accordance with this Special Provision and the Details shown on the Plans. The Turbidity Barrier shall be of the floating boom type and shall extend to the bottom of the river bed. The barrier shall be installed approximately 15' to 20' from the normal water line depending on depth and work area needed. The Contractor shall inspect the Turbidity Barrier on at least a weekly basis and remove any accumulated silt or debris which impairs its effectiveness. The volume in cubic feet or cubic yards of silt accumulations shall be reported to the Engineer according to the City of Rockford ILR-10 General NPDES Permit.

The Turbidity Barrier must be installed prior to the first day of soil disturbing site work and must remain in place until the site is restored. The exception to this is if site work is not completed prior to winter, the Contractor may remove the Turbidity Barrier prior to ice forming on the river provided that all site disturbing activities have ceased. The Turbidity Barrier must be reinstalled prior to any soil disturbing activities commencing in the spring. The Contractor shall coordinate with the building Contractor who also has a Turbidity Barrier requirement. The barrier may connect or be separate installations at the line between bid packages.

Method of Measurement: This work will be measured along the length of the Turbidity Barrier at its installed location.

Basis of Payment: Payment for this work will be made as follows: 70% of the measured length will be paid when it is installed, 20% will be paid when the contract reaches substantial completion, and the remaining 10% will be paid when the Turbidity Barrier is removed. This item will be paid at the contract unit price per FOOT for TURBIDITY BARRIER, Type 1.

2.196 **TENT ANCHOR**

Description: This item of work shall consist of all labor, equipment, and material to furnish and place Tent Anchors in the Patio area of the site as shown on the Landscape Details in the Plans. Tent anchors shall be set in concrete 24" in diameter and 4'-0" below finish grade of the patio.

Hardware shall consist of a stainless steel U-bolt and fasteners anchored to the concrete in a recessed pocket. A cast bronze deck plate shall be cast into the concrete sidewalk above the tent anchor. The deck plate shall be Item No. 526003 PLB with key and accessories manufactured by Perco (305) 621-7525 or approved equal.

The tent anchor shall be isolated from the sidewalk by wrapping the anchor in flexible foam expansion joint.

Method of Measurement: This work will be measured as an Each item with all attachments as shown.

Basis of Payment: Payment will be made at the contract unit price per EACH for TENT ANCHORS.

2.197 **SITE DEMOLITION, SPECIAL**

Description: This item of work shall consist of all labor, equipment, and material to clear and remove miscellaneous items from the site. This work shall be in accordance with the Site Demolition Plan and specifically include:

- Clearing trees and brush less than 6" diameter
- The automatic parking gate hardware and concrete island along Water St.
- Metal steps and platforms around the Watch Factory building
- Bollards along the river bank west of the Carpenter Shop
- Miscellaneous metal handrails throughout the site which are designated to be removed regardless if attached to walls or stairs that are also being removed.
- Flag poles
- Monument signs
- Concrete pedestrian walkway between Water Street and the center of the Ingersoll Building on the East side. This item shall be coordinated with the building contractor (Dave Rindfleisch) and the Architect. Extreme care shall be taken to remove the pedestrian bridge without damaging the parts of the building to remain.
- Any site miscellaneous removal items.

The intent of this pay item is to cover miscellaneous items not specifically covered by other pay items. This item does not cover site cleaning which is incidental to the contract, but includes removal and disposal of miscellaneous items as identified on the Demolition Plan. Removal items shall be carefully removed and disposed of offsite at an approved facility.

Method of Measurement: This work will be measured as a Lump Sum item for the work listed above. If additional items are added it will be subject to an increase adjustment; if items are deleted it will be subject to a credit adjustment.

Basis of Payment: This work will be paid at the contract unit price per LUMP SUM for SITE DEMOLITION, SPECIAL.

2.198 SEGMENTAL CONCRETE BLOCK RETAINING WALL

Description: This item of work shall consist of all labor, equipment, and material to design, furnish, and install a segmental concrete block wall. This item of work shall include a leveling course or pad, segmental concrete block, geogrid soil reinforcing, excavation, drainage aggregate, perforated drain tile, select fill, and cap block secured with adhesive. The design shall be furnished by the supplier with shop drawings and calculations in accordance with Guide Bridge Special Provision 64 by IDOT and Article 1042.03(b) of the Standard Specifications.

The Contractor shall submit a list of no less than 3 previously completed segmental block walls of the size and height of this project that he has successfully completed for review. Lack of experience shall be cause for rejection of the supplier or contractor. Contact names and phone numbers of owner representatives shall be listed. The design engineer shall provide proof of Professional Liability Insurance with an aggregate coverage limit of not less than \$2,000,000 either by individual policy or coverage by the General Contractor Policy.

The Contractor shall install the wall in accordance with the approved shop drawings to the following tolerances:

- Vertical tolerance = 1.5" in 10'
- Horizontal = 1.5" in 10'
- Batter = within 2degrees of design
- Maximum horizontal gab between units = 1/2"
- Level = courses shall be level within 1/2" in 10'

The Contractor shall specify the thickness of the leveling pad based on the geotechnical report included in the Special Provisions. The expected leveling pad is not less than 6" or more than 12" of CA-6. If unsuitable soils are encountered which do not support the minimum bearing strength used in the design calculations, the unsuitable soil shall be excavated and replaced with CA-2 below the bottom of the leveling pad. Removal of unsuitable soil and replacement with aggregate base will be paid under Article 109.04 of the Standard Specifications. Leveling pad shall be compacted to a minimum density of 95% of Standard Proctor in accordance with ASTM D-698. Minimum bury depth of the first course

of block shall be one-half (1/2) block; or as shown on the approved shop drawings.

The Contractor shall excavate an area behind the proposed wall a sufficient distance to place drainage aggregate and geogrid reinforcing. The excavated material shall be considered Non-hazardous Special Waste and shall be disposed of accordingly. If the excavated soil is acceptable as fill material it may be reused on site below an Engineered Barrier described under Earth Excavation in 2.4 above.

The Contractor shall install geogrid reinforcing perpendicular to the face of the wall per manufacturer's instructions. A perforated drain tile shall be placed behind the wall below the first layer of geogrid. The drain tile shall have a minimum 12" x 12" envelope of drainage aggregate surrounding it and wrapped in a non-woven filter fabric overlapped at least 12". The Contractor shall continue to place free-draining aggregate chips behind the wall for a distance of 12" minimum or as specified in the design drawings. The Contractor shall place and compact layers of select fill and geogrid as shown on the approved shop drawings.

The courses shall be installed level with the horizontal. Steps shall be made in accordance with the Plans and approved shop drawings. Geogrid shall be continuous sheets providing 100% coverage unless a planned splice is shown on the approved shop drawings.

Materials: The Leveling Pad shall be either CA-6 or low-strength concrete as shown on the approved shop drawings. The concrete block shall be cast concrete block conforming Article 1042.02 and to ASTM 1372 except as stated in Articles 1010.01, 1010.02(b), 1003.02, and 1004.02 of the Standard Specifications. Block shall conform to the structural and geometric requirements of ASTM C140, ASTM D6916 for shear strength between units, and ASTM D6638 for connection strength with geosynthetic reinforcement, and have a minimum compressive strength of 3000 PSI at 14 days.

Block shall be 8" high by 18" wide by a minimum depth of 12" to 24" as determined by the design, and weigh a minimum of 80 pounds per standard block. The block shall be Keystone Standard Straight Face supplied by Contech Engineered Solutions, Metamora, IL or approved equal. Shear connectors shall be fiberglass 1/2" minimum and provide interlock between adjacent units with a minimum shear of 6,400 PSI ASTM D4475, and minimum flexural strength of 128,000 PSI ASTM D4476. Geogrid Soil Reinforcement shall be based on a 75-year design life. Short term Ultimate Tensile Strength shall be determined in accordance with ASTM D 4595 or ASTM D6637. Reduction Factor for Long Term Tension Creep shall be determined in accordance with ASTM 5262. Reduction Factor for Installation Damage shall be determined in accordance with ASTM D5818. Overall design Factor of Safety shall not be less than 150%.

The Contractor shall submit color samples to the Owner for approval prior to ordering materials. The Supplier shall furnish the Contractor with technical assistance as needed in the installation of the wall. Materials damaged in

shipping or handling may be cause for rejection of the materials. Materials that are delivered to the site shall be considered the property of the Contractor until accepted for payment by the Engineer.

Method of Measurement: Measurement for this work will be per Square Foot measured along the front face of the block, including the buried face, and including the cap.

Basis of Payment: This work will be paid for at the contract unit price per SQUARE FOOT for SEGMENTAL CONCRETE BLOCK RETAINING WALL.

2.199 **DECORATIVE STONE**

Description: This item of work shall consist of all labor, equipment, and material to furnish and place Decorative Stone between the sidewalk and the stone riprap on the river bank. This work shall include grading, furnishing, and placing drainage gravel on a compacted subgrade, furnishing and installing 6" steel edging and stakes, furnishing and placing filter fabric, and furnishing and placing decorative stone. The decorative stone shall be substantially the same or equal to 70% Large Shawnee River Decorative Stone and 30% American Heritage Decorative Stone available from Tamelings Landscape Supply Willowbrook, IL (630) 323-7171 info@tamelings.com.

Decorative Stone shall be placed to the thickness shown on the Landscape details, and any spillage cleaned up and re-placed. The Contractor shall furnish a sample to of the product the Owner prior to ordering supplies.

Method of Measurement: This work will be measured and calculated in Square Yards and shall include edging, bedding, excavation, filter fabric, and stone.



Basis of Payment: Payment will be made at the contract unit price per SQUARE YARD for DECORATIVE STONE.

2.200 **ADJUST HANDHOLE**

Description: This item shall include furnishing of all labor and materials required to bring handholes to the new grade of the street or sidewalk as specified on the plans and in substantial conformance with Section 602 for cases where less than two (2) vertical feet of masonry must be added, removed, or rebuilt to satisfy the requirements of this specification. Existing frame and lid are to be salvaged and reused unless a new frame and lid have been supplied to the contractor by the City.

Method of Measurement: This item will be measured as an Each item and shall include salvaging the existing frame and lid and all work necessary to bring the handhole to grade.

Basis of Payment: This work will be paid for at the contract unit price EACH for ADJUST HANDHOLE.

2.201 GEOCOMPOSITE WALL DRAIN

This work shall consist of the furnishing and installing wall drain in accordance with Section 591 of the Standard Specifications. The Contractor shall install the wall drain from the top of footing to 1'-0" below the bottom of sidewalk or stair. The wall drain shall be anchored to the wall with fasteners prior to the placement of the backfill.

The Contractor shall furnish catalog cuts and product information for approval prior to ordering materials.

Method of Measurement: Measurement for this work will be per Square Yard and shall include fasteners.

Basis of Payment: This work will be paid for at the contract unit price per SQUARE YARD for GEOCOMPOSITE WALL DRAIN.

2.202 WATER MAIN REMOVAL

This work shall consist of the removal and disposal of water main as indicated on the plans. The contractor shall plug the remaining pipe ends with non-shrink hydraulic mortar and bricks. The excavated hole shall be properly backfilled and shall include trench backfill where required.

Method of Measurement: Measurement for this work will be per Foot.

Basis of Payment: This work will be paid for at the contract unit price per FOOT for WATER MAIN REMOVAL.

2.203 REMOVE ELECTRICAL AND STEAM PIPE VAULT

This work shall consist of the removal and disposal of a concrete steam pipe chase access as identified on the Demolition Plan. The contractor shall plug the remaining pipe ends with non-shrink hydraulic mortar and bricks. The excavated hole shall be properly backfilled and shall include trench backfill where required.

Method of Measurement: Measurement for this work will be per Each.

Basis of Payment: This work will be paid for at the contract unit price per EACH for REMOVE ELECTRICAL AND STEAM PIPE VAULT.

2.204 BOLLARDS

This work shall consist of the furnishing and installing of bollards as shown on the Plans. Bollards shall consist of a 6" diameter traffic yellow PVC pipe filled with concrete and set as shown on the plan details.

Method of Measurement: Measurement for this work will be per Each.

Basis of Payment: This work will be paid for at the contract unit price per EACH for BOLLARDS.

2.205 ELEVATOR SHAFT DEMO

This work shall consist of the removal and disposal of concrete walls to the dimensions shown on the plans. The Contractor shall submit a demo plan prior to removal which shows bracing, shoring, and removal method prior to starting the demolition. The Contractor shall saw cut walls where indicated on the plans. This work shall also include filling the elevator pit to the proposed subgrade with porous granular embankment and compacting it in place.

Method of Measurement: Measurement for this work will be per Lump Sum.

Basis of Payment: This work will be paid for at the contract unit price per LUMP SUM for ELEVATOR SHAFT DEMO.

- 2.206 STORM SEWER, 6" (WATER MAIN QUALITY)**
- 2.207 STORM SEWER, 12" (WATER MAIN QUALITY)**
- 2.208 STORM SEWER, 15" (WATER MAIN QUALITY)**
- 2.209 STORM SEWER, 18" (WATER MAIN QUALITY)**
- 2.210 STORM SEWER, 36" (WATER MAIN QUALITY)**

This work consists of constructing storm sewer to meet water main standards, as required by the IEPA or when otherwise specified. The work shall be performed in accordance with applicable parts of Section 550 of the Standard Specifications, the applicable sections of the current edition of the "Standard Specifications for Water and Sewer Main Construction in Illinois", and standards of the City of Rockford Water Distribution Specification Section 12, latest edition and as herein specified. Storm sewer removal shall be incidental to this pay item. This provision shall govern the installation of all storm sewers which do not meet IEPA criteria for separation distance between storm sewers and water mains. Separation criteria for storm sewers placed adjacent to water mains and water service lines are as follows:

- (1) Water mains and water service lines shall be located at least 10 feet (3.05 meters) horizontally from any existing or proposed drain, storm sewer, sanitary sewer, or sewer service connections.
- (2) Water mains and water service lines may be located closer than 10 feet (3.05 meters) to a sewer line when:

- (a) Local conditions prevent a lateral separation of 10 feet (3.05 meters); and
- (b) The water main or water service invert is 18 inches (460 mm) above the crown of the sewer; and
- (c) The water main or water service is either in a separate trench or in the same trench on an undisturbed earth shelf located to one side of the sewer.

(3) A water main or water service shall be separated from a sewer so that its invert is a minimum of 18 inches (460 mm) above the crown of the drain or sewer whenever water mains or services cross storm sewers, sanitary sewers or sewer service connections. The vertical separation shall be maintained for that portion of the water main or water services located within 10 feet (3.05 meters) horizontally of any sewer or drain crossed.

When it is impossible to meet (1), (2) or (3) above, the storm sewer shall be constructed of concrete pressure pipe, slip-on or mechanical joints ductile iron pipe, or PVC pipe equivalent to water main standards of construction. Construction shall extend on each side of the crossing until the perpendicular distance from the water main or water service to the sewer or drain line is at least 10 feet (3.05 meters). Storm sewer meeting water main requirements shall be constructed of the following pipe materials:

Concrete Pressure Pipe

Concrete pressure pipe shall conform to the latest ANSI/AWWA C300, C301, C302, or C303.

Joints shall conform to Article 41-2.07B of the "Standard Specifications for Water and Sewer Main Construction in Illinois."

Ductile Iron Pipe

Ductile Iron pipe shall conform to ANSI A 21.51 (AWWA C151), class or thickness designed per ANSI A 21.50 (AWWA C150), tar (seal) coated and/or cement lined per ANSI A 21.4 (AWWA C104), with a mechanical or rubber ring (slip seal or push on) joints.

Joints for ductile iron pipe shall be in accordance with the following applicable specifications.

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

Plastic Pipe

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Plastic pipe shall be marked with the manufacturer's name (or trademark); ASTM or AWWA specification; Schedule Number, Dimension Ratio (DR) Number or Standard Dimension Ratio (SDR) Number; and Cell Class. The pipe and fittings shall also meet NSF Standard 14, and bear the NSF seal of approval. Fittings shall be compatible with the type of pipe used. The plastic pipe options shall be in accordance with the following:

1. Polyvinyl Chloride (PVC) conforming to ASTM Standard D 1785. Schedule 80 is the minimum required for all pipe sizes, except when the pipe is to be threaded, and then it shall be Schedule 120. It shall be made from PVC compound meeting ASTM D1784, Class 12454.
2. Polyvinyl Chloride (PVC) conforming to ASTM D 2241. A minimum wall thickness of SDR 26 is required for all pipe sizes (Note: The lower the SDR number, the higher the wall thickness and pressure rating). It shall be made from PVC compound meeting ASTM D 1784, Class 12454.
3. Chlorinated Polyvinyl Chloride (CPVC) conforming to ASTM f 441. A minimum of Schedule 80 is required for all pipe sizes. Threaded joints are not allowed. It shall be made from CPVC compound meeting ASTM D 1784, Class 23447. 4. Chlorinated Polyvinyl Chloride (CPVC) conforming to ASTM F 442. A minimum wall thickness of SDR 26 is required for all pipe sizes (Note: The lower the SDR number the higher the wall thickness and pressure rating). It shall be made from CPVC compound meeting ASTM D 1784.
4. Polyvinyl Chloride (PVC) conforming to ANSI/AWWA C900. A minimum of wall thickness of DR 25 is required for all pipe sizes (Note: The lower the DR number, the higher the wall thickness and pressure rating). It shall be made from PVC compound meeting ASTM D 1784, Class 12454.
5. Polyvinyl Chloride (PVC) conforming to ANSI/AWWA C905. A minimum of wall thickness of DR 26 is required for all pipe sizes (Note: The lower the DR number, the higher the wall thickness and pressure rating). It shall be made from PVC compound meeting ASTM D 1784, Class 12454.

Joining of plastic pipe shall be by push-on joint, solvent welded joint, heat welded joint, flanged joint, or threaded joint, in accordance with the pipe manufacturer's instructions and industry standards. Special precautions shall be taken to insure clean, dry contact surfaces when making solvent or heat welded joints. Adequate setting time shall be allowed for maximum strength.

Elastomeric seals (gaskets) used for push-on joints shall comply with ASTM F477.

Solvent cement shall be specific for the plastic pipe material and shall comply with ASTM D 2564 (PVC) or ASTM F 493 (CPVC) and be approved by NSF.

Per City of Rockford Water Distribution Specification Section 12, rubber gasketed (reinforced concrete pipe) sewer will not be accepted as a water main quality material.

Method of Measurement: This item will be measured in Feet from inside of drainage structure to inside of drainage structure.

Basis of Payment: This work will be paid at the contract unit price per FOOT for STORM SEWER (WATER MAIN QUALITY) of the diameter specified.

2.211 WATER MAIN PROTECTION ENCASEMENT

This work consists of encasing the water main or storm sewer with a water main quality pipe of proper size and properly sealing the ends. The encasement pipe shall be installed as shown in the plans, as directed by the Engineer and in accordance with I.E.P.A. Standard Specifications.

Method of Measurement: Measurement for this item will be per FOOT.

Basis of Payment: This work will be paid at the contract unit price per FOOT for WATER MAIN PROTECTION ENCASEMENT which price shall include all labor, materials and equipment needed.

2.212 SEEDING, CLASS 1A

Description: This work shall consist of furnishing, transporting, and placing seed in accordance with Section 250 of the Standard Specifications. The work shall include preparing the seed bed, eradicating competing species, placing the seed, fertilizing, watering, weeding, reseeding if necessary, and maintaining until a Notice of Termination (NOT) is issued by the City.

Fertilizer nutrients shall be included in the cost of the seeding at the frequency of application specified and at the amount specified on the Landscape Plan notes and as stated above.

Method of Measurement: Measurement for this work will be made and calculated in Acres for all areas within the marked construction limits. No seeding will be measured for payment due to the Contractor's encroachment or use of property outside of the project limits.

Basis of Payment: This work will be paid for at the contract unit price per ACRE for SEEDING, CLASS 1A.

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2.213 SPECIAL WASTE PLANS AND REPORTS

Description: This work shall be done in accordance with Section 669 of the Standard Specifications for Road and Bridge Construction. Contractor shall develop a project specific Health and Safety Plan, Site Contamination Operation Plan, and submit Project Reports on activities conducted during project.

Method of Measurement: Measurement for this work will be per Lump Sum.

Basis of Payment: This item will be paid for at the contract unit price per Lump Sum for Special Waste Plans and Reports.

2.214 INLET TYPE B WITH TYPE 1 FRAME AND CLOSED LID

Description: This work shall be in accordance with Section 602 of the Standard Specifications. Precast concrete base and barrel section shall be in accordance with Section 1042 of the Standard Specifications. Up to 12" of precast adjusting rings will be permitted. When final grade has been established, the frame shall be grouted in place.

Precast barrel sections in accordance with Section 1042 of the Standard Specifications are recommended. Fabricator sketches shall be submitted prior to fabrication for non-standard items. Connections to perforated drains etc. which must be field cored shall be considered incidental to the item. Type 1 closed lids shall have the word "STORM" imprinted on them.

Method of Measurement: This item will be measured as an Each item which shall include the base, barrel, grate, inverting the bottom, and setting the casting to final grade. Steps are not required.

Basis of Payment: This item will be paid at the contract unit price per EACH for INLET TYPE B WITH TYPE 1 FRAME AND CLOSED LID.

2.215 CONTROLLED LOW-STRENGTH MATERIAL

Description: This work shall be done in accordance with Section 593 of the Standard Specifications for Road and Bridge Construction. This item will be used for backfill outside tunnel against the solid core CMU block and remaining structure walls and ceiling. Mix shall be placed in lifts to prevent damage to CMU wall. Each lift shall be allowed to harden prior to placing next lift.

Method of Measurement: Measurement for this work will be per in- place volume.

Basis of Payment: This work will be paid for at the contract unit price per CUBIC YARD for CONTROLLED LOW-STRENGTH MATERIAL