

SECTION 605
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SECTION 605 – GENERAL PROVISIONS FOR CONSTRUCTION

SECTION 605.1 - GENERAL CONDITIONS

605.1.01 - PLANS AND SPECIFICATIONS

All work performed and all materials supplied under this contract shall be in strict compliance with the Contract Documents including plans and specifications and to all other specifications, codes, and ordinances referred to or established by law. The following Specifications are made a part of these Standard Specifications:

- A. The "Standard Specifications for Sewer & Water Construction in Wisconsin" Sixth Edition, December 22, 2003, and any addenda where applicable to sewer and water construction, hereinafter called "Standard Specs."
- B. The current edition with supplements of the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, hereinafter called "State Specs," excluding Bid Items and Part 7 – Quality Management Program. The "current edition" shall include all projects approved for bidding by the Wauwatosa Board of Public Works on or after November 1st of the preceeding year of the edition year. ie - The 2023 Edition would be effective for projects approved from November 1st, 2022 to Oct. 31st, 2023.

In general, all sewer, water, paving, or other construction work in the City of Wauwatosa shall be in accordance with the "Standard Specs", these "City Specs" as they modify and amend the "Standard Specs", "State Specs", and any Contract Special provisions and the terms of the Contract. The Contractor shall also refer to special notes on each sheet of the plans and shall arrange and conduct the work so as to conform to the requirements thereon. These notes shall be an integral and binding part of the specifications.

Copies of the aforementioned Standard Specs are on file at the Engineering Department of the City of Wauwatosa for use and reference on the premises by prospective bidders. An electronic copy of the State Specs can be downloaded from WisDOT's website at the following web address:

<https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/rdwy/ss-archive.aspx>

605.1.02 - PERMITS AND FEES

The Contractor shall obtain all necessary permits except as noted below. The cost of any permits or fees shall be included in the Contractor's base bid and contract price except where otherwise noted. The amounts for permits and fees are subject to change.

The occupancy permit fee will be waived for this Contract.

There will be **no** permit fee for water services or sewer laterals installed or altered. A properly licensed plumber or utility contractor shall do this work, and the Wauwatosa Plumbing Department has authorized the City's Public Works Inspectors to make detailed inspections of any and all portions of work or materials relating to any sewer lateral or water service work. The City's Plumbing Inspector may make verification inspections from time to time.

The Contractor will not be billed by the City for inspection time charged to this project by the Engineering Division except as specified in the Standard Specs on Page 1-49, Subsection 1.10.5: Contractor to be charged for inspection after time allowed for completion has expired.

If L.P. Gas is used in a construction shanty, a permit must be obtained from the Fire Department at the Contractor's expense.

A. USE OF CITY WATER

Water is only available from select hydrants as identified by the City of Wauwatosa Water Department.

The Contractor shall secure permission from the Water Department, obtain all necessary permits, pay any fees **at their own expense**, and notify the Engineer and Fire Department before obtaining water from fire hydrants. The Contractor shall make their own arrangements and pay all costs for water, connecting to hydrants, and transporting the water to the construction work. The water department will bill the Contractor based on the actual metered amount of water used. The contractor shall not use a hydrant without a hydrant meter in place. Use of a hydrant without a meter will result in the contractor being charged a \$50 fee per use in addition to being charged for the water to fill the water tank to full capacity with the costs to be deducted from monies due the Contractor.

Upon payment of the fees, the City will furnish one hydrant meter setting with vacuum breaker, backwater valve, and control valve. The Contractor shall be responsible for the meter setting and valves at each location water is drawn. By using the meter setting, cross connections to and contamination of the City's water supply is minimized.

Hoses from hydrants shall not extend across roadways which are open to traffic, unless they are properly protected from any wheel loads. Water main breaks caused by pressure surges introduced into the system from wheel loads or improper use of hydrants shall be repaired at the expense of the Contractor.

The Contractor shall use only special hydrant-operating wrenches to open hydrants. Hydrant valves must be opened "full" since "cracking" the valve causes damage to the hydrant. If any hydrants are damaged, the Contractor will be held responsible and shall notify the appropriate agency and the Engineer so that all damage can be repaired as quickly as possible. Upon completion of the work, the Contractor shall remove all temporary piping and facilities.

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

605.1.03 - COOPERATION BY CONTRACTOR

A. TRAFFIC

Prior to the preconstruction meeting, the Contractor may be requested by the City to submit to the Engineer, for approval, a written schedule of operations and proposed construction sequencing and staging.

The Contractor shall start work by making the proper notifications as specified, and by placing the necessary detour signs, barricades, warning lights, and warning and information signs to provide for the safety and convenience of the public. Strict adherence to the Manual on Uniform Traffic Control Devices (MUTCD) and Wisconsin MUTCD Supplement is required. Control of arterial traffic shall be in conformance with Section 643 of the current State Specs.

The street shall be kept open to all traffic, and the Contractor shall keep the portions of the street being used by public traffic in such condition that traffic will be reasonably and adequately accommodated, unless otherwise noted. The Contractor shall provide and maintain in safe and adequate condition temporary approaches, crossings, and intersections with roads and necessary driveways. **The Contractor shall bear all of the expense** of maintaining traffic over the section of street undergoing improvement and the construction and maintenance of such approaches, crossings, intersections, and other features as may be necessary without direct compensation except as to those features of such work which are a part of planned, completed construction work.

During the life of the project the Contractor, at all locations, shall provide means satisfactory to the Engineer for crossings for the traffic on intersecting streets in a manner which will not interrupt the flow of such traffic or be harmful to the improvement, unless otherwise noted.

During a suspension of work under the terms of the contract or authorized by the Engineer due to unfavorable weather or other conditions which are not the fault of the Contractor, and which make such suspension advisable, the Contractor shall make passable and shall open to traffic such portions of the street under improvement and such temporary roadways or portions thereof as may be agreed upon between the Contractor and Engineer for temporary accommodation of necessary traffic during the period of suspension. During the period of suspension, the surface maintenance of the traveled way of the temporary route or line of travel agreed upon shall be **at the expense of the Contractor**. When work is resumed, the Contractor shall replace or renew any work or material lost or damaged because of such temporary use of the roadway under improvement. The Contractor shall remove, when required, work or material used in the temporary maintenance

thereof, and shall complete the improvements in every respect as though its prosecution had been continuous and without interference, except as may otherwise have been agreed upon by the Contractor and Engineer at the time arrangements were made for the temporary accommodation of necessary traffic during the anticipated period of suspension.

1. PAYMENT

If there is a separate bid item for Traffic Control, the lump sum price shall be payment in full for all work specified. **If the contract does not include a separate bid item for Traffic Control, then the work required shall be considered as incidental to the contract.**

2. MATERIALS

The Contractor shall furnish, install, and maintain during construction all standard construction signing, barricade(s), barricade lights, and delineation necessary to protect the public traveling in and around the project. Signs shall have reflective backgrounds. Barricades and drums left in place to delineate the traveled way through and around obstructions shall have steady burning lighting affixed to each barricade or drum during darkness. All other barricades shall have flashing warning lights.

3. TRENCH RESTORATION

The Contractor shall replace the pavement in the trench areas, with the specified material, as soon as possible so traffic can utilize the entire width of the roadway, unless otherwise noted. The Contractor shall place a sufficient number of barricades to provide for adequate tapers into and around the sanitary sewer, storm sewer, or water main construction sites.

4. PEDESTRIANS

The Contractor shall make a special effort to accommodate ADA pedestrian traffic in and through the project, particularly by the required replacement of public sidewalk prior to other work, **at their own expense**. Sidewalks not usable shall be barricaded and clearly signed to indicate that the walk is closed per Part 6 of the MUTCD and Wisconsin MUTCD Supplement, and temporary pathways and/or detours shall also be clearly marked and/or signed in this manner. Where removal of sidewalk keystones (and adjacent stones) are specified at intersections, the new curb radius must be in place prior to such removal. However, if the Contractor elects to remove the walks earlier, the Contractor must provide temporary crushed aggregate to grade in their place. Temporary bridges for pedestrians shall be provided as required by the plans or special provisions or as ordered by the Engineer over new pavement, sidewalks, trenches, street intersections, and any other locations as determined by the Engineer. **This work shall be incidental to the contract.**

B. NOISE AND DUST CONTROL

The Contractor shall so conduct all their operations that they will cause the least annoyance to the residents in the vicinity of the work, and shall comply with all applicable local ordinances, **at the Contractor's own expense**. The compressors, hoists, and other apparatus shall be equipped with such mechanical devices as may be necessary to minimize noise and dust. Compressors shall be equipped with silencers on intake lines.

All gasoline or oil operated equipment shall be equipped with silencers or mufflers on intake and exhaust lines. Storage bins and hoppers shall be lined with material that will deaden the sounds. The operation of dumping rock and of carrying rock away in trucks shall be so conducted as to cause a minimum of noise and dust.

Vehicles carrying rock, concrete, or other material shall be routed over such streets as will cause the least annoyance to the public and shall not be operated on public streets between the hours of 9 p.m. and 7 a.m., or on Saturdays, Sundays, or legal holidays unless approved by the Engineer.

All unpaved streets, roads, detours, or haul roads used in the construction area shall be given an approved dust-preventive treatment or periodically watered to prevent dust. Applicable environmental regulations for dust prevention shall be strictly enforced. **Any application of dust palliative shall be incidental to the contract unless otherwise stated as a separate base bid item.**

C. NOTICE TO UTILITIES

The Contractor shall give notice in writing to all utilities (such as the gas, electric, telephone, transport company, and all other utilities) that may be affected by the Contractor's operations at least 3 working days before starting work.

The Contractor shall contact all private utilities, through Diggers Hotline, for necessary location or relocation of facilities including, but not limited to, poles, wires, and underground services.

Where performing trenchless work operations, the Contractor should expose ("day-light") all known utility crossings to verify the location of underground utilities prior to conducting work operations. The Contractor shall expose **ALL** City facilities, to include public/private sewer & water laterals within the right-of-way. City facilities shall be exposed to 1' below the facility to allow for visual inspect the bore head crossing to ensure no damage has been cone. The Engineer may allow the Contractor to perform pre & post televising on sewer mains and laterals in lieu of daylighting these facilities.

The Contractor shall also contact the Wauwatosa Fire and Police Departments when closing a street to all but municipal access. The Contractor shall also be responsible for notifying residents as necessary in regard to the work or the work of subcontractors. Adjustments to MMSD facilities require 72 hour notice to MMSD.

The Contractor shall not hinder or interfere with any person in the protection of such work, or with the operation of buses, at any time, except with the written permission of the Engineer. The Contractor must obtain all necessary information in regard to existing utilities and shall protect such utilities from injury and shall avoid unnecessary exposure so that they will not cause injury to the public. The cost of making repairs in case of any damage whatsoever shall be borne by the Contractor. The Contractor shall also give 3 working days of notice to the following City of Wauwatosa departments and other affected organizations:

1. Traffic & Electrical Supervisor
Randy Michelz
414-471-8429
2. Engineering Division
7725 W. North Avenue
Construction Inspection & Survey Engineer
Nick Deming
414-479-3541
3. Fire Department
1643 Underwood Ave.
911 (Emergencies)
414-471-8490 (Non-emergencies)
4. Police Department
1700 N. 116th St.
911 (Emergencies)
414-471-8430 (Non-emergencies)
5. Water Department
Water Department Supervisor
Adam Florin
414-471-8480 ex: 5915
6. Street and Sewer Department
414-471-8422
7. Forestry Section
Urban Forestry & Grounds Superintendent
Alex Krutch
c. 414-975-0635
8. Milwaukee Metropolitan Sewerage Commission
District Construction Services
260 W. Seeboth Street
414-225-2241

9. Digger's Hotline
800-242-8511 (811)
10. Milwaukee County Transit Company
David Locher
1942 N. 17th Street
Milwaukee, WI 53205
414-343-1727

D. GRAFFITI

The Contractor shall not allow graffiti to remain on any vehicle, equipment, barricade, materials or structures owned, rented, installed, or constructed by the Contractor. The Contractor shall remove graffiti within 48 hours of discovery **at their own expense**. Failure to remove graffiti within 48 hours may result in the City removing the graffiti at the Contractor's expense. These costs shall be deducted from monies owed to the Contractor.

E. SNOW REMOVAL

Provide for snow removal in those areas closed to traffic and outside of the traveled way as required to facilitate safe construction operations and provide access to residents. Proper drainage and erosion control shall be maintained in order to minimize runoff across lanes open to travel. The City of Wauwatosa or other Authority Having Jurisdiction (AHJ) shall be responsible for maintaining travel lanes fully open to traffic and sidewalks that remain open to traffic or as otherwise defined by city ordinances. The Contractor shall be responsible to clear snow from closed travel lanes (including travel lanes closed to through traffic) and sidewalks to the satisfaction of the City Engineer prior to opening closed lanes and sidewalks to traffic. The contractor shall maintain any and all traffic control for closed lanes and sidewalks that may be impacted by the snow removal operations of the City of Wauwatosa or other AHJ. This work shall be considered incidental to the contract.

605.1.04 - SCOPE OF WORK

A. SITE INVESTIGATION AND REPRESENTATION

The Contractor acknowledges that they have satisfied themselves as to the nature and location of the work, the general and local conditions – particularly those bearing upon the availability of transportation, disposal, handling, and storage of materials, and those bearing upon vehicular access to commercial, industrial, and residential properties – the availability of labor, water, electric power, and roads, uncertainties of weather, river stages, or similar physical conditions at the site, the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during the prosecution of the work, and all other matters which can in any way affect the work or the cost thereof under this Contract.

The Contractor further acknowledges that they have satisfied themselves as to the character, quality, and quantity of surface and subsurface materials and groundwater to be encountered from inspecting the site, as well as from information presented herein as a part of these Contract Documents. Any failure by the Contractor to acquaint themselves with all the available information will not relieve the Contractor from responsibility for properly estimating the difficulty or cost of successfully performing the work. Neither the Owner nor the Engineer assumes responsibility for any conclusion or interpretation made by the Contractor on the basis of the information made available by the Owner or the Engineer.

B. FIELD RELOCATION

During the progress of the work, minor relocation of the work may be necessary. Such relocation shall be made only with the agreement of the Engineer. If existing structures are encountered that will prevent construction as shown, notify the Engineer before continuing with the work in order that the Engineer may make such field revisions as necessary to avoid conflict with the existing structures, or to have the affected utility altered by others. The Contractor shall proceed to work on other portions of the project during the delay. No additional compensation will be given for such delays. If the Contractor proceeds with the work despite this interference, they shall be responsible for any damage that may occur.

605.1.05 - PROTECTION OF WORK

A. ACCESS FOR EMERGENCY, PUBLIC TRANSPORTATION AND POSTAL VEHICLES

Notify the fire department, police department, and applicable public and school transportation companies at least 3 working days before closing any street or portion thereof. No closing shall be made without appropriate concurrence of aforementioned departments. Notify said departments when the streets are again passable for emergency vehicles. Maintain vehicle access to consecutive arterial crossings or dead end streets in excess of 300 linear feet, unless special written permission has been obtained from the Fire and Police departments.

The Contractor shall provide a 24 hour emergency telephone number or numbers with the Fire and Police departments so that contact may be made easily at all times in case of barricade or flare trouble or other emergencies.

The Contractor shall develop a written plan for the storage of vehicles and materials at the construction site. This plan shall be submitted to the Engineer for approval prior to starting construction. **If the Contractor wishes to use any property outside the City right-of-way, they must provide written approval from the property owner to the City.**

Maintain postal service facilities in accordance with the requirements of the US Postal Service.

605.1.06 - LEGAL RELATIONS

A. GENERAL

1. SAFETY

The Contractor shall be solely and completely responsible, at their expense, for conditions at the job site, including safety of all persons (including employees) and property during execution of the work. This requirement shall apply continuously and not be limited to normal working hours. Project safety provisions shall conform to US Department of Labor (OSHA) requirements, the Wisconsin Occupational Safety and Health Act, and all other applicable laws including those which may be specified in other parts of these Contract Documents, and shall in any event comply with the common law standards of due care. Where any of these are in conflict, the more stringent shall apply. The Contractor's failure to thoroughly familiarize themselves with these safety provisions shall not relieve the Contractor of responsibility.

2. CONSTRUCTION SAFETY PROGRAM

The Contractor shall develop, and maintain for the duration of the Contract, a safety program that will effectively incorporate and implement, as a minimum, all required safety provisions. The Contractor's Superintendent shall be qualified and experienced in construction safety and shall be at the work site and be authorized to supervise and enforce compliance with the safety program. A written outline of the Contractor's safety program may be required prior to commencing any operations, for record purposes only.

3. SAFETY EQUIPMENT

The Contractor shall maintain at the job site safety equipment applicable to the work as prescribed by the governing safety authorities, including all articles necessary for giving first aid to the injured, and shall establish the procedure for the immediate removal to a hospital or a doctor's care of persons who may be injured on the job site. The Contractor shall do all work necessary to protect the general public from hazards including, but not limited to, surface irregularities or un-ramped grade changes in pedestrian sidewalks or walkways, and trenches or excavations in roadways.

Barricades, lanterns, and proper signs shall be furnished by the Contractor and placed as necessary to insure safety to the public and the work at their own expense.

4. COMPLAINTS

All complaints received by the Contractor shall be reported to the Engineer no later than the working day following receipt thereof. Such reports shall include the name, address, date, time received, date and time of action complained about,

and a brief description of the alleged damages or other circumstances upon which the complaint is predicated.

Each complaint shall be assigned a separate number and all complaints shall be numbered consecutively in order of receipt. In the event more than one complaint is received from the same complainant, each later complaint shall show all previous complaint numbers registered by the same complainant. In addition, a summary report shall be made to the Engineer each month which shall indicate the date, time, and name of the person investigating the complaint, and the amount of damages claimed (or estimate thereof), including the amount of settlement, if any.

When settlement of a claim is made, the claimant shall furnish the Engineer with a copy of the release of claim. The Owner shall be notified immediately, throughout the statutory period of liability, of any formal claims or demands made by attorneys on behalf of claimants, of the serving of any notice, summons, subpoena, or other legal documents incidental to litigation, and for any out-of-court settlement or court verdicts resulting from litigation.

5. NOTICE OF WORK

The Contractor shall provide written notice to the Engineer at least 5 days prior to the start of actual construction. If requested by the City, the Contractor shall provide written notice of work to affected property owners and residents adjacent to the construction at least 3 days prior to the start of actual construction to such properties.

The Contractor shall develop a written plan for the storage of vehicles and materials at the construction site. This plan shall be submitted to the Engineer for approval prior to starting construction. **If the Contractor wishes to use any property outside the City right-of-way, they must provide written approval from the property owner to the City.**

6. TRAFFIC SAFETY AND ACCESS TO PROPERTY

Comply with all laws regarding closing or restricting the use of public streets or highways. No public or private road shall be closed except by express written permission of the Engineer. Conduct the work so as to assure the least possible obstruction to traffic and normal commercial pursuits. Protect all obstructions within traveled roadways by installing signs, barricades, and lights where necessary for the safety of the public.

Signs, barricades, lights, and other traffic control devices shall conform to the requirements of the State of Wisconsin Manual of Uniform Traffic Control Devices (MUTCD).

The convenience of the general public and residents adjacent to the project and the protection of persons and property are of prime importance and shall be

provided for in an adequate and satisfactory manner. During construction operations, construct and maintain such facilities as may be required to provide access by all property owners to their property. Pedestrian access to properties adjacent to the work shall be provided for at all times. **This work shall be incidental to the contract unless otherwise stated as a bid item.**

Where traffic will pass over backfilled areas before they are permanently paved, and where, in the opinion of the Engineer, the final pavement replacement has not followed in a timely fashion, the top of the area shall be maintained with temporary bituminous surfacing that will allow normal vehicular traffic to pass over. **This shall be done at no additional cost to the City.** This does not apply to sections where no surface replacement is called for under this contract. If the Engineer orders this type of restoration for such sections that do not call for surface replacement, the Contractor shall be paid at the amount specified under the temporary asphalt item included in the contract. If a temporary asphalt item is not included within the contract, the Engineer will pay the amount in the Schedule of Fixed Extras.

Temporary access driveways must be provided where required. The Contractor shall maintain access to driveways by use of steel plates, compacted gravel, and/or temporary asphalt when practicable. **This work shall be incidental to the contract unless otherwise stated as a bid item.**

Cleanup operations shall follow immediately behind backfilling and the work site shall be kept in an orderly condition at all times. The Contractor shall immediately clean up accidental spills of any type of material that may be a hazard to safe movement of vehicular traffic. Where the type and amount of spilled material creates a hazard, the Contractor shall immediately post flag persons, initiate cleanup, and advise the Engineer of the spill.

Flag persons shall follow MUTCD requirements and have the proper safety equipment and apparel, per MUTCD and OSHA recommendations.

B. FIRE PREVENTION AND PROTECTION

The Contractor shall execute all work in a fire-safe manner. The Contractor shall supply and maintain on the site adequate firefighting equipment capable of extinguishing incipient fires. The Contractor shall comply with applicable fire prevention laws. Where these laws do not apply, applicable parts of the National Fire Prevention Standard for Safeguarding Building Construction Operations (NFPA No. 241) shall be followed.

605.1.07 - PROSECUTION AND PROGRESS

The work shall be performed at such time and in or on such parts of the project and with such forces, materials, and equipment to prevent any delay to the completion of the project within the time limits stated in the Contract, and in conformance with the Overall Construction Schedule specified herein.

The contractor may petition the Board of Public Works for approval of night work (7 p.m. to 7 a.m.) or Sunday work. The Board generally meets the 1st and 3rd Monday of every month. A request for approval of night or Sunday work must be made on a Board of Public Works Application and received by the appropriate City staff by deadlines indicated on the application form. No fees will be assessed to the Contractor for a request to the Board of Public Works to perform night work or Sunday work. The Contractor shall comply with all applicable requirements of the Owner. Please send an electronic copy of the completed application to BoPW to ndeming@wauwatosa.net and jhenderson@wauwatosa.net by the deadlines listed on the form in addition to any recipients required on the application form.

The Contractor may, with written permission of the Engineer and acquisition of all necessary permits, **and at the contractor's expense**, work outside regular hours of 7 a.m. to 7 p.m., Monday through Friday (City holidays are not considered part of this regular working week). A written request shall be made to the Engineer and allow 7 calendar days for satisfactory arrangements to be made to inspect the work in progress which occurs between 7 p.m. and 7 a.m. or Sundays, and allow 3 regular working days for satisfactory arrangements to be made to inspect the work in progress which occurs on 7 a.m. to 7 p.m. on Saturdays.

The Contractor shall not be allowed to perform work on City holidays without written permission from the Engineer.

If the Contractor schedules work outside regular hours and days which requires an inspector, and does not arrive on site within one hour of the scheduled time on the scheduled day, excluding inclement weather conditions, the Contractor shall be charged a fee of \$300 to the City, to be deducted from monies owed to the Contractor. The scheduled day shall count as a working day towards the completion of the project deadline regardless of whether the Contractor works. If the Contractor needs to cancel the work scheduled outside regular hours and days, they must contact the City Engineering Department or the inspector who is scheduled to be on site at least 24 hours in advance of the scheduled time and date.

A. PRECONSTRUCTION CONFERENCE REQUIREMENTS

A preconstruction conference shall be held after the time of the Contract award and before the notice to proceed to discuss the responsibility of each party in the project and to clarify any questions. Required attendance shall include representatives of all contractors, including the superintendents designated for the project, resident engineer in charge of inspection and their principal staff, and representatives of the municipality or governing authority. A representative of the resident inspection staff shall preside over the conference.

The Contractor shall submit to the Engineer for approval a schedule of operations and proposed construction sequencing and staging, as described in section C below. The Engineer may waive this requirement for the convenience of the City. This schedule will be used to check and control the progress of the work.

A suggested format for the preconstruction conference would include but not be limited to the following subjects:

1. Presentation of a proposed *Overall Construction Schedule* by the General Construction Contractor.
2. Presentation of *Traffic Control Plan* by the Contractor.
3. Review of *Erosion Control Plan*.
4. Check off required bonds and insurance certifications prior to notice to proceed.
5. Shop drawing submittal and approval procedure.
6. Chain of command, direction of correspondence, and coordinating responsibility between contractors.
7. Request for a weekly job meeting for all involved.
8. Laboratory testing of materials requirements.
9. Inventory of material stored on site provisions.
10. Progress estimate and payment procedure.

B. PRECONSTRUCTION SURVEY

After the Contract is awarded and before starting the work, the Contractor shall make a thorough examination, and should photograph, in color, if the Contractor feels it is warranted, all existing buildings, structures, and other improvements which are within 100 feet of the work and/or which might be damaged by the Contractor's operations. The examination may be made jointly by the Contractor, the Engineer, and the property owner. The scope of the examination and photographs taken shall include cracks in structures, settlement, leakage, and similar conditions.

The above records and photographs are intended for use as evidence in ascertaining the extent of any damage which may occur as a result of the Contractor's operations and are for the protection of property owners, the Contractor, and the Owner. The records will provide a means of determining whether, and to what extent, damage may have occurred as a result of the Contractor's operation. The City intends to videotape the condition of the roadways and the areas surrounding the project sites when possible.

C. OVERALL CONSTRUCTION SCHEDULE

The Contractor shall prepare and submit to the Engineer within 10 working days after the awarding of the Contract their Overall Construction Schedule. The Overall Schedule shall be comprised of preparatory and construction operations covering all work to be done in connection with the Contract.

Failure to submit the Overall Schedule or subsequent updates of the Schedule shall be considered cause for withholding any partial payments due or that may become due under the Contract.

Therefore, it is imperative that the Contractor adheres to the completion dates listed in the Official Notice and Instructions to Bidders. If after the award of any paving contracts it is determined that a change in sequence would be mutually beneficial to all parties involved, the Engineer shall issue a Contract Modification. However, this modification will not alter the final completion date unless otherwise agreed upon and noted in the Contract Modification.

The Overall Schedule shall meet the following minimum requirements:

1. Include activities that describe essential features of the work and activities that might potentially delay contract completion. Identify activities that are controlling items of work. Procurement of long lead time items shall be included as tasks within the schedule but can exceed the 15 working day duration limit noted below. Build in the specified amount of severe weather days as specified in the contract.
2. Identify the contemplated start and completion dates for each activity. Provide a duration, ranging from one to 15 working days, for each activity. Break longer activities into 2 or more activities distinguished by the addition of a location or some other description.
3. For contracts with 15 activities or less or 8 weeks or less in duration, specify the sequencing of all activities. For contracts with more than 15 activities or longer than 8 weeks in duration, provide a logic diagram that shows the sequence of activities and the scheduling interrelationships among activities. Alternatively, the contractor may identify the activity interrelationships in a tabular listing. Ensure all activity interrelationships are finish to start relationships with no leads or lags. Use only contractual constraints in the schedule logic. The engineer may accept requested exceptions.
4. Provide on or with the schedule the following information:
 - a. Work days per week
 - b. Number of shifts per day
 - c. Number of hours per shift
5. Show completing the work within interim completion dates and the specified contract time or completion date.
6. Provide the engineer with a pdf copy of the information required in items 3 and 4.

Handwritten schedules are NOT acceptable. It is recommended that the contractor include third-party activities related to the contract within the schedule if third-party work is anticipated to occur within coordination of the project.

As the work progresses, the Engineer may request an update to the original progress schedule for reasons including but not limited to the following:

1. The project completion or interim completion targets are delayed 14 calendar days or more for portions of work governed by calendar days or 10 working days or more for portions of work governed by working days.
2. The progress of the work differs significantly from the original progress schedule.

3. A contract change order requires the addition, deletion, or revision of activities that causes a change in the contractor's work sequence or the method and manner of performing the work.

The Overall Schedule shall be incidental to the contract.

605.1.08 - MAILBOXES

(Where Applicable) Maintaining mailboxes along the construction route is the responsibility of the Contractor, including subcontractors, and shall be incidental to the work. The Contractor shall notify the property owner(s), if necessary, prior to the start of work that their mailbox may require removal and replacement. A notification letter will be provided by the Engineer for distribution by the Contractor if requested. Mailboxes which require removal as part of any work shall be carefully removed by the Contractor and delivered to the property owner. Resetting the mail box shall be the responsibility of the Contractor. The Contractor shall also, at their own expense, maintain a temporary mailbox to allow the property owner to continue receiving mail until such time as the permanent resetting is completed. The Contractor shall coordinate the location(s) of any temporary mailboxes with the United States Postal Service and the Engineer. Temporary mailboxes shall be keyed mailboxes unless otherwise approved by the Engineer.

Should a mailbox be damaged as the result of any construction activity, the Contractor shall take the responsibility of repairing, replacing, and/or re-installing it at their own expense, within a reasonable amount of time as determined by the Engineer. The Contractor shall also, at their own expense, maintain a temporary mailbox to allow the property owner to continue receiving mail until such time as the permanent repairs are completed, if needed. Failure of the Contractor to complete this work in a timely fashion, as determined by the Engineer, may result in the City hiring a third party or using a City crew to perform it, at the Contractor's expense, to be deducted from monies owed to the Contractor.

Any and all work relating to mailboxes shall be incidental to the contract unless otherwise listed as a separate base bid item or directed by the Engineer.

605.1.09 - PAYMENT

The work specified in this Section 605 shall be considered **incidental to the contract** and the cost shall be included as part of the appropriate unit price stated in the Proposal unless otherwise stated.

Lump sum amounts are not subject to negotiation for cases where actual amounts of work and/or materials are larger than the engineering estimates.

Existing sign removal and re-installation as indicated on the plans and as directed by the Engineer shall be **incidental** to the contract base price unless otherwise noted.

SECTION 605.2 - CONSTRUCTION GENERAL

605.2.01 – Driveways

Driveway access shall be maintained at all times whenever possible, unless directed by the Engineer or stated on the plans. This may require driveways to be constructed one-half at a time, with steel plates, and/or the coordination with the business or industry, or a temporary driveway access point. This maintenance of approach access shall be considered incidental to the work. Maintenance of driveway access to residential properties may be waived with the written permission of the Engineer.,

The Contractor shall be limited to a maximum of 30 calendar days from the time an approach, its adjacent sidewalks, and/or adjacent curb and gutter is removed, to the time that said pavements have sufficient cure time for bearing vehicle traffic from the street to the property or alley. Failure of the Contractor to meet this deadline will cause the City to charge liquidated damages of \$25 per day **per approach** until access is provided.

For contracts that do NOT include replacing all of the curb and gutter and/or all of the existing pavement (ie. selective replacement of these two items), the above time frame is reduced in the following manner, unless otherwise directed by the Engineer or shown in the plans:

- Residential driveways shall be replaced within 5 days after removal of the driveway approach or sidewalk.
- Driveway access to commercial and industrial properties shall be maintained at all times.

605.2.02 - BACKFILL

A. MAINTENANCE OF TRENCH SURFACE

The Contractor will be required to maintain the trench area, during the interval between the sewer or water main installation and the pavement restoration, by keeping it to grade and spreading calcium chloride, if necessary, for dust control. This trench maintenance shall be **incidental** to the contract, unless otherwise noted.

Settlement of replaced pavement over trenches within the warranty period shall be considered the result of improper or inadequate compaction of the subgrade or backfilling materials. The Contractor shall promptly repair all pavement deficiencies noted during the warranty period at no cost to the City.

605.2.03 - PAVEMENT RESTORATION AND SITE RESTORATION

A. PAVEMENT RESTORATION

1. PROTECTION OF STRUCTURES

Provide whatever protective coverings as necessary to protect the exposed portions of bridges, culverts, curbs, gutters, manhole and valve box covers, posts, guard fences, road signs, and any other structures from splashing oil, asphalt, or concrete from the paving operations. Remove any oil, asphalt, concrete, dirt, or any other undesirable matter that may come upon these structures by reason of the paving operations.

Where water valve boxes, manholes, catch basins, or other underground utility appurtenances are within the area to be resurfaced, the structure shall be level with the top of the final restoration grade as directed by the Engineer. If it is evident that these facilities are not in accordance with the proposed finished surface, notify the Engineer a minimum of 14 calendar days in advance so the proper authority can be contacted in order to have the facility altered before proceeding with the resurfacing. Consider any delays experienced from such obstructions as **incidental** to the paving operation.

B. LAWN REPLACEMENT AND LANDSCAPING

Topsoiling, mulching, fertilizing, and seeding shall conform, respectively, to Sections 625, 627, 629, 630 and 631 of the State Specs and as they are amended herein.

All landscaping work must be watered until sustained growth is assured. All watering shall be considered **incidental** to the contract.

Backfill required at curb repairs must be topped with a minimum of 6 inches of screened topsoil to top of curb.

If restoration in accordance with these specifications is not completed (aside from watering) within 2 weeks of the completion of adjacent paving and underground operations (restoration may be delayed with written permission from the Engineer), the City reserves the right to hire a third party, independent of the Contractor, to complete the work, or utilize City workers, to be paid with funds deducted from monies owed to the Contractor. Should the City exercise this right, the Contractor will not be paid for any of the quantities that were completed by the third party or City workers.

1. GENERAL

The Contractor shall give the Engineer at least 3 working days of notice of the time and place of planting and keep them advised of the schedule of planting operations.

2. SOIL PREPARATION

Remove any non-topsoil material to a depth of 6 inches and backfill with topsoil/compost blend as specified in Section 625.2 of the State Specs. Apply a Type A granular fertilizer per the supplier/manufacturer's specified rate and mix

into the upper 4 to 6 inches of soil thoroughly. Rake or drag area until surface is thoroughly settled with a smooth, firm surface, free of humps or hollows. Ensure proper placement to eliminate the risk of future settling or sinking.

The Contractor shall dispose of all extraneous and excess materials at their expense and in accordance with any Federal, State, or Local laws.

3. SOD

All sod shall be placed on topsoil as specified within 24 hours after it has been cut. It must be staked or pegged on all slopes steeper than one foot vertical to three feet horizontal and where shown on the plans, which shall be incidental. The sod for Type "A" Lawn Replacement shall be a blend of bluegrass and fescues nursery sod, and shall be practically free from weeds or undesirable grasses. Sod must be placed to a butt joint and not wedged-off with topsoil. After being placed, it must be rolled or tamped. **All sod work must be watered for a minimum of 10 consecutive calendar days by the Contractor or until sustained growth is assured. The contractor shall provide 3 days notice to residents prior to turning over watering requirements to the resident.**

4. SEED

All areas designated to be seeded shall be placed on topsoil fertilized with a Type A granular fertilizer fertilizer per the supplier/manufacturer's specified rate and covered with Urban Type B erosion mat, unless otherwise specified. The seed mix for Type "C" Lawn Replacement shall be as noted below unless otherwise noted in the plans, free from weeds or undesirable grasses. After being placed, rake seed/soil as necessary to provide seed to soil contact and covered with mulch or erosion fabric where designated. All seed, mulch, and erosion fabric work must be watered until sustained growth is assured, a minimum of 14 calendar days.

- a. General Lawn Areas: Wisconsin Department of Transportation Seed Mixture No. 40. Seeding rate shall be 4-5 pounds per 1000 square feet. Provide the empty seed bags brought to site to the inspector immediately after installation.
- b. River Banks, Ravine Slopes, and Drainage Swales: Shady woodland seed mix shall be used for wet mesic to dry mesic soils. Species such as Solomon's Plume, Columbine, Jacob's Ladder, Jackin-the-Pulpit, Wild Geranium, and Early Meadow Rue are representative of a natural woodland. Seeding rate shall be in accordance with suppliers instructions.

C. SIGNAGE

New signs called out to be provided under the contract shall conform to Section 637 of the State Specs. New signs shall be installed on new posts and shall have hardware provided by the Contractor and included with the costs of the signs and/or sign post item(s).

New posts shall be 2" (2 3/8" O.D.) x 10' Schedule 40 Aluminum extruded post with a mill finish and plain end. The Post Anchor shall be Tapco V-Loc Steel Breakaway post or Engineer approved equal.

Hardware to attach existing signs to new poles shall be salvaged from the existing signs and posts, unless otherwise noted. New hardware required to resinstall existing signs shall be approved by the Engineer prior to ordering.

Signs, posts and materials within the project limits may be removed and salvaged and shall be stored at the DPW Yard until reinstallation. Obtain permission from the Engineer to removal signs, posts, etc. if no item to remove, salvage and reinstall signs exists on the contract. Sign posts that are not V-Loc Steel Breakaway posts shall be disposed of by the Contractor at their expense. If no item to remove, salvage and resinstall signs, posts & hardware, the work shall be considered incidental to the contract and performed at the Contractor's expense. The Contractor shall provide a minimum of 3 days notice to DPW Electrical Superintendent before delivering the signs to the yard.

Prior to delivering the signs to the DPW Yard, the contractor shall provide a detailed list to the DPW Electrical Superintendent containing the following information:

1. Description and number of each sign(s) being delivered to the DPW Yard that will be reinstalled
2. Number of brackets being salvaged to the yard
3. Number of poles being salvaged to the yard that will be reinstalled.
4. The list shall have the contract number, the project description, the name of the contractor storing the materials and a contact person listed at the top of the page.

Upon delivery to the DPW Yard, the contractor shall assist the City/consultant inspector on the project to verify that all signs, hardware, posts and other materials contained on the list have been delivered. The Contractor shall store the signs in a manner that will not cause the signs to be damaged while being left in storage. All loose hardware shall be stored together in a labeled box or storage container noting what hardware is stored in each box or storage container. The box or storage container shall also be labeled with the contract number and the project description.

The Contractor shall be responsible for replacing any signs, posts or hardware that are damaged as a result of construction operations or due to improper storage by the contractor. The Contractor shall also be responsible to replace any missing signs, posts or hardware that were not properly delivered and stored to the DPW Yard.

The Contractor shall notify the inspector of any damaged signs, posts or hardware prior to removal for documentation purposes. Failure to notify the on-site inspector prior to removal may result in the Contractor being responsible for replacement of the damaged signs, posts or hardware.

The Contractor shall immediately notify the Engineer of any signs, posts, or hardware that the Contractor deems unsuitable to be salvaged and reinstalled to allow the Engineer to resolve any concerns prior to reinstallation. The Engineer may require the contractor to furnish new material(s) under the contract using a bid item in the proposal or, if no such item exists for a particular item deemed unsuitable for reinstallation, by negotiating a price for replacement. The City also may elect to provide new material(s) to the contractor for reinstallation at no additional cost to the City.

The Contractor shall provide the DPW Electrical Superintendent with a minimum of 7 calendar day's notice prior to picking up the stored signs, posts and hardware. The City may replace salvaged signs, posts and hardware at their discretion while the signs are in storage at the DPW Yard. Before removing items from the DPW Yard, the contractor shall verify ALL items are present that were documented as delivered to the DPW Yard for storage. Notify the Engineer immediately and DO NOT remove any items from the DPW Yard if any item is missing. The Contractor will be responsible to replace any items discovered missing after removal of all items from storage at the DPW Yard.

605.2.04 PROTECTION OF THE ENVIRONMENT

A. GENERAL

The Contractor, in executing the work, shall maintain all work areas on and off the site as needed to keep them free from environmental pollution that would be in violation of any Federal, State, or Local regulations. All costs related to conformance with Protection of The Environment within these City Specs shall be considered incidental to the contract, unless otherwise noted by the Engineer.

B. PROTECTION OF SEWERS

Take adequate measures to prevent the impairment of the operation of the existing sewer system. Prevent construction material, pavement, concrete, earth, or other debris from entering a sewer or sewer structure. All sewer and groundwater flow interfering with construction and requiring diversion shall be diverted to sewers leading to a wastewater treatment plant. Non-sanitary sewage may only be diverted to non-wastewater treated areas if proper erosion and pollution control measures are followed in accordance with Wisconsin DNR regulations.

Prior to commencing excavation and construction, the Contractor shall submit for the City's review detailed plans (including routing and connections) showing how the Contractor intends to handle and dispose of sanitary sewer wastes. By reviewing the plan, the City neither accepts any responsibility for the adequacy thereof nor for any damages to public or private property resulting therefrom, such responsibilities remaining with the Contractor.

C. PROTECTION OF AIR QUALITY

Air pollution shall be minimized by wetting down bare soils during windy periods, by requiring the use of properly operating combustion emission control devices on

construction vehicles and equipment used by contractors, and by encouraging the shutdown of motorized equipment not actually in use.

Burning of waste, debris, and rubbish will not be permitted on the construction site.

If temporary heating devices are necessary for protection of the work, such devices shall be of a type that will not cause pollution of the air.

D. EROSION CONTROL FOR SEWER & WATER INSTALLATIONS IN PAVED AREAS

1. GENERAL

The latest edition of the DNR technical standards shall be adhered to for erosion control installation and maintenance, and shall overrule any potential specifications conflicts herein. Chapter 2.8.0 of the Standard Specs contains the general criteria for erosion control. In addition, since the control of soil erosion is a dynamic process, the Contract requires flexibility by the Contractor to accommodate changing conditions as the project progresses.

Excavated materials and imported backfill materials stored at the project site shall be kept to a minimum and shall be used or removed from the site as soon as practicable, which shall be incidental. Such materials shall be stored in such a manner that will not result in runoff of stockpiled materials. Backfilled trenches and other areas shall be left to the level of the adjacent area or slightly below until restored to reduce the potential for erosion. All excess excavated materials and all excess imported backfill materials shall be promptly removed from the site and disposed of at the Contractor's expense.

The Contractor shall monitor each location where water may run off the site and shall provide measures to guard against sediments leaving the site. The Contractor shall have adequate erosion fabric fence or bales of hay and means of anchoring the same in place for erosion control as determined necessary by the Engineer. The type and amount of materials required will be determined by the type and amount of open excavation. The Contractor shall schedule the work so that the amount of open excavation and the stockpiling of construction materials on the job site is minimized for erosion control. Diversion berms or sediment filtration berms shall be constructed and maintained as determined necessary by the Engineer. Replacement of preexisting erosion control measures which are disturbed in the course of the work shall be completed promptly following completion of the work on the project causing such disturbance.

Tracking of foreign materials (e.g. mud, stone) on street surfaces shall be controlled during the working day as necessary, but no later than the end of the working day, by one or more of the following methods as required:

- a. Hand shoveling material off street pavement.

- b. Machine removal (such as with end loader or grader), provided that the results are equal to that of hand shoveling.
- c. Sweeping material off street pavement. If using a mechanical sweeper that does not contain a built in water system to mitigate dust, the contractor shall sufficiently wet the surface or the area needing to be swept prior to sweep to reduce the spread of dust.

Specific erosion control measures are shown on the plans and shall be as described in these specifications. Sample details of erosion control devices follow these specifications. All control measures protruding above the normal paved and/or ground surface shall be marked by barricades and flashers. Maintenance of erosion control measures shall be considered **incidental**, including if an erosion control device needs to be replaced.

2. CONTROL OF SURFACE RUNOFF

- a. STORM WATER INLET AND CATCH BASIN, hereinafter called inlet protection: Inlet protection shall be installed **prior** to disturbing any pavement or earth areas, and shall remain in place and maintained until the surface is restored with temporary or permanent pavement. Inlet protection shall be installed at all inlets that will receive runoff from the construction site, including adjacent streets and where materials are stockpiled. Depending on the slope of the street, this will include inlets in the block(s) downstream from the work site due to anticipated bypassing. The contractor shall install Type D inlet baskets at all locations permissible. The contractor shall indicate on their erosion control implementation plan those inlets which Type D inlet protection is unable to be placed and their proposed substitution.

PLACEMENT: The inlet insert basket or sheet shall fit into the inlet without gaps around the insert as illustrated in the detail drawings. If the inlet being protected has a curb box, the curb box shall be protected as shown in the appropriate detail drawings until inlet protection is no longer needed.

FABRIC SPECIFICATIONS: The filter fabric shall be a geotextile fabric Type FF of polyester, polypropylene, stabilized nylon, polyethylene, or polyvinylidene chloride meeting the following specifications:

- Grab strength: 120 lb. minimum in the machine direction and 100 lb. in the cross machine direction (ASTM D4632).
- The fabric shall have an opening no greater than a number 30 US Standard Sieve.
- Water Flow Rate of approximately 120 gal/min/ft² at 50 MM constant head as determined by multiplying permittivity in sec as determined by ASTM D-4491 by a conversion factor of 74.

- Ultra violet radiation stability of 70% for strength retained at 500 hrs of exposure (ASTM D4355).

MAINTENANCE: Inlet protection shall be inspected by the Contractor within 24 hours after each working day rainfall or daily during periods of prolonged rainfall on working days. Repair or replacement shall be made immediately as incidental to the work.

Sediment deposits shall be removed after each storm event, or more often if the fabric becomes clogged.

b. GUTTER DETENTION

1. In areas where the street grade is greater than 4%, additional control is necessary to reduce flow velocity and to prevent sediment from bypassing the inlet screen/inlet grate screen.
2. Gravel filled nylon bags each containing a minimum of one-half cubic foot of material shall be placed in the gutter section with the long dimension of the bag perpendicular to the curb line, abutting the curb face at approximately 75 foot intervals.
3. Sediment deposits shall be removed after each storm event, or when reaching a maximum depth of 3 inches.
4. If the street is open for traffic, a barricade with flashers shall be placed by each bag.
5. The protection shall be installed prior to disturbing any pavement or earth areas, and shall remain in place and be maintained until the surface is restored with temporary or permanent pavement.

3. CONTROL OF TRENCH SEDIMENT

a. DEWATERING

1. If it becomes necessary to pump water from any trench or excavation, it shall be the Contractor's responsibility to remove particles greater than 100 microns. To demonstrate that settling or filtering is not required, all particles must pass through a US Standard No. 140 sieve.

2. METHODS OF REMOVAL

- a. Pumped water requiring particle removal may be settled in portable tanks. The tank capacity must be large enough to allow for sufficient settling time to remove particles greater than 100 microns. The Contractor may add a flocculation substance to enhance the settlement process.

- b. A second method of treating pump water may be as shown in the detail drawings, if applicable. This basin should be placed on the paved surface near a protected inlet. If a temporary settling basin is to be left unattended, it shall be covered with a half inch plywood or similar safety cover. Due to space and traffic constraints, this method must have prior approval from the Engineer.
 - c. The fabric shall be geo-textile fabric, polyester, polypropylene stabilized nylon, polyethylene, or polyvinylidene chloride meeting the following specifications:
 - Grab strength: 400 lb. minimum in any principal direction (ASTM D1682)
 - Mullen Burst Strength: Minimum 600 psi (ASTM D774)
 - The fabric shall have an opening no greater than a number 140 US Standard Sieve, and a minimum permeability of 25 gpm/sq.ft. (Multiply the Permittivity in Sec. from ASTM. D4491-85 Constant Head Test using the conversion factor of 74.)
 - d. Other methods demonstrated to produce the desired results may be submitted for the approval of the Engineer.
- a. DOWNSTREAM SEWER PROTECTION: At the end of each work day, the Contractor shall cover the entire annular space at both ends of the flume with a sheet of filter fabric. The fabric shall be of sufficient width so as to be tightly banded around the sewer pipes and the flume pipe. The fabric shall be geo-textile fabric of polyester, polypropylene, stabilized nylon, polyethylene, or polyvinylidene chloride meeting the following specifications:
- Grab strength: 400 lb. minimum in any principal direction (ASTM D1682)
 - Mullen Burst Strength: Minimum 600 psi (ASTM D774)
 - The fabric shall have an opening no greater than a number 140 US Standard Sieve, and a minimum permeability of 25 gpm/sq.ft. (Multiply the Permittivity in Sec. from ASTM D4491-85 Constant Head Test using the conversion factor of 74.)

4. PAYMENT

Erosion Control as herein before prescribed, required, and performed will not be separately measured for payment, but will be considered **incidental** to other

items in the contract unless there is a separate bid item specifically for erosion control. Maintenance of any erosion control item shall be considered **incidental**.

D. PROTECTION OF TREES AND SHRUBS

No trees, shrubs, or any other vegetation shall be removed without the written permission of the Engineer.

Unless specifically shown on the plans, or otherwise directed by the Engineer, it is the intent of the work operations under this contract to make every effort to preserve and protect trees and shrubs from damage or removal within the limits of, and adjacent to, the work included in the contract. The Contractor shall take all necessary precautions to protect trees, shrubs, and roots at the work site. Any costs associated with this work and work described within this section shall be considered incidental unless otherwise noted or directed by the Engineer.

There are, at various locations on the project, existing trees and shrubs which will require special care and protection during the removal and subsequent construction of new pavements, curbs, drive approaches, and walks. Prior to beginning construction operations for the removal and/or replacement of these contract work items, the Contractor shall conform to the following procedure:

The Contractor shall, prior to construction, conduct a detailed walk-through field inspection of all potential conflicts of the contract work with trees and shrubs within and adjacent to the project limits. The Contractor shall not excavate or cut the roots of trees or shrubs unless so indicated by the Engineer's written order or explicitly noted on the plans.

1. ROOTS

Root foundations must remain adequate to withstand heavy windstorms. To protect the immediate portion of the tree roots, a Root Protection Zone shall be maintained. This zone is 5 feet on each side of the edge of the tree trunk parallel with the street and from the backside of the curb to the backside of the walk. No construction equipment or materials, sand, soil, gravel, block, or pipe shall be placed, parked, or stored within this area. All cutting for the removal of sod and soil in order to establish a finished grade within this zone must be done manually. No excavation shall occur within this zone unless otherwise directed on the plans or by the Engineer.

Tree roots interfering with the work shall be completely severed with a clean, sharp tool e.g. axe, or chainsaw, and removed with an approved machine or other approved methods. All old walk shall be removed prior to root cutting.

- a. SIDEWALKS: The root system on the walk side of the tree shall not be cut by means of mechanical root cutting machines. If root removal is essential to concrete walk replacement, interfering roots shall be manually cut with hand implements. Roots below the proposed walk shall be removed only to a depth of 9 inches below the proposed elevation of the new walk surface. The cut must be within 2 inches of the edge of the proposed sidewalk to avoid cutting

too close to the trunk of the tree. All roots within 2 inches of the bottom of the proposed sidewalk must be removed.

All debris from the root sawing and/or tree removal operations shall be removed from the sidewalk area and root sawing trenches filled with approved topsoil before the end of the work day. All exposed and severed tree roots shall be immediately covered with mulch and watered to prevent drying until such time that the concrete work is complete, the forms removed, and the area between the tree and concrete work backfilled with approved topsoil.

Stumps and roots shall be ground by an Engineer approved mechanical grinding machine to a depth of 18 inches below the proposed ground elevation. Other methods of grubbing may be used only with the approval of the Engineer. All grubbing holes shall be cleaned of chips and grindings and filled with approved compacted backfill, with at least the top 3 inches being topsoil. All debris from root sawing and/or tree removal operations shall be hauled from site and disposed of in a reasonable amount of time, as determined by the Engineer, and in accordance with any Federal, State, or Local regulations.

Dead, diseased, infected, or infested trees may not be hauled away until a permit has been obtained from the City Forester. No fee will be charged for the permit. Clearing and grubbing shall conform to Section 201 of the current State Specs.

If, in the Engineer's opinion, if it is necessary to alter the methods of construction in the plans to preserve trees and shrubs, the Contractor shall make such changes as directed. Such adjustments may include, but are not limited to, curb, sidewalk, and drive approach dimension changes, including horizontal and/or vertical alignment.

If the Engineer determines that damage to trees has occurred due to negligence of the Contractor, or failure to comply with above procedures and as directed by the Engineer, the Contractor shall be held liable for the basic formula value of such trees, based on caliper size, with such amounts to be deducted from the monies due under the contract (see following Table on the next page).

BASIC FORMULA VALUE OF TREES BASED ON CALIPER SIZE

<u>TRUNK</u> (Diameter)	<u>CROSS-SECTION AREA</u> (Square Inches)	<u>BASIC VALUE</u> (U.S. Dollars)
2		85.00
4		230.00
6		415.00
8		625.00
10		780.00
12	113	3,051.00
13	133	3,591.00
14	154	4,158.00
15	177	4,779.00
16	201	5,427.00
17	227	6,129.00
18	254	6,858.00
19	284	7,668.00
20	314	8,478.00
21	346	9,342.00
22	380	10,260.00
23	415	11,205.00
24	452	12,204.00
25	491	13,257.00
26	531	14,337.00
27	573	15,471.00
28	616	16,632.00
29	661	17,847.00
30	707	19,089.00
31	755	20,385.00
32	804	21,708.00
33	855	23,085.00
34	908	24,516.00
35	962	25,974.00
36	1,018	27,486.00
37	1,075	29,025.00
38	1,134	30,618.00
39	1,195	32,265.00
40	1,257	33,939.00

Diameter: measurements taken 4.5 ft. (1.4m) above ground level.

Basic values established at \$27.00 per square inch cross-section of trunk. Basic price based on industry survey and U.S. Department of Labor Consumer Price Index.

F. PROTECTION OF STREET LIGHTS AND TRAFFIC SIGNALS

All electrical work shall, where pertinent, conform to the Wisconsin Electrical Code and good electrical construction practices.

Where there is enclosed or unenclosed lighting cable within the project limits, care must be exercised by the Contractor to avoid damage to the cable during work. Where the Contractor or any Subcontractors damage any part of the lighting system which results in identifiable fault in the wiring, inoperative street lights or traffic signals, or an outage has occurred anywhere within the project limits, the damage shall be repaired by a qualified electrician **at the Contractor's expense** in accordance with City specifications. All lighting systems shall be kept 100% operational.

1. TIME LIMITS FOR REPAIRS

The Contractor shall have **24 hours** from the report of a problem in the existing or permanent lighting system to inspect and identify the cause, and **2 hours** for a temporary system (if applicable). Repairs shall be made no later than **3 days** after the problem is identified. Should these limits be exceeded, the Engineer reserves the right to hire a third party, independent of the Contractor, or use City workers to perform the repair(s). The cost of hiring a third party or using City workers and having them repair the damage will be paid for by the Contractor. Contractor agrees they will be informed of the final cost, which will be deducted from monies owed in a subsequent payment. In lieu of hiring a third party or using their own staff, the Engineer may also choose to fine the Contractor \$100, to be charged each day the lights are not properly functioning outside of aforementioned time limits, and to be deducted from monies owed to the Contractor.

2. TEMPORARY LIGHTING

If no plans for temporary lighting are included in the Contract Documents, the Contractor may choose, at their own expense, to maintain street lighting via overhead connections to existing poles, the installation of temporary poles and luminaires with their own wiring, or splicing (in existing wires only) around new and/or old pole bases as needed.

Any repairs and/or replacements made by the Contractor shall be incidental to the contract unless otherwise stated as a separate base bid item. Repairs shall be investigated and completed promptly in accordance with City of Wauwatosa specifications, or as instructed by the Engineer if no lighting specifications are included in the Contract Documents. The City may require temporary repairs **at the Contractor's expense**, including the installation of overhead facilities, to accelerate the return of functional electrical systems. Backfilling of the repair locations must not be done until all needed repairs have been made and inspected by the City Electrical Supervisor.

Splices in poles shall be made with reusable set-screw type connectors. Penn Union SX-2 or approved equal, copper service entrance connector, or approved equal. Complete splice with layer of nonstick varnished cambric insulating tape, followed by multiples laps of Scotch 130C rubber insulating tape, followed by multiple laps of Scotch Super 88 vinyl insulating tape. Split bolt compression connectors are not acceptable for this contract.

When applicable, cable work at existing conduit locations damaged during construction is to be corrected by utilizing newly placed conduit which has been laid as part of the contract work. Frost loops of at least 12 inches shall be provided where cables enter conduit systems. **Any direct-buried cable must be enveloped with mason sand.**

G. GENERAL CLEARANCES TO UTILITIES

The following minimum separations for city facilities should be followed when encountering other utilities within the right-of-way, unless more strict requirements are required by other governing bodies:

Water facilities	3 feet (horizontal & vertical)
Sewer pipes and laterals	2 feet (horizontal & vertical)
Lift Stations, Manholes, & Inlets	5 feet (horizontal)
Street light poles	3 feet
Street light cable	2 feet
Fiber cable and hand holes	2 feet
All other facilities not listed	2 feet