

**Rock River Water Reclamation District
Rockford, Illinois**

Bidding Requirements and Contract Forms

for

**Cavendish Drive Sanitary Sewer Extension
Special Assessment No. 134**

Bidding Requirements and Contract Forms

for

Cavendish Drive Sanitary Sewer Extension Special Assessment No. 134

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Section I
Bidding Requirements

Article 1 – Notice to Bidders

Cavendish Drive Sanitary Sewer Area Special Assessment No. 134

The Rock River Water Reclamation District, (District) will receive signed and sealed bids for the Cavendish Drive Sanitary Sewer Area, Special Assessment No. 134, at the District office located at 3501 Kishwaukee Street, Rockford, IL, until 2:00 p.m. Monday, June 15, 2020, at which time and place responsive / responsible bids will be publicly opened and read aloud in accordance with Ordinance 19 20 S 04, passed on February 24, 2020, providing therefore, a copy of which is on file with the Executive Director of the District.

The Cavendish Drive Sanitary Sewer Area, Special Assessment No. 134, consists of the construction of approximately 2,300 LF of 8" dia. PVC sanitary sewer, 41-4" dia. PVC sanitary services, 12 manholes, pipe culvert removal and replacement, pavement removal, pavement reconstruction with aggregate base course and hot-mix asphalt binder and surface course, turf restoration work, and all other appurtenances as indicated on the plans and in the specifications. This project is located in the public right-of-way of Cavendish Drive and Shelburne Drive in Cherry Valley Township, Winnebago County, IL.

Bidder's attention is called to Article 2 – Instructions to Bidders 3.8 requirements for Statement of Qualifications. Bidder must have a permanent business office within forty (40) miles of the District office located at 3501 Kishwaukee Street, Rockford, IL.

All underground construction, paving, testing and restoration shall be completed by October 30, 2020. Liquidated damages shall be \$300.00 per calendar day. The contractor will be paid in Special Assessment No. 134 vouchers at par with interest at the rate of five percent (5%) per annum.

Bid documents may be obtained at a cost of \$50.00 per set (non-fundable) by contacting the District Engineering Department at 815-387-7660.

Plans and specifications may also be viewed at the offices of the Northern Illinois Building Contractors Association at 1111 S. Alpine Rd., Rockford, IL. For more information, visit the District website at www.rwrwd.dst.il.us.

All construction will be done in accordance with specifications on file with the District, including the *General Provisions and Technical Specifications for Sanitary Sewer Construction* (Current Edition) of the Rock River Water Reclamation District of Rockford.

Each proposal must be accompanied by the District Bid Bond form with an acceptable Bid Security attached in an amount of five percent (5%) of the total bid price. This amount is a guarantee that, if the Proposal is accepted, a Contract will be entered into and its performance properly secured.

The successful bidder will be required to furnish a satisfactory Performance Bond in the full amount of the Bid or Proposal. No Bid shall be withdrawn without the consent of the District for a period of sixty (60) days after the scheduled time of receiving Bids.

The District reserves the right to reject any and all bids, or any part thereof, or to accept any bid or part thereof, or to waive any formalities in any bids, deemed to be in the best interest of the District.

Dated this 21st day of May, 2020



Timothy S. Hanson, Executive Director

Not to be used for bidding purposes

Article 2 — Instructions to Bidders

1 General

1.1 Scope and Intent

This section of the contract documents is concerned with furnishing detailed information and requirements for preparing bids to prospective bidders, bidders' responsibility, the preparation and the submission of bids, basis for awarding the contract and other general information concerned with bidding and executing the contract.

1.2 Contradictions

If in the case of apparent contradiction between or among the Contract Documents, the Contract Documents shall be consulted in the following order: Addenda, Agreement, Supplementary Drawings, Instructions to Bidders, Detailed Specifications, Plans, District General Provisions and Technical Specifications for Sanitary Sewer Construction. The language in the first such document in which language regarding the conflict, error or discrepancy occurs shall control.

2 Legal Requirements

2.1 Illinois Regulations

1. Public Act 100-1177 requires the Bidder to comply with prevailing wages in accordance with the Illinois Department of Labor Standards. The State of Illinois requires contractors and subcontractors on public works projects (including Rock River Water Reclamation District) to submit certified payroll reports via the State's Certified Transcript of Payroll Portal found at <http://www2.illinois.gov/idol/Laws-Rules/CONMED/Pages/certifiedtranscriptofpayroll.aspx>.
2. Public Act 83-1030 entitled "Steel Products Procurement Act" requires that steel products used or supplied in performance of this contract or subcontract shall be manufactured or produced in the United States with three exceptions.

The provisions of this Section shall not apply:

- a. Where the contract involves an expenditure of less than \$500.
 - b. Where the executive head of the public agency certifies in writing that
 - i. the specified products are not manufactured or produced in the United States in sufficient quantities to meet the agency's requirements, or
 - ii. obtaining the specified products, manufactured or produced in the United States would increase the cost of the contract by more than 10%.
 - c. When its application is not in the public interest.
3. Public Act 96-929 (30 ILCS 570) provides that Illinois residents be employed on Illinois public works projects, provided there has been a period of excessive unemployment (5%) in the State of Illinois as defined in the Act; and, further, that Illinois workers are available and capable of performing the particular type work involved.
 4. Public Act 99-0933 requires that any party to a contract adopt and promulgate written sexual harassment policies that include, as a minimum, the following information:
 - a. the illegality of sexual harassment
 - b. the definition of sexual harassment under Illinois State law
 - c. a description of sexual harassment, utilizing examples

- d. my (our) organization's internal complaint process including penalties
- e. the legal recourse, investigative and complaint process available through the Illinois Department of Human Rights and the Illinois Human Rights Commission
- f. directions on how to contact the Department and the Commission
- g. protection against retaliation as provided by Section 6-101 of the Illinois Human Rights Act

Upon request, this information shall be provided to the Illinois Department of Human Rights and the District.

5. With regard to nondiscrimination in employment, the Contractor for this project will be required to comply with the Illinois Fair Employment Practices Commission's Rules and Regulations.
6. The Contractor for this project shall comply with the Occupational Safety and Health Act.
7. The Contractor for this project shall comply with the Federal Drug-Free Workplace Act.
8. Public Act 96-1416 requires the Certification of Clean Construction and Demolition Debris (CCDD) and uncontaminated soil prior to disposal at a CCDD fill site. The Contractor for this project shall comply with Public Act 96-1416 and be responsible for the certifications and any fees associated with the disposal at a CCDD fill site.
 - a. In the event that contaminated soil is uncovered on the project, the Contractor shall notify the District immediately. Any extra costs resulting from the presence of contaminated soil shall be evaluated in accordance with District General Provisions & Technical Specs for Sanitary Sewer Construction; General Conditions: Article 5 – Time Provisions and Article 8 – Changes.

2.2 Americans with Disabilities Act

The Contractor for this project will comply with all applicable requirements of the Americans with Disabilities Act of 1990 (ADA). The Contractor will hold harmless and indemnify Rock River Water Reclamation District (District) and their representatives from all:

1. suits, claims, or actions
2. costs, either for defense (including but not limited to reasonable attorney's fees and expert witness fees) or for settlement
3. damages of any kind (including but not limited to actual, punitive, and compensatory damages)

relating in any way to or arising out of the ADA, to which said firm is exposed or which it incurs in the execution of the contract.

3 General Instructions

3.1 Bidder's Responsibility

Bidders are cautioned not to submit proposals until having carefully examined the entire site of the proposed work and adjacent premises and the various means of approach and access to the site, and having made all necessary investigations to inform themselves thoroughly as to the facilities for delivering, placing and handling the materials at the site, and having informed themselves thoroughly

as to all difficulties involved in the completion of all the work under this Contract in accordance with its requirements.

Bidders must examine the Plans, Specifications and other Contract Documents and shall exercise their own judgment as to the nature and amount of the whole of the work to be done and for the bid prices must assume all risk of variance, by whomsoever made, in any computation or statement of amount or quantities necessary to complete fully the work in strict compliance with the Contract Documents. The Bidder must satisfy himself by making borings or test pits, or by such methods as he may prefer, as to the character and location of the materials to be encountered or work to be performed. No pleas of ignorance of conditions that exist or that may hereafter exist, or of conditions or difficulties that may be encountered in the execution of the work under this Contract, as a result of failure to make the necessary examinations and investigations, will be accepted as an excuse for any failure or omission on the part of the Contractor to fulfill, in every detail, all of the requirements of the Contract Documents, or will be accepted as a basis for any claims whatsoever for extra compensation or for an extension of time.

The Contractor is responsible for verifying the location of all existing utilities in the project areas.

The Bidder, therefore, shall satisfy himself by such means as he may deem proper as to the location of all structures that may be encountered in construction of the work.

3.2 Addenda and Interpretations

No interpretation of the meaning of the Plans, Specifications, or other Contract Documents will be made to any bidder orally. Every request for such interpretation must be in writing addressed to the Rock River Water Reclamation District, 3501 Kishwaukee Street, Rockford, Illinois. To be given consideration, such request must be received at least five (5) days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda which, if issued, will be sent by email, fax, or certified mail with acknowledgement of receipt requested, to all prospective bidders, at the respective addresses furnished for such purposes, not later than three (3) days prior to the date fixed for the opening of bids. Failure of any bidder to receive any such addenda or interpretation shall not relieve said bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the Contract Documents.

3.3 Laws and Regulations

The prospective bidder is warned that he must comply with all laws of the United States Government, State of Illinois, all ordinances and regulations of the District in the performance of the work under this contract. The Bidder's attention is specifically called to that provision of the General Conditions regarding the rate of wage to be paid on the work.

3.4 Quantities Estimated Only

Bidders are warned that the estimate of quantities of the various items of work and materials, as set forth in the proposal form, is approximate only and is given solely to be used as a uniform basis for the comparison of bids. The quantities actually required to complete the contract work may be less or more than so estimated, and if awarded a contract for the work specified, the Contractor further agrees that he will not make any claim for damages or for loss of profits or for an extension of time because of a difference between the quantities of the various classes of work assumed for comparison of bids and quantities of work actually performed.

3.5 Form, Preparation, and Presentation of Proposals

For particulars as to the quantity and quality of the supplies, materials and equipment to be furnished, and the nature and extent of the work or labor to be done, prospective bidders are referred to the Contract Documents, which may be examined or obtained at the office of the District.

Each bid will be submitted upon the prescribed proposal form. All blank spaces for bid prices must be filled in, in ink, with the unit or total sum or both for which the proposal is made. If the proposal contains any omissions, erasures, alterations, additions or items not called for in the itemized proposal, or contains irregularities of any kind, such may constitute sufficient cause for rejection of bid. In case of any discrepancy in the unit price or amount bid for any item in the proposal, the unit price as expressed in figures will govern. In no case is the agreement form to be filled out or signed by the bidder.

Bidders may opt to contact the District's Engineering Department at 815.387.7660 to obtain an electronic Proposal form. If used, this form must be attached to the hard copy proposal form and appropriately signed and executed with the bid.

The bid must be verified and be presented on the prescribed form in a sealed envelope on or before the time and at the place stated in the Advertisement for Bids, endorsed with the name of the person, firm or corporation presenting it, the date of presentation, and the title of the work for which the bid is made. If forwarded by mail, the sealed envelope containing the proposal and marked as directed above, must be enclosed in another envelope addressed to Clerk of the Rock River Water Reclamation District, 3501 Kishwaukee Street, Rockford, Illinois, 61109 and be sent preferably by certified mail. The District will not accept facsimile generated bids.

3.6 Bid Security

Each proposal must be accompanied by the District Bid Bond form with an acceptable Bid Security attached, in the amount specified in Article One, Notice to Bidders. This sum is a guarantee that, if the Proposal is accepted, a contract will be entered into and its performance properly secured. The District's Bid Bond Form included in the bid packet must be used. No other Bid Bond form may be substituted.

Within ten (10) days after the opening of bids, the deposits of all but the three lowest bidders will be returned. The deposits of the remaining two unsuccessful bidders will be returned within three (3) days after the execution of the contract, or, if no such contract has been executed, within sixty (60) days after the date of opening bids. The deposit of the successful bidder will be returned only after he has duly executed the contract and furnished the required bond and insurance.

3.7 Affidavit of Compliance

Each proposal must be accompanied by an executed Affidavit of Compliance. A separate Affidavit of Compliance form is enclosed with the Proposal packet. Failure to submit an executed Affidavit of Compliance with the proposal may constitute sufficient cause for rejection of the bid.

3.8 Statement of Qualifications

Each proposal must be accompanied by a Statement of Qualifications certifying that the bidder is registered to do business in the State of Illinois, has a permanent business office within forty (40) miles of the District office at 3501 Kishwaukee Street in Rockford, IL, and provides documentation that the bidder possesses the appropriate financial, material, equipment, facility and personnel resources and expertise necessary to meet all contractual obligations. The bidder shall document no less than three (3) contracts for sanitary sewer system within the past five (5) years having equal or greater value to the bid being submitted. The District reserves the right to request additional information as needed to evaluate bids prior to making an award.

3.9 Comparison of Proposals

Bids on item contracts will be compared on the basis of a total computed price arrived at by taking the sum of the estimated quantities of each item, multiplied by the corresponding unit prices and including any lump sum bids on individual items, in accordance with the estimate of quantities set forth in the proposal form. Bids on lump sum contracts will be considered upon the basis of the lowest sum bid.

3.10 Acceptance of Bids and Basis of Award

No bidder may withdraw his bid after the scheduled closing time for receipt of bids, for at least sixty (60) days.

The contract will be awarded, if at all, to the lowest responsive, responsible bidder. The Rock River Water Reclamation District also reserves the right to reject any or all bids.

The bidder whose proposal is accepted shall enter into a written contract for the performance of the work and furnish the required bonds and insurance certificate within ten (10) days after written notice by the Engineering Manager of the District has been served on such bidder personally or by mailing a postpaid wrapper to such bidder at the address given in his proposal. If the bidder to whom the contract is awarded refuses or neglects to execute it or fails to furnish the required bond and insurance within five (5) days after receipt by him of the notice, the amount of his deposit shall be forfeited and shall be retained by the District as liquidated damage and not as a penalty. It being now agreed that said sum is a fair estimate of the amount of damages that the District will sustain in case said bidder fails to enter into a contract and furnish the required bond and insurance. No plea of mistake in the bid shall be available to the bidder for the recovery of his deposit or as a defense to any action based upon the neglect or refusal to execute a contract.

3.10.1 Evaluation of Responsiveness

The responsiveness of bidders will be judged on the basis of the completeness of the bid submitted. To be responsive, a Bid must be submitted on the forms provided as part of the Bid Documents and comply with all the requirements of the Instruction to Bidders.

3.10.2 Evaluation of Responsibility

To be judged as responsible, the bidder shall:

- a. Have adequate financial resources for performance, the necessary experience, organization, technical qualifications, and facilities, or a firm commitment to obtain such by subcontracts;
- b. Be able to comply with the required completion schedule for the project;
- c. Have a satisfactory record of integrity, judgment, and performance, including, in particular, any prior performance on contracts from the District;
- d. Have an adequate financial management system and audit procedures, that provide efficient and effective accountability and control of all property, funds, and assets;
- e. Conform to the civil rights, equal employment opportunity and labor law requirements of the Bid Documents.
- f. Have satisfactorily completed no less than three (3) sanitary sewer system contracts within the past five (5) years of equal or greater value to the bid being submitted.

3.11 The Rejection of Bids

The District reserves the right to reject any bid if the evidence submitted in the statement of the bidder's qualifications, or if investigation of such bidder fails to satisfy the District that such bidder is

properly qualified to carry out the obligations and to complete the work contemplated therein. Any or all proposals will be rejected if there is reason to believe that collusion exists among the bidders. Conditional bids will not be accepted. The District reserves the right to reject any and all bids and to accept the bid which they deem most favorable to the interest of the District after all proposals have been examined and canvassed.

3.12 Insurance and Bonding

Contractor shall provide all necessary insurance and bonds required to complete the project. No more than ten (10) calendar days subsequent to the District's issuance of an award letter, the Contractor shall provide documentation to prove that he has obtained all required insurance and bonds. The District shall be the sole judge as to the acceptability of any such proof.

Contractor shall provide and maintain all insurance and bonds as required by the District.

3.12.1 General

The Contractor shall ensure that:

1. All insurance policies shall be specific to the project.
2. The insurance certificate shall state: This certifies that the insurance coverage meets or exceeds that required for Cavendish Drive Sanitary Sewer Extension, Special Assessment No. 134.
3. The District shall be named as Additional Insured in all policies; this shall include the Owners Contractors Protective Policy option.
4. All completed operations coverages and bonds shall remain in force for a period of two (2) years following acceptance of the project and completed operations shall stay in force for two (2) years following completion of the project.

3.12.2 Insurance

The Contractor shall, for the duration of the contract and for two (2) years following project acceptance, maintain the following:

1. General Liability: \$1,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project or the general aggregate limit shall be twice the required occurrence limit. The Contractor shall provide "XCU" coverage.
2. Automobile Liability: \$1,000,000 combined single limit per accident for bodily injury and property damage including coverages for owned, hired or non-owned vehicles, as applicable.
3. Workers' Compensation and Employers Liability: Workers' Compensation limits as required by statute and Employers Liability limits of \$500,000 per accident and \$500,000 per disease.
4. Umbrella: \$2,000,000 per occurrence/aggregate for contracts valued at \$500,000 or over, or \$1,000,000 for contracts below \$500,000. \$10,000 is maximum allowable self-retained limit.
5. Errors and Omissions: If the Contractor performs professional services, he shall maintain errors and omissions insurance with a limit no lower than \$1,000,000 for the duration of the contract.

The policies shall contain, or be endorsed to contain, the following provisions in the General Liability and Automobile Liability Coverage's:

- a. Unless otherwise provided in paragraph "c" of this section, the District, its officers, officials, employees and volunteers shall be covered as additional insureds as respects liability arising out of activities performed by or on insured's general supervision of the Contractor, products and completed operations of the Contractor, premises owned, occupied or used by the Contractor, or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the District, its officers, officials, employees, volunteers, or agents.
- b. Unless otherwise provided in paragraph "c" of this section, the Contractor's insurance coverage shall be primary insurance as respects the District, its officers, officials, employees, volunteers, and agents. Any insurance or self-insurance maintained by the District, its officers, officials, employees, volunteers, or agents shall be excess of the Contractor's insurance and shall not contribute with it.
- c. As an acceptable alternative to provisions "a" and "b" of this section, the Contractor may provide owner's and contractor's protective liability insurance with coverage limits, named insureds, and in conformity with all applicable specifications of this section.
- d. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the District, its officers, officials, employees, volunteers, or agents.
- e. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
- f. All Coverages — Each insurance policy required by this clause shall not be suspended, voided, canceled by either party, reduced in coverage, or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the District.

3.12.3 Best's Ratings

The District shall be the sole judge of whether or not said insurer's ratios are satisfactory. The District's decision shall be final and the District's bidding procedures contain no appeal provision.

1. **Alphabetical Rating:** For purposes of this Request for Bids, "insurer" shall mean any surety, insurance carrier, or other organization which proposes to provide an insurance policy or bond for the Contractor. No insurer or surety rated lower than "A-, Excellent" in the current *Best's Key Rating Guide* shall be acceptable to the District.
2. **Financial Size Rating:** Provided an insurer's alphabetical rating is satisfactory, the District will examine said insurer's financial size rating.
 - a. If Best classifies the insurer XII or larger, said insurer shall be acceptable to the District.
 - b. If Best classifies the insurer as smaller than XII, but larger than VI, said insurer shall be submitted to the District's Business Manager and/or the District's insurance consultant for review.

Financial Size ratings less than VII are not acceptable and will disqualify the Contractor.

3.12.4 Performance Bond and Labor & Materials Payment Bond Form

The Contractor shall provide a Performance Bond and Labor & Materials Payment Bond form acceptable to the District. The performance bond shall be for either 100% of the contract price or for the Contractor's unit price times the estimated number of units, as applicable.

This Request for Bids contains a Performance Bond and a Labor & Material Bond form for the Contractor's use.

If the Contractor fails to provide acceptable bonds within the specified time, he shall be in default.

3.12.5 Correction of Contractor's Insurance or Bond Deficiencies

If the District determines that the Contractor's insurance or bond documentation does not conform to these specifications, the District shall inform said Contractor of the non-conformity. If said Contractor fails to provide conforming insurance or bond documentation within five (5) calendar days of the District's deficiency notice, he shall be in default.

3.12.6 Indemnification Clause

Contractor shall protect, indemnify, hold and save harmless and defend the District, its officers, officials, employees, volunteers, and agents against any and all claims, costs, causes, actions and expenses, including but not limited to attorney's fees incurred by reason of a lawsuit or claim for compensation arising in favor of any person, including the employees, officers, independent contractors, or subcontractors of the Contractor or District, on account of personal injuries or death, or damages to property occurring, growing out of, incident to, or resulting directly or indirectly from the performance by the Contractor or subcontractor, whether such loss, damage, injury or liability is contributed to by the negligence of the District or by premises themselves or any equipment thereon whether latent or patent, or from other causes whatsoever, except that the successful bidder shall have no liability for damages or the costs incident thereto caused by the sole negligence of the District.

The indemnification shall not be limited by a limitation on amount or type of damages payable by or for the Contractor or its subcontractor under any employee benefits act including, but not limited, to the Workers Compensation Act.

No inspection by the District, its employees, or agents shall be deemed a waiver by the District of full compliance with the requirements of the Contract. This indemnification shall not be limited by the required minimum insurance coverages in the Contract.

3.13 Tax Exemption

The District is exempt, by law, from paying bidder Federal Excise Tax and Illinois Retailers' Occupational Tax. Therefore, the bidder shall exclude those taxes from his bid. The District's tax exemption number is E9992-3696-06. The bidder shall include all applicable taxes in his bid price.

Article 3 – Detailed Specifications

1 General

This article contains detailed specifications relating to Proposal items. The work to be done under each item is discussed along with units for payment and measurement for payment. However, the descriptions given do not necessarily outline all the work to be done under any item. All work shall conform to the *Standard Specifications for Water and Sewer Main Construction in Illinois*, current edition, the *Rock River Water Reclamation District (District) General Provisions and Technical Specifications for Sanitary Sewer Construction*, and applicable sections of the current edition of the *Illinois Department of Transportation's Standard Specifications for Road and Bridge Construction (IDOT Standard Specifications)*.

Throughout these specifications, the term “Owner,” “District,” and “Engineer” shall be synonymous.

In case of apparent contradictions between Article 3 - Detailed Specifications and the District's *General Provisions and Technical Specifications for Sanitary Sewer Construction*, these Detailed Specifications shall govern.

The Contractor shall transport all waste material, pipe, pavement, sewer and debris, etc., removed during construction to an approved offsite dumping area and shall pay all tipping fees. When construction is halted due to rain, the Contractor shall clean up all work areas and ensure that proper surface drainage is provided before leaving the site.

This project extends through the public right-of-way of Shelburne Drive and Cavendish Drive in Cherry Valley Township, IL.

The Contractor shall confine all work operations strictly within the limits shown on the plans. Minor adjustments to the proposed sewer alignments due to obstructions in the field may be made with prior District approval to facilitate construction.

All removal limits shown on the plans shall be adhered to by the Contractor. Any damage to appurtenances outside these limits, including but not limited to pavements, curbs, drainage pipes/structures, signs, mailboxes, retaining walls, landscaped/turf areas, and/or trees, shall be repaired, restored and/or replaced to the District's satisfaction at no additional cost to the Contractor.

Any construction performed in the absence of a District Inspector shall not be accepted.

No work shall be permitted on Sundays without prior approval by the District Director of Engineering.

Suppliers shall warrant their products and product components as suitable and fit for the intended purpose and that they are free from all material, design, and manufacturing defects. Said warranty shall extend to the benefit of the Owner and District and shall apply to all products and product components whether supplied or fabricated as a result of these Specifications.

The District will not supervise, direct, control, have authority over or be responsible for the Contractor's means, methods, techniques, sequences, procedures of construction, safety precautions and programs incident, thereto, or for any failure of the Contractor to comply with Laws and Regulations applicable to the furnishing or performance of the Work. The District will not be responsible for the Contractor's failure to perform or furnish the Work in accordance with the Contract Documents.

The Contractor shall be responsible for all tests of materials and final installation required by the District. All deficiencies noted by the inspectors shall be corrected by the Contractor without cost to the District and prior to final payment.

The Contractor shall restore all disturbed areas to near-original contour and state (unless otherwise indicated by the Construction Plans), graded and raked to a neat, well-drained condition. All disturbed turf areas shall be seeded, as hereinafter noted, after approval by the District of the prepared topsoil bed. Any damage to pavements, driveways, seeded areas, trees and/or other vegetation, fences, landscaping, structures, fixtures, etc., beyond the right of way limits shall be replaced or repaired by the Contractor at no additional cost to the District.

All work in streets, railroads, highways or flood plains shall be subject to the regulations and requirements of the jurisdictional agencies or as identified in these Detailed Specifications. Should conflicts or contradictions arise between the plans, specifications and the roadway, railroad or waterway permits, the permits shall govern.

Excavated or other materials shall not be stored or cast upon the pavement. Upon completion of work within the street, railroad, or highway (or flood plain), the Contractor shall restore the disturbed areas in accordance with the requirements of the governing agency.

The Contractor shall provide traffic control personnel and/or equipment as required by the agency that owns, maintains, or governs said roadways or railroads.

The Contractor's workforce shall include a person competent in ensuring compliance with OSHA trenching and excavation requirements. This person must be present on-site at all times during construction and must be deputized to take any prompt preventative or corrective actions needed to avoid, prevent or mitigate existing and potential hazardous working conditions.

2 Notification, Access and Special Considerations

2.1 General

Utility locations shown on the plans are based on records available at the time of design and are not guaranteed. The location and/or elevation of existing underground utilities, such as gas mains, water mains, electric lines, storm sewers, field tiles, septic system field lines, etc., shall be determined by the Contractor. The Contractor shall assume full responsibility for all utility locations. The Contractor shall notify all utilities forty-eight (48) hours minimum prior to beginning any work by contacting JULIE at 800.892.0123 and all other utilities not on the JULIE network. All underground utilities shall be located in the field by the utility or duly authorized representative. All water infrastructure is owned by Utility Services of Illinois, Inc. Locations

shown on the plans are based upon record drawings and are approximations. Proper notification must be provided to Utility Services well in advance of construction commencing; point of contact is Keith Benson (Keith.Benson@uiwater.com, 847.370.7461). The Contractor shall exercise special care when excavating near underground and overhead utilities to avoid damage. Damaged utilities shall be repaired or replaced to the satisfaction of the Utility owner at the Contractor's sole expense. The Contractor shall be solely responsible for the protection, restraint and support of all utilities.

The Contractor shall notify the District, all affected property owners and public roadway authorities (Village of Roscoe, IDOT) seven (7) calendar days, minimum, prior to beginning any work. Said notification shall apply to business days only, not weekends.

Contractor shall notify all affected Property Owners and Lessees of the impending Construction Project as soon as feasible and a minimum of seven (7) calendar days prior to the Start of Construction. All construction on or near driveways shall be coordinated in advance with the individual property owners to ensure that construction operations will have minimal impact on residential access. The Contractor shall be responsible for the temporary maintenance of all roadways, driveways, and field entrances over the course of this for the duration of construction (i.e. drives, roadways, ramps, etc., must remain open to vehicular traffic; temporary accesses must be provided, as necessary). All materials, equipment, labor, etc., needed to ensure this shall be included in the various Contract unit prices.

The Contractor shall coordinate all traffic control with Cherry Valley Township. The roads shall remain open to local traffic as feasible; if a short term full closure is necessary then temporary detours shall be installed for the guidance of local traffic.

Any damage caused by the Contractor's operations to areas outside of the specified project removal and right of way limits, including but not limited to roadway pavements, driveway pavements, drainage structures, storm sewer, underground utilities, overhead utilities, turf areas, and landscaped areas shall be repaired and/or replaced by the Contractor at no additional cost.

The Contractor shall clean up areas from which spoil has been removed at the end of each day by sweeping, washing or other approved methods. Any open excavations shall be protected by temporary construction fence at the completion of work each day.

The Contractor is responsible for any damages caused by his operations to existing structures above or below the ground as covered in G.C. 12:1 of the District's *General Provisions and Technical Specifications for Sanitary Sewer Construction*.

The Contractor shall temporarily relocate any mailbox affected by construction and work with United States Postal Service (USPS) officials to provide uninterrupted and accessible mail service. The Contractor shall reinstall mailboxes and turnouts to their original positions (or alternate approved location per the USPS). With approval from the USPS and Cherry Valley Township the Contractor may install temporary mailboxes should construction operations impact the uninterrupted mail service. All costs associated with mailbox relocation, reinstallation, and/or

temporary facilities shall be considered included in the various pay items and no additional compensation shall be awarded.

The Contractor shall not damage, disturb, remove or otherwise eliminate any survey monument, monument tie, lot pin, right-of-way marker, etc., until the exact locations have been recorded by a Professional Land Surveyor currently licensed in the State of Illinois. The Contractor shall enlist the services of a registered Illinois Professional Land Surveyor to locate, document and restore/reset any and all monuments damaged or disturbed as a result of construction. No separate payment will be made for this work.

The Contractor shall provide, and have available on site at all times, a calibrated level and rod.

Per Article 1 – Notice to Bidders, all work shall be completed by October 30, 2020.

IDOT Highway Standards Included in this Contract:

1. Standard 280001-07: Temporary Erosion Control Systems
2. Standard 542401-03: Metal Flared End Sections for Pipe Culverts
3. District 2 Standard 40.1: Traffic Control for Road Closure

Notifications

- Minimum seven (7) calendar day notification to all properties before beginning work.
- Minimum seven (7) calendar day notification to the District prior to beginning any work.
- Minimum seven (7) calendar day notification to Cherry Valley Township Highway Commissioner (Scott Franz, 815.874.8100, cvthighway@comcast.net) prior to beginning any work.

2.2 Required Submittals – Not used.

2.3 Measurement and Payment

No separate payment will be made for costs associated with notification, access, and special considerations.

3 Permit Requirements

3.1 General

All work in streets, highways, railroad right-of-way and utility easements or right-of-way shall be subject to the regulations and requirements of the jurisdictional agencies. Should conflicts or contradictions arise between the plans, specifications and the roadway, railroad, or utility permits, the permits shall govern.

Unless noted otherwise, the Contractor shall be responsible for securing any necessary permits, and for securing all bonds, insurance, right of entry, etc., and paying all fees required by any and all permits. Copies of all secured permits shall be provided to the District prior to the start of construction. The Contractor shall comply with all provisions of permits secured or required for this project.

It shall be the Contractor's responsibility to secure any additional temporary or permanent access, storage or construction easements deemed necessary from property owners prior to performing the work as shown on the plans and outlined in the specifications.

3.2 Required Submittals

1. Copies of signed permits, as applicable.

3.3 Payment

The cost of procurement of and compliance with any and all permit requirements shall be included in the various Contract unit prices and no additional compensation will be awarded.

4 Erosion and Sediment Control

4.1 General

The total disturbed area for this project is estimated to be more than 1.0 acre. A Notice of Intent (NOI) and a Storm Water Pollution Prevention Plan (SWPPP) has been submitted to the Illinois Environmental Protection Agency (IEPA).

The Contractor shall comply with all the requirements of the IEPA's *Illinois Urban Manual*, current edition and Section 280 of the *IDOT Standard Specifications*. All disturbed areas shall be restored to near-original contours and seeded in accordance with the "*Seeding, Class 1 with Fertilizer*" Section of these Detailed Specifications.

The erosion control devices, materials, and procedures specified in these Contract documents are to be considered a minimum. Additional devices or materials may be required based on site conditions encountered, at the direction of the Engineer. Any devices, material, or procedures required by the Engineer due to the Contractor's actions or negligence will be provided at no additional cost to the District.

The Contractor shall take whatever measures the District deems necessary to eliminate excessive erosion or siltation, including, but not limited to, inlet protection, seeding, sodding, erosion control blanket, silt fence, etc.

The Contractor shall keep the road right-of-way free from all dirt and construction debris at all times during construction.

The Contractor shall remove and dispose of all temporary erosion control devices within thirty (30) days of final site stabilization after approval by the District.

4.2 Required Submittals – Not used.

4.3 Payment

This work will be paid for as hereafter outlined below under the following pay items: **Stabilized Construction Entrance, Perimeter Erosion Barrier, Inlet and Pipe Protection, Temporary**

Ditch Checks, and Seeding, Class 2 with Fertilizer, installed and/or complete in place. No separate payment shall be made for erosion control beyond these pay items.

5 Dewatering

5.1 General

Contractor shall use all means at his disposal to maintain dry trenches to the satisfaction of the District.

If dewatering is required, well point permits must be obtained from the Winnebago County Health Department (WCHD). Well point installation, maintenance, operation and removal shall be per WCHD requirements. The WCHD shall be notified prior to well placement and removal.

Groundwater will not be allowed to be pumped on existing ground surfaces or pavements where it may cause a traffic nuisance, or into existing sanitary sewers; it shall be discharged to points acceptable to the District, with all erosion control requirements and specifications taken into consideration.

Any permits required to perform dewatering work on this project shall be secured by the Contractor; it shall be the Contractor's responsibility to provide any bonds, insurance, guarantees, etc. as required by said permit. Abandonment of dewatering facilities shall be performed in accordance with pertinent State and County requirements.

If generators are required on a twenty-four (24) hour basis, the noise level must be restricted to a level of 90 decibels or less.

5.2 Required Submittals

1. Copy of permits, as applicable.

5.3 Payment

This work shall be considered included in the various pay items and no additional compensation will be made.

6 Sanitary Sewer, PVC SDR35, 8" Dia.

6.1 General

The work under this item includes all labor, equipment, materials, permits, mobilization, site preparation, dewatering, trench excavation, utility restraint and protection, pipe bedding, backfilling and compaction, furnishing and installing sanitary sewer pipe, as directed or required, on grade and in line according to the plans and specifications. This item shall also include all required sanitary sewer testing, wye or tee fittings, adapters and risers as required, special embedment, power tamping, dust control, supervision, transportation, and any other item necessary to satisfactorily install and test the new sanitary sewer system.

Sanitary sewer pipe that varies ± 0.02 feet from the proposed grade and/or ± 0.15 feet from the proposed line will not be accepted. More stringent tolerances may be required in the field as directed by the District. The Contractor shall be solely responsible for setting and maintaining proper lines and grades for all work. The District shall not be obligated to establish construction grade or alignment.

The Contractor shall provide at least one (1) laser device for setting lines and grades of sub-grade and pipe inverts during all phases of construction. The device(s) shall be of acceptable design and maintained in good working condition for the duration of the project. The Contractor shall employ workers competent in the setup and operation of said device(s). Said device(s) shall be operated at no extra cost to the District.

Sanitary sewer pipe and pipe-laying methods must conform to the requirements of the District's *General Provisions and Technical Specifications for Sanitary Sewer Construction* and as stated elsewhere herein.

6.2 Pipe Bedding and Trench Backfill

Pipe Bedding:

Pipe bedding for PVC pipe shall be Class IA per ASTM Standard D2321. Prior to placement of the pipe bedding, the condition of the trench bottom shall be modified, as shown on the plans or as otherwise directed, in accordance with the requirements of the **Sanitary Sewer Trench Subbase Improvement** pay item. All trench subbase improvements shall be included in that pay item and no additional compensation for trench subbase improvement shall be considered. The trench bottom shall be bedded with six inches (6") minimum crushed stone foundation. Crushed stone shall be placed to a minimum of twelve inches (12") above the top of the pipe. The pipe manufacturer's bedding recommendations shall be followed, if they are at variance with the above-specified criteria the most stringent requirements shall be met.

Bedding shall be graded such that it precludes the migration of trench wall material into the bedding; the District shall approve this bedding material after the characteristics of the trench are determined. In the event that the trench bottom is unstable as determined by the District, the Contractor shall undercut the trench as required and furnish foundation material at no additional cost to the District. The foundation material shall be a coarse aggregate material of a gradation distribution that will inhibit the migration of the bedding material into trench bottoms and walls.

Prior to placement, the trench bottom shall be graded to a firm, level, uniform base for the bedding. Bedding gradation shall be such that it precludes migration of trench wall material into the bedding. In the event the water table is above the bottom of the pipe bedding, or the trench bottom is unstable or unsuitable, a porous granular foundation meeting IDOT gradation CA-3 shall be installed as necessary below the granular bedding material, extending to the limits of the bedding diagram provided on the District *Standard Detail Sheet* at no additional cost to the District.

Trench Backfill:

The Contractor shall use approved select trench backfill to the level of the base under all roads, shoulders, sidewalks, driveways, parking lots or pavements of any kind and beyond such pavements as set forth in the District's *General Provisions and Technical Specifications for*

Sanitary Sewer Construction T.S. 2:4–c. Select trench backfill under said structures shall be either Fine Aggregate in accordance with Article 1003.04 of the *IDOT Standard Specifications* or Coarse Aggregate in accordance with Article 1004.05 of the *IDOT Standard Specifications*, placed and compacted in accordance with Method 1 of Article 550.07 of the *IDOT Standard Specifications* to the sub-grade elevation of the road shoulder, sidewalk, driveway, parking lot or other pavement. Materials shall also be in accordance with Section 208 of the *IDOT Standard Specifications*.

The Contractor shall exercise care not to disturb any existing utilities during backfilling and compaction operations.

The Contractor shall furnish a backhoe and operator during the testing of the backfill placed during construction. All select trench backfill shall be compacted to ninety-five percent (95%) of Standard Proctor density; all other backfill shall be compacted to ninety percent (90%) minimum of Standard Proctor density. All compaction tests shall be performed at the Contractor's expense by an approved, independent geotechnical-testing firm. If the tests do not meet the compaction requirements specified above, the area shall be both re-compacted and re-tested at the Contractor's expense until the test requirements are met. Use of vibratory rollers will not be permitted on this project.

If initial tests indicate compaction requirements are being met, no further lift testing will be required unless the method, equipment or material changes. The final lift must be tested.

For granular backfill a vibratory plate, or other approved equipment-mounted compaction equipment, must be used by the Contractor to compact the backfill in lifts not to exceed twelve inches (12"). Water-jetting, ponding or flooding will not be permitted as a means of trench compaction on this project.

The Contractor shall use reasonable care while backfilling over the sewer. No materials such as rocks or boulders shall be allowed to be dropped directly on the sewer pipe. If these materials are present in the backfill, the Contractor shall bring bedding material to a point 24" above the crown of the pipe. The cost of this additional granular material shall be considered incidental to the Contract unit price per Linear Foot of sanitary sewer installed.

Contractor shall properly dispose of all spoil at no additional cost to the District.

The Contractor shall provide a three (3) year guarantee against trench settlement upon completion of the project and shall repair any settlement that occurs during the guarantee period.

6.3 Materials

Pipe:

PVC pipe shall be SDR35 meeting the requirements of ASTM D-3034 with joints conforming to ASTM D-3212.

All material tests shall be in accordance with manufacturer and District requirements and shall comply with all applicable ASTM specifications. Manufacturer material specifications and

certifications for all castings, pipes, fittings, connectors, adapters, etc., must be furnished, upon request, for all materials to be used under this contract.

6.4 Required Submittals

1. Pipe and fitting material specifications.
2. Material gradation certifications for proposed bedding material and select trench backfill.

6.5 Measurement and Payment

Measurement for payment shall be horizontal along the centerline of the installed pipe from center-of-manhole to center-of-manhole. Payment will be made at the Contract unit price per Linear Foot of **Sanitary Sewer, PVC SDR26, 8" Dia.**, installed, complete in place.

7 Sanitary Manhole, 4' Dia. Sanitary Manhole, 5' Dia.

7.1 General

This work shall consist of all labor, equipment, materials, transportation, excavation, accessories, trench backfill, and performance of all operations required to furnish and install precast concrete sanitary manholes as directed by the District, all in accordance with the District's *Standard Detail Sheet* and Article 6:3 and 7 of the District's *General Provisions and Technical Specifications for Sanitary Sewer Construction*. Work shall also include furnishing and installing a District-approved manhole frame and lid (Neenah R-1670, or East Jordan E-1117) adjusted to grade as indicated on plans. Contractor shall field-verify all proposed rim elevations.

Flat top manholes will not be permitted for this project; eccentric cone sections are required on all manholes unless otherwise noted.

All standard manholes shall be successfully vacuum tested per ASTM C-1244 "Standard Test Method for Concrete Sewer Manholes by the Negative Pressure (Vacuum) Test" prior to placing into service.

Manhole shop drawings shall be submitted to the District for approval prior to manufacture and delivery to the site and shall include a specific detail for each manhole showing the number and height of barrel sections, height of cone section, number and size of adjusting rings, location and spacing of steps and elevations of all pipe openings. A plan view shall be provided showing the orientation of pipe openings.

Manhole steps:

District approved manhole steps shall be provided with a maximum spacing of 16". The top of the pre-cast cone section shall be set at an elevation that will allow the frame to be adjusted (12" maximum) without disturbing the cone section.

Manhole Adjustment:

The Contractor shall field verify all proposed rim elevations and shall construct manholes in conformance with manhole adjustment requirements. Manhole frames shall be set at finished

grade in paved areas. Concrete adjusting rings shall be standard reinforced concrete pipe type. Minimum ring thickness shall be two inches (2"). Maximum ring thickness shall be twelve inches (12"). Adjusting rings shall conform to ASTM C478 and ASTM C139, latest revision. Concrete for adjusting rings: Class "A" as specified in T.S. 5:3(a) in the District's *General Provisions and Technical Specifications for Sanitary Sewer Construction*. Absorption shall comply with ACI Specification P-I-C and ASTM C139, latest revision.

All adjusting ring joints shall be sealed watertight by means of EZ Stik, Kent-Seal, or equal (including cast iron frame to concrete adjusting ring). Minimum adjusting ring height is four inches (4"). Maximum adjusting ring height is twelve inches (12"). No more than thirty inches (30") from the top of casting to the first step will be allowed. A maximum of one (1) 2" adjusting ring will be allowed.

No adjusting rings are required for manholes in turf areas or in roadways with curb and gutter.

In roadways only: metal or plastic shims will be required if the casting in the roadway must be pitched to match the slope of roadway pavement. Shims must be equally spaced with no more than one-inch (1") of total adjustment. If frame is shimmed, no butyl materials seal (E-Z Stik, Kent-Seal, or equal) will be allowed under the casting. The void area between the casting, and masonry shall be grouted from the outside to the inside face of the adjusting ring, filling the entire void. No trench compaction shall take place until the concrete has cured and hardened to the District's satisfaction. Final manhole adjustment shall meet additional requirements of the governing roadway authority.

The Contractor shall install a District-approved external casting seal on all proposed manholes as indicated on the *Standard Detail Sheet* and shall install District-approved external seals on all manhole barrel section joints (Cretex, Mac Wrap or CANUSA Wrapid Seal).

Manhole Connections:

The Contractor shall field verify all materials, sizes, and elevations of all existing pipes to be connected. Pipe connections to new manholes shall be made by means of a watertight flexible pipe to manhole connector meeting the requirements of ASTM C923 entitled "Resilient Connectors between Reinforced Concrete Manhole Structures and Pipes." Integrally cast and expandable gaskets are acceptable. The design shall be in accordance with the manhole and pipe manufacturer requirements and shall receive prior District approval.

The Contractor shall construct a paved manhole bench in each manhole per the *Standard Detail Sheet* or per the District's direction.

7.2 Required Submittals

1. Manhole shop drawings including a specific detail for each manhole showing the number and height of barrel sections, height of cone section, number and size of adjusting rings, location and spacing of steps and elevations and sizes of all pipe openings. A plan view shall be provided showing the orientation of pipe openings.
2. Frame and lid material specifications.
3. Chimney seals material specifications.

4. Barrel joint seals material specifications.
5. Manhole to pipe transition couplings material specifications.
6. Manhole steps material specifications.
7. Sealant material specifications.

7.3 Payment

This work will be paid for at the Contract unit price per Each **Sanitary Manhole, 4' Dia.** and **Sanitary Manhole, 5' Dia.** constructed, complete in place, and shall include all labor, equipment, and materials.

8 Connect to Existing Sanitary Manhole

8.1 General

This work shall consist of connecting the proposed new sanitary sewer pipe to the existing sanitary Manhole #149-082 to the elevation indicated on the plans, and shall include all labor, equipment, and materials as required to establish the new invert.

The opening for the pipe connecting into the manhole shall be core-drilled in the field and a flexible pipe to manhole connector shall be installed in accordance with ASTM C-923.

Existing manhole inverts/benches shall be modified as necessary, prior to pipe installation and replaced after pipe installation is complete to ensure smooth and unobstructed flow through the manhole. All inverts shall be restored to equal or better than the existing condition. If necessary, sanitary sewer bypass pumping must be maintained until newly placed manhole inverts are in place and properly cured, per District requirements.

Any damage done to the existing manhole shall be repaired by the Contractor to the satisfaction of the District, at the Contractor's expense.

8.2 Required Submittals – Not used.

8.3 Payment

This work will be paid for at the contract unit price per Each for **Connect to Existing Sanitary Manhole**.

9 Sanitary Sewer Service, PVC SDR26 (WMQ), 4' Dia.

9.1 General

Work under this item includes mobilization, site preparation, dewatering, trench excavation, backfilling and compaction, special pipe bedding, furnishing and installing: four-inch (4") diameter PVC (SDR 26) water main quality ("WMQ") sanitary service pipe per ASTM D-2241 with ASTM D-3139 gaskets, from the sewer main to the roadway right-of-way limits as shown on the plans (or as otherwise directed by the District), service risers as shown or directed, bends and air-tight stoppers in the upper end of each service. Service risers will be required at the main where the depth of the sewer main exceeds 13 feet. The risers must be 11.5 feet vertical, minimum, below the first floor elevation,

unless otherwise directed or shown on the plans. Where directed or required, the District's Alternative Service Riser Detail shall be used, as shown on the Standard Detail Sheet. Cleanout risers are required at all service termini.

With prior District approval, the sewer service locations may be changed from those shown on the plans. Where possible, the service shall be installed at the property owner's requested location, unless interferences with utilities, grade concerns or other conflicts prohibit the installation of the service at the desired location. No additional payment will be awarded for changes in service locations.

Trench foundation, bedding and pipe laying requirements for PVC services shall be per Article 6.2 above.

9.2 Materials

Sanitary service pipe shall be PVC SDR 26 PVC WMQ pipe meeting the requirements of ASTM D-2241 with joints conforming to ASTM D-3139.

9.3 Required Submittals

1. Pipe, fitting, and repair coupling material specifications.
2. Material gradation certifications for proposed bedding material and select trench backfill.

9.4 Measurement and Payment

This work will be paid for at the Contract unit price per Each **Sanitary Sewer Service, PVC SDR26 (WMQ), 4" Dia.**, installed, complete in place.

10 Reconnect Existing 4" Dia. Sanitary Sewer Service

10.1 General

This work shall consist of furnishing and installing new sanitary sewer service pipe (SDR26 WMQ) between the proposed sanitary sewer main and the remaining upstream portions of the existing sanitary service to the property line (or point of connection as shown on the plans) for the service to 3499 Shelburne Drive. This item shall include all necessary earth excavation, materials, pipe, risers, fittings, labor, bedding, trench backfill and compaction, temporary plugs, temporary connections, equipment, supervision and work necessary to complete this work with all necessary appurtenances. This work shall include locating the existing service, connecting the service to the new sanitary sewer main (at the direction of the District), and reconnecting to the private sanitary sewer service and installing a cleanout at the property line as shown on the plans. The existing sanitary sewer services are believed to be 4" diameter PVC pipe, but actual pipe size and material may differ. This work shall conform to the District standard details and the Illinois State Plumbing Code. The Contractor shall maintain adequate levels of wastewater removal from the affected residence until the service has been re-connected, accepted and approved for use. Bypass pumping shall be provided, as necessary, as specified elsewhere herein.

Sanitary sewer service reconnections shall be laid at a minimum 1.0% slope. All work shall be performed in accordance with State and local plumbing codes.

The Contractor shall be responsible for maintaining the current level of service to all users connected to the existing sanitary sewer.

The Plumbing Contractor performing the reconnection work must be registered and bonded with the District. A District Connection Permit will be required for the new service reconnection but no permit fee will be charged.

Connection shall be made to a structurally sound pipe. Connection to the existing sewer service shall not be made until the District Inspector has verified the structural condition.

The location of the existing sewer service is based upon televised inspection and record information, and the proposed service connection is based upon those locations. Should the service alignment, diameter or point of connection vary from that shown in the plans, no claims for additional compensation will be entertained.

A service riser cleanout as indicated on the Rock River Water Reclamation District Standard Detail Sheet shall be installed at the property/right-of-way line as indicated on the plans or as otherwise directed.

10.2 Materials:

Sanitary sewer service replacement pipe shall be 4" dia. SDR 26 (WMQ) PVC meeting the requirements of ASTM D2241. Joints shall meet the requirements of ASTM D3139. The new service shall connect to the new sewer main using factory wye fittings. Bypass pumping for sanitary sewers shall be in conformance with the "Bypass Pumping Sanitary Sewers" Section of these Specifications.

Clay or Cast Iron Pipe to PVC pipe transitions shall be made by use of shear resistant flexible Clay or C.I.P.-to-PVC adapters (Fernco Model 5000, or approved equivalent). The transition shall be made on existing pipe that is structurally sound.

10.3 Measurement and Payment

This work will be paid for at the Contract unit price per Each for **Reconnect Existing 4" Dia. Sanitary Sewer Service.**

11 Sanitary Sewer Trench Subbase Improvement

11.1 General

This work shall consist of the removal of native trench subbase material below the proposed sanitary sewer bedding material and replacement of that material with coarse aggregate in order to provide a compacted uniform, stabilized, level base for the sanitary sewer PVC pipe bedding. The minimum depth of the trench subbase improvement shall be 12" unless otherwise directed by the District.

According to the *Report of Soils Exploration* included as Section III in this Contract, it is anticipated that the trench subbase improvement will be necessary for all sewer pipe installed between MH's 1-6. All areas shall first be approved by the District and quantities may increase or decrease based upon the assessment of the trench stability.

11.2 Materials

The Subbase Improvement aggregate shall be IDOT Gradation CA-1. Course Aggregates shall be in accordance with Article 1004.04 of the IDOT *Standard Specifications for Road and Bridge Construction*, Current Edition.

11.3 Required Submittals

1. Material gradation certifications for aggregates.

11.4 Measurement and Payment

This work will be paid for at the Contract unit price per Cubic Yard for **Sanitary Sewer Trench Subbase Improvement** complete, in place. Calculation of quantities for payment shall be based on a maximum width of the outside diameter of the pipe plus 18" to the excavated depth as directed by the District.

12 Pavement Removal

12.1 General

This work shall be done in accordance with Section 440 of the IDOT *Standard Specifications for Road and Bridge Construction*, Current Edition and shall involve the complete removal and disposal of the existing hot-mix asphalt pavement at Shelburne Drive, Cavendish Drive, and driveway entrances to the limits indicated on the plans. This pay item shall also include removal of the existing subgrade below the pavement to the depths necessary to achieve the full pavement reconstruction (12" of Aggregate Base Course, Type B with 2¼" of hot-mix asphalt binder course and 1¾" of hot-mix asphalt surface course). Maximum pay limits for the removal are shown on the plans; the Contractor shall not remove any pavement outside of these limits without receiving prior written approval from the District. Unless otherwise approved by the District, any damage done to adjacent pavements during construction shall be replaced (full depth) by the Contractor at no additional cost to the District.

Anticipated depths of pavement to be removed have been itemized in the *Report of Soils Exploration* (Section III). The Contractor is reminded that these depths are approximate and the total thickness to be removed can and will vary. No additional compensation will be considered for removal of pavement that is a greater thickness than specified.

The removal limits shall be sawcut full depth prior to pavement removal. The remaining pavement, including pavement edges shall be protected from all damage. All costs associated with sawcutting and pavement protection shall be included in this work.

Access to driveways must be maintained before the final pavement restoration by utilizing temporary aggregate or similar measures. Drop offs between the existing edges of pavement and the driveway subgrade will not be allowed; temporary aggregate or hot-mix asphalt ramps shall be maintained at all times. All costs associated with these temporary ramps shall be included in this pay item.

12.2 Required Submittals – Not used.

12.3 Payment

Payment shall be made at the Contract unit price per Square Yard of **Pavement Removal**.

**13 Pipe Culverts Removal, 20" Elliptical CMP
Pipe Culverts Removal, 24" Dia. CMP
Pipe Culverts Removal, 48" Elliptical CMP**

13.1 General

This work shall conform to Section 501 of the *IDOT Standard Specifications* and shall include the full or partial removal and disposal of existing diameter culvert pipes to the lengths indicated on the plans. The existing culvert pipes are anticipated to be corrugated metal; no additional compensation shall be granted for removal of pipes of differing sizes or materials.

The 48" Elliptical culverts shall be removed to the nearest joint in order to provide a clean edge for attaching the replacement pipe. The exposed edge shall be protected from warping and all damage such that it can receive the replacement pipe with a band or a coupler.

Disposal of the materials shall be done in accordance with Article 202.03 of the *IDOT Standard Specifications*.

Upon removal of the culvert pipes, positive drainage to the downstream ditch drainage system shall be maintained via grading and/or temporary pipes. Any costs associated with these temporary provisions shall be included in this pay item and no additional costs will be considered.

13.2 Materials – Not Used.

13.3 Required Submittals – Not Used.

13.4 Payment

Payment shall be made at the Contract unit price per Linear Foot of **Pipe Culverts Removal, 20" Elliptical CMP, Pipe Culverts Removal, 24" Dia. CMP; and Pipe Culverts Removal, 48" Elliptical CMP.**

**14 Pipe Culverts, Class C, TY 1 Galvanized Corrugated Steel, 20" Elliptical
Pipe Culverts, Class C, TY 1 Galvanized Corrugated Steel, 24" Dia.
Pipe Culverts, Class C, TY 1 Galvanized Corrugated Steel, 48" Elliptical**

14.1 General

This work shall conform to Section 542 of the *IDOT Standard Specifications* and shall include furnishing and installing pipe culverts to the line and grade as shown on the plans. All pipe shall be galvanized corrugated steel pipe. All pipe culverts to be installed under or within 2' of pavements, curbs, driveways, and/or sidewalks shall be backfilled with District-approved trench backfill material. Trench backfill shall be compacted to 95% of the standard laboratory density in accordance with Method 1 in Article 550.07(a) of the *IDOT Standard Specifications*. No additional compensation will be made for trench backfill – the costs shall be included with this pay item.

The 48" elliptical culvert pipe shall be connected to existing pipe that is of sound condition with bands or couplers per the manufacturer's recommendations.

14.2 Materials

Galvanized corrugated steel pipe shall be in accordance with Article 1006.01 of the *IDOT Standard Specifications*. Trench Backfill shall be in accordance with Article 1003.04 of the *IDOT Standard Specifications*.

14.3 Required Submittals

1. Material certification for the galvanized corrugated steel pipe.
2. Material certification for couplings and/or fittings.
3. Gradation report for the trench backfill material.

14.4 Payment

Payment shall be made at the Contract unit price per Linear Foot of **Pipe Culverts, Class C, Type 1 Galvanized Corrugated Steel, 20" Elliptical, Pipe Culverts, Class C, Type 1 Galvanized Corrugated Steel, 24" Dia. and Pipe Culverts, Class C, Type 1 Galvanized Corrugated Steel, 48" Elliptical** installed, complete in place.

15 Metal Flared End Sections, 20" Elliptical Metal Flared End Sections, 24"

15.1 General

This work shall be done in accordance with Section 542 of the *IDOT Standard Specifications* and shall consist of furnishing and installing all labor, equipment, materials, transportation, excavation, and accessories required to construct the metal flared end sections at the locations indicated in the plans.

This work shall also include any incidental grading work in the vicinity of the end sections to promote positive drainage and ensure the existing ditches drain.

15.2 Materials

Metal flared end sections shall be constructed according to IDOT Standard 542401-03: *Metal Flared End Sections for Pipe Culverts*.

15.3 Required Submittals

1. Material certification and shop drawings for the metal end sections.

15.4 Measurement and Payment

This work will be paid for at the contract unit price per Each for **Metal Flared End Sections, 20" Elliptical and Metal Flared End Sections, 24"** installed, complete in place.

16 Aggregate Base Course, Type B, 12"

16.1 General

This work shall consist of placing compacted Aggregate Base Course, Type B. This work shall include subgrade preparation, removal and disposal of excess material, furnishing, placing, installing and compacting course aggregate, and trimming and prepping aggregate base for subsequent pavement placement. This work shall be in conformance with Section 351 of the IDOT *Standard Specifications for Road and Bridge Construction*, Current Edition.

16.2 Materials

Aggregate base course shall be 12" in total compacted thickness, with 8" of Gradation CA-2 in the bottom layer and 4" of Gradation CA-6 in the upper layer. Course Aggregates shall be in accordance with Article 1004.04 of the IDOT *Standard Specifications for Road and Bridge Construction*, Current Edition.

16.3 Required Submittals

1. Material gradation certifications for aggregates.

16.4 Measurement and Payment

This work will be paid for at the Contract unit price per Square Yard for **Aggregate Base Course, Ty. B, 12"**, complete, in place.

17 Aggregate Subgrade Improvement, Variable Depth

17.1 General

This work shall consist of constructing an aggregate subgrade improvement beneath the aggregate base course where necessary and as directed by the District. The work shall include the removal and disposal of unsuitable material, furnishing, placing, installing and compacting aggregate, and grading and shaping the subgrade improvement prior to aggregate base course placement. Minimum depth to be installed is 12"; depths deeper than that may be required and shall be installed at the direction of the District.

17.2 Materials

Aggregate subgrade improvement shall be a minimum depth of 12" of gradation CA-01, CS-01, CS-02, or RR-1 aggregate in accordance with Article 1004.04 of the IDOT *Standard Specifications for Road and Bridge Construction*, Current Edition.

17.3 Required Submittals

1. Material gradation certifications for aggregates.

17.4 Measurement and Payment

This work will be paid for at the Contract unit price per Cubic Yard for **Aggregate Subgrade Improvement, 12"**, compacted, complete in place.

18 Hot-Mix Asphalt Binder Course, N50, IL-19.0

18.1 General

This work shall be in accordance with T.S. 4:3/Pavement Restoration of the *General Provisions and Technical Specifications for Sanitary Sewer Construction in the Sanitary District of Rockford*, and with Section 406 of the IDOT *Standard Specifications for Road and Bridge Construction*, Current Edition.

The work shall be performed to the satisfaction of the District and the property Owners.

Tack coat shall be SS-1 bituminous materials; all costs associated with placement of the tack coat shall be considered incidental to this pay item.

Placement of hot-mix asphalt shall be coordinated with the property owners to minimize obstructions to vehicular access to the greatest extent possible.

18.2 Materials

HMA Binder Course shall be mixture IL-19.0, N50 in accordance with Section 1030 of the IDOT *Standard Specifications for Road and Bridge Construction*, Current Edition.

Tack coat shall be SS-1 in accordance with Section 1032 of the IDOT *Standard Specifications*.

18.3 Required Submittals

1. HMA mix designs.
2. Tack coat material certifications.

18.4 Measurement and Payment

This work will be paid for at the contract unit price per Ton for **Hot-Mix Asphalt Binder Course, N50, IL-19.0**, complete, in place.

19 Hot-Mix Asphalt Surface Course, N50, IL-9.5, Mix “C”

19.1 General

This work shall be in accordance with T.S. 4:3/Pavement Restoration of the *General Provisions and Technical Specifications for Sanitary Sewer Construction in the Sanitary District of Rockford*, and with Section 406 of the IDOT *Standard Specifications for Road and Bridge Construction*, Current Edition.

The work shall be performed to the satisfaction of the District and applicable roadway authority. All roadway authorities shall be notified a minimum of seven (7) calendar days prior to pavement replacement. At the discretion of the District, maintenance and temporary restoration of roads, drives, fences, etc., will be required; this work shall be done by the Contractor without delay.

Tack coat shall be SS-1 bituminous materials; all costs associated with placement of the tack coat shall be considered incidental to this pay item.

Placement of hot-mix asphalt shall be coordinated with the property owners to minimize obstructions to vehicular access to the greatest extent possible.

19.2 Materials

HMA Surface Course shall be Mix “C”, IL-9.5, N50 in accordance with Section 1030 of the IDOT *Standard Specifications for Road and Bridge Construction*, Current Edition.

Tack coat shall be SS-1 in accordance with Section 1032 of the IDOT *Standard Specifications*.

19.3 Required Submittals

1. HMA mix designs.
2. Tack Coat material certifications.

19.4 Measurement and Payment

This work will be paid for at the contract unit price per Ton for **Hot-Mix Asphalt Surface Course, Mix "C", N50, IL-9.5**, complete, in place. Surface course mixture in excess of 103% of the adjusted plan quantity will not be measured for payment. The adjusted plan quantity for surface course mixtures shall be calculated in accordance with Article 406.13(b) of the IDOT *Standard Specifications for Road and Bridge Construction*, Current Edition.

20 Stabilized Construction Entrance

20.1 General

This work shall include the installation of a temporary construction entrance as shown on the Plans for construction traffic access to the project site and shall consist of a stabilized pad of coarse aggregate underlain with filter fabric. All work shall conform to the Illinois Urban Manual's Practice Standard "Stabilized Construction Entrance", Code 930. The minimum thickness of the aggregate shall be 6". Filter fabric will not be paid for separately; costs shall be included in this pay item.

Unless otherwise directed by the District, the stabilized entrance shall be installed as shown on the Plans.

When necessary, this work shall include installation of a temporary pipe culvert to maintain drainage. The aggregate shall be routinely removed and replaced as needed to effectively contain sediment and other material.

Removal of the stabilized construction entrance upon completion of construction will not be paid for separately but shall be included in this pay item.

20.2 Materials

Coarse Aggregate shall be IDOT Gradation CA-1, CA-2, CA-3, or CA-4 per Section 1004 of the *IDOT Standard Specifications*. Broken concrete will not be allowed as a substitute for stone. Filter fabric shall be in accordance with Article 1080.03 of the Standard Specifications.

20.3 Required Submittals

1. Material gradation certifications for aggregates.
2. Material certifications for the filter fabric.

20.4 Payment

Payment shall be made at the Contract unit price per Square Yard of **Stabilized Construction Entrance**, complete in place.

21 Inlet and Pipe Protection

21.1 General

This work shall be in accordance with Section 280 of the *IDOT Standard Specifications* and consist of furnishing, installing, maintaining, and final removal of drainage inlet and pipe protection devices.

Inlet protections shall consist of filters that are installed under the grate of the drainage structures. Pipe protections shall consist of straw bales or rolled excelsior logs, in accordance with the *Illinois Urban Manual*.

All inlet and pipe protections shall be installed prior to any excavation (exploratory or otherwise) beginning. All measures shall be removed upon final turf restoration.

21.2 Materials

All inlet and pipe protections shall be in accordance with Article 1081.15 of the *IDOT Standard Specifications*.

21.3 Required Submittals

1. Material certifications for the inlet and pipe protections.

21.4 Payment

Payment shall be made at the Contract unit price per Each of **Inlet and Pipe Protection**, complete in place.

22 Temporary Ditch Checks

22.1 General

This work shall be in accordance with Section 280.04(a) of the *IDOT Standard Specifications* and consist of furnishing, installing, maintaining, and final removal of temporary ditch checks at the locations depicted on the plans or as otherwise directed.

All temporary ditch checks shall be installed prior to any excavation beginning and shall be removed upon completion of final turf restoration. Ditch checks shall be installed such that they extend fully across the ditch cross sections and terminate at the top of the banks.

Removal of the temporary ditch checks upon completion of construction will not be paid for separately but shall be considered included in this pay item.

22.2 Materials

Temporary ditch checks shall be constructed with products from the IDOT qualified product list or excelsior logs. Excelsior logs shall be in accordance with Article 1081.15(f) of the *IDOT Standard Specifications*.

22.3 Required Submittals

1. Material certifications for the temporary ditch checks.

22.4 Payment

Payment shall be made at the Contract unit price per Linear Foot of **Temporary Ditch Checks**.

23 Perimeter Erosion Barrier

23.1 General

This work shall include the installation, maintenance, and eventual removal of silt fence where indicated on the plans. All work shall be in conformance with Section 280 of the *IDOT Standard Specifications*. Silt fence shall be installed prior to excavation or stockpiling of materials. Posts shall be spaced minimum 5' on center.

Silt fence shall remain in place until the disturbed areas have been seeded and erosion control blanket is installed, unless otherwise directed by the District.

23.2 Materials

Filter fabric shall be Gradation 4 or 5 in accordance with Article 1080.03 of the *IDOT Standard Specifications*. The wood posts shall be in accordance with Article 1081.15 of the *IDOT Standard Specifications* and be a minimum of 4' long with a nominal size of 2" x 2".

23.3 Required Submittals

1. Material certifications for the silt fence materials.

23.4 Payment

Payment shall be made at the Contract unit price per Linear Foot of **Perimeter Erosion Barrier**, installed, complete in place.

24 Erosion Control Blanket

24.1 General

This work shall be in accordance with Article 251.04 of the *IDOT Standard Specifications*. Erosion control blanket shall be installed on seeded areas within twenty-four (24) hours of seed placement.

Erosion control blanket shall be installed on all seeded areas throughout the project limits.

24.2 Materials

All erosion control blanket shall be in accordance with Article 1081.10(a) and/or Article 1081.10(c) of the *IDOT Standard Specifications*.

24.3 Required Submittals

1. Material certifications for the erosion control blanket.

24.4 Payment

Payment shall be made at the Contract unit price per Square Yard of **Erosion Control Blanket**, complete, in place.

25 Topsoil Furnish and Place, 6” Seeding, Class 2 with Fertilizer

25.1 General

This work shall include preparing areas to be seeded, furnishing and placing topsoil as required, removal and disposal of unsuitable materials, seeding, fertilizing, and maintenance until final acceptance.

All restoration shall be completed in accordance with public agency requirements, or on private property, equal to or better than the pre-construction conditions. All restoration of public or private property including, but not limited to, fences, sidewalks, driveways, all other slab work, (concrete and asphalt), drainage channels, riprap, fences, turf areas and dry wells, etc., disturbed or damaged as a result of this construction project shall be promptly completed, equal to or better than the pre-construction conditions, as directed by the District. All restoration shall be guaranteed by the Contractor for a period of one (1) year following satisfactory completion and final acceptance of the work. Topsoil shall be as specified in T.S. 4:2c of the District's *General Provisions and Technical Specifications for Sanitary Sewer Construction*.

All drainage devices shall be cleaned of debris and replaced at original elevations. Pipes, which in the estimation of the District, have been significantly damaged by the Contractor, shall be replaced with new pipe or structures of the same diameter, length and/or type, at no added expense to the District or the Owner. All work shall be to the satisfaction of the District. When necessary, temporary restoration of roads, drives, fences, etc. will be required, all costs incidental to the Contract.

Suppliers shall be prepared to certify that their product has been satisfactorily laboratory and field tested, and that it meets all of the foregoing requirements based upon such testing.

Guarantee: All seeded areas shall be maintained for at least thirty (30) days after application. Scattered bare spots no larger than two square feet will be allowed up to a maximum of five percent (5%) of any seeded area.

Seeding

This work shall be in accordance with Section 250 of the IDOT *Standard Specifications*. Ground surfaces including right-of-ways that were covered with grass prior to construction shall be seeded according to all applicable specifications and as directed by the District. The Contractor shall make certain that all disturbed areas have the same depth (6” minimum) and quality of approved topsoil at the surface as existed prior to construction.

Seedbed preparation shall be done according to Article 250.05 of the IDOT *Standard Specifications*.

The seeding mixture used shall be IDOT Class 2 in all turf restoration areas.

Reference is made to the District's *General Provisions and Technical Specifications for Sanitary Sewer Construction*, T.S. 4:2, for specifications on seeding and sodding and fertilizer, and to Sections 250 and 251 of the IDOT *Standard Specifications*.

Seeding shall be placed on six-inch (6"), minimum, topsoil bed. The District shall approve the locations from which the topsoil is to be obtained. When requested by the District, a sample of the proposed topsoil shall be submitted to the District in a one-quart glass container, completely filled, with a chemical and mechanical analysis of the topsoil by an approved testing laboratory.

Seeding methods shall follow those mentioned in Article 250.06 of the IDOT *Standard Specifications*. Mowing to discourage weed growth will be completed by the Contractor until the project is accepted by the District.

Fertilizing

Fertilizer work shall be done in accordance with Article 250.04 of the IDOT *Standard Specifications* and be applied at the rate of 400 lbs./acre.

Mulch

Straw mulch shall not be installed on seeded areas, instead all seeded areas shall be completed with erosion control blanket. Said erosion control blanket shall be paid for under the **Erosion Control Blanket** pay item.

25.2 Materials

Topsoil utilized from off-site sources shall be in accordance with Article 1081.05(a) of the IDOT *Standard Specifications*.

Seed mixtures shall be IDOT Class 2 seed mixtures in accordance with Article 1081.04 of the IDOT *Standard Specifications*.

Fertilizer shall have 270 lbs. of nutrients per acre with an analysis of 10-10-10 and be in accordance with Article 1081.08 of the IDOT *Standard Specifications*.

25.3 Required Submittals

1. Topsoil certifications (if being delivered from off-site).
2. Seed mixtures.
3. Fertilizer specifications and certifications.

25.4 Payment

This work will be paid for at the Contract unit price per Square Yard for **Topsoil Furnish and Place, 6"** and **Seeding, Class 2 with Fertilizer** which cost shall include furnishing topsoil, placing topsoil, seedbed preparation, seeding, and fertilizer application.

26 Construction Layout

26.1 General

This work shall be in accordance with IDOT *Recurring Special Provision #10: Construction Layout Stakes* as included in Section V of this Contract, and shall consist of the Contractor providing all layout for the construction of this project to the lines and grades contained within the plans.

The District will layout the right of way limits, control points, and Benchmarks within the plans prior to construction commencing. The Contractor shall verify all Benchmark elevations prior to commencing construction.

26.2 Materials – Not used.

26.3 Required Submittals – Not used.

26.4 Payment

Payment shall be made at the Contract unit price per Lump Sum for **Construction Layout**.

27 Traffic Control and Protection, Complete

27.1 General

Contractor shall be solely responsible for the safety of the operations, and shall comply with all state, local and OSHA regulations. Contractor shall retain a person competent in complying with OSHA trenching and excavation requirements on site at all times. The person shall be capable of identifying existing and probable hazards in the surroundings, or working conditions which are unsanitary, hazardous or dangerous to employees, and shall be authorized to take prompt corrective measures to eliminate them. The means and methods to comply with construction site safety are the sole responsibility of the Contractor. District staff is not responsible for the Contractor's compliance procedures.

The Contractor shall obtain all permits required by the governing roadway agencies and shall provide detailed traffic control plans as required and implement and maintain approved traffic control measures, including detour routes, as required. Traffic control and protection shall be in accordance with the *IDOT Standards Specifications* and *IDOT Highway Standards*, current edition.

All road closures shall remain open to local traffic. Should short term closures to all traffic become necessary an adequate detour route must be established with proper signage provided; all such closures shall first be approved by the Cherry Valley Township prior to being implemented.

All work zone traffic control and protection shall be in compliance with the *Manual on Uniform Traffic Control Devices*, current edition.

27.2 Required Submittals

1. Copies of approved traffic control plans, including detour routes (if required).

27.3 Payment

This work will be paid for at the Contract Lump Sum price for **Traffic Control and Protection, Complete**.

28 Quality Control Tests and Certification

28.1 General

All costs of testing, installing, re-installing, backfilling, compaction, and re-testing of sanitary sewers and services shall be borne by the Contractor. All pipe shall be tested in accordance with ASTM and manufacturer's standards. The manufacturer shall furnish certified test reports with each shipment of pipe, run or unit of pipe extrusion.

Final, satisfactory low-pressure air tests, deflection tests and manhole vacuum tests shall be performed no later than sixty (60) days after the installation of each sewer main section (manhole-to-manhole). The 60-day period starts with the completion of the sewer main, not the completion of the sewer services. The District reserves the right to suspend any or all work until the Contractor fully complies with this requirement.

28.2 Tests

The Contractor shall perform pipe deflection testing and pipe low pressure air testing (T.S. 9.1 of the District's *General Provisions and Technical Specifications for Sanitary Sewer Construction*.) upon completion of installation, bedding, backfilling and compaction of each sanitary sewer main section. The Contractor shall arrange at his expense mandrel (deflection) and low-pressure air tests of the pipe.

Low pressure line testing will be required on the new sanitary sewer mains. All sewer mains from existing manhole to new manhole or new manhole to new manhole shall be mandrel (deflection) tested.

After the final installation, backfilling and compaction have been completed and prior to starting the roadway replacement, low-pressure air tests and deflection tests shall pass on all sewer pipes as stated below.

28.2.1 Low Pressure Air Test

Low-pressure air testing of sanitary sewers shall use an allowable timed pressure drop of 0.5 psig. The allowable air loss rate shall be 0.0015 cu.ft./minute/sq.ft. of internal surface. All test times shall be calculated using Ramseier's equation $T = 0.85 DK/Q$, where:

- T = Shortest time, in seconds, allowed for the pressure to drop 0.5 psig
- K = 0.000419 DL, but not less than 1.0
- Q = 0.0015 cu.ft./minute/sq.ft. of internal surface
- D = Nominal pipe diameter, in inches
- L = Length of pipe being tested, in feet

This modifies T.S. 9.4 of the District's *General Provisions and Technical Specifications for Sanitary Sewer Construction*. The following table may be used to determine the minimum test time required:

Minimum Specified Time Required for a 0.5 psig Pressure Drop for Size and Length of Pipe Indicated for Q=0.0015

| 1 Pipe Diameter (inches) | 2 Minimum Time (min:sec) | 3 Length for Minimum Time (ft.) | 4 Time for Longer Length (sec.) | Specification Time for Length (L) Shown (min:sec) | | | | | | | |
|---------------------------------------|---------------------------------------|---|---|---|---------|---------|---------|---------|---------|---------|---------|
| | | | | 100 ft. | 150 ft. | 200 ft. | 250 ft. | 300 ft. | 350 ft. | 400 ft. | 450 ft. |
| 4 | 1:53 | 597 | .190 L | 1:53 | 1:53 | 1:53 | 1:53 | 1:53 | 1:53 | 1:53 | 1:53 |
| 6 | 2:50 | 398 | .427 L | 2:50 | 2:50 | 2:50 | 2:50 | 2:50 | 2:50 | 2:51 | 3:12 |
| 8 | 3:37 | 298 | .760 L | 3:37 | 3:37 | 3:37 | 3:37 | 3:38 | 4:26 | 5:04 | 5:42 |
| 10 | 4:43 | 239 | 1.187 L | 4:43 | 4:43 | 4:43 | 4:57 | 5:56 | 6:55 | 7:54 | 8:54 |
| 12 | 5:40 | 199 | 1.709 L | 5:40 | 5:40 | 5:42 | 7:08 | 8:33 | 9:58 | 11:24 | 12:50 |
| 15 | 7:05 | 159 | 2.671 L | 7:05 | 7:05 | 8:54 | 11:08 | 13:21 | 15:35 | 17:48 | 20:02 |
| 18 | 8:30 | 133 | 3.846 L | 8:30 | 9:37 | 12:49 | 16:01 | 19:14 | 22:26 | 25:38 | 28:51 |
| 21 | 9:55 | 114 | 5.235 L | 9:55 | 13:05 | 17:27 | 21:49 | 26:11 | 30:32 | 34:54 | 39:16 |
| 24 | 11:20 | 99 | 6.837 L | 11:24 | 17:57 | 22:48 | 28:30 | 34:11 | 39:53 | 45:35 | 51:17 |
| 27 | 12:45 | 88 | 8.653 L | 14:25 | 21:38 | 28:51 | 36:04 | 43:13 | 50:30 | 57:42 | 46:54 |
| 30 | 14:10 | 80 | 10.683 L | 17:48 | 26:43 | 35:37 | 44:31 | 53:25 | 62:19 | 71:13 | 80:07 |
| 33 | 15:35 | 72 | 12.946 L | 21:33 | 32:19 | 43:46 | 53:42 | 64:38 | 75:24 | 86:10 | 96:57 |
| 36 | 17:00 | 66 | 15.384 L | 25:39 | 38:28 | 51:17 | 64:06 | 76:55 | 89:44 | 102:34 | 115:23 |

28.2.2 Pipe Deflection Test

After sewer installation, backfilling and compaction, all flexible sewer pipe shall be thoroughly cleaned and flushed with water and then, if not previously tested as elsewhere specified herein, the pipe shall be deflection tested by the Contractor at his own expense, in a manner acceptable to the District. Deflection testing shall be performed at least thirty (30) days after the trench has been backfilled.

If the vertical deflection exceeds five percent (5%) of the diameter, the Contractor shall replace the pipe. In the event that this pipe is used for replacement, it will be subject to the same vertical deflection test.

The District reserves the right to make a vertical deflection test within a year of the construction.

If deflection exceeds five percent (5%), the Contractor is responsible for replacing the pipe, as per G.C. 7:4 of the District's *General Provisions and Technical Specifications for Sanitary Sewer Construction*.

In addition to the above and T.S. 8:2(c) of the District's *General Provisions and Technical Specifications for Sanitary Sewer Construction*, use the following deflection test:

Testing of all lines shall be done with a mandrel, pulled through all lines except the house leads. The diameter of the gauge shall be set at ninety-five percent (95%) of the un-deflected inside diameter of the flexible pipe. The Pin-Type Go/No-Go Gauge will stop at any area in a flexible underground pipeline having vertical ring deflection greater than five percent (5%).

All pipe exceeding this deflection shall be considered to have reached the limit of serviceability and shall be re-laid or replaced by the Contractor at no additional cost to the owner, (WPCF Manual of Practice No. 9, page 222).

If possible and practical, the testing shall initiate at the downstream lines and proceed towards the upstream lines. Where deflection is found to be in excess of five percent (5%) of the original pipe diameter, the Contractor shall excavate to the point of excess deflection and carefully compact around the point where excess deflection was found. The line shall then be retested for deflection. However, after the initial testing, should the deflected pipe fail to return to the original site (inside diameter) the line shall be replaced.

28.2.3 Vacuum Testing

All new manholes shall be vacuum tested per ASTM C-1244 *Standard Test Method for Concrete Sewer Manholes by the Negative Pressure (Vacuum) Test* prior to placing into service.

28.3 Measurement and Payment

No separate measurement or payment will be made for this work. All costs shall be included in the Contract unit price per Linear Foot of **Sanitary Sewer, PVC SDR35, 8" Dia.** installed, complete in place.

29 Cleanup

29.1 General

Upon completion of work, the Contractor shall clean up and remove all construction debris, materials, equipment, machines, etc., from the entire project area. All excavations shall be backfilled neatly to near original grade, and any excess materials shall be hauled away to an offsite location acceptable to the District. All roadway surfaces shall be made free and cleaned of all mud and construction debris.

29.2 Payment

No separate payment will be made for Cleanup, complete. All costs associated with this work shall be included in the various Contract pay items.

30 Report of Soils Exploration

30.1 General

The Report of Soils Exploration attached in Section III of this Contract is for informational purposes only. The Contractor shall verify the actual soil conditions prior to submitting a bid. No additional compensation will be allowed for subsurface conditions at variance with the borings taken.

Section II
Contract Forms

Proposal

Project: Cavendish Drive Sanitary Sewer Extension
Special Assessment No. 134

Location: Work extends through public right-of-way of Cavendish Drive and
Shelburne Drive, Cherry Valley Township, Winnebago County, Illinois

Completion Date: October 30, 2020

Liquidated Damages: \$300/calendar day per each completion date deadline

To: Board of Trustees
Rock River Water Reclamation District
3501 Kishwaukee Street
Rockford, IL 61109

From: _____
(Individual, Partnership or Corporation, as case may be)

(Address of Individual, Partnership or Corporation)

Gentlemen:

I (We), the undersigned, hereby propose to furnish all materials, equipment, tools, services, labor, and whatever else may be required to construct and place in service the above subject Sanitary Sewer for the Rock River Water Reclamation District all in accordance with the plans and specifications, provided by the Rock River Water Reclamation District. The undersigned also affirms and declares:

1. That I (we), have, examined and am (are) familiar with all the related contract documents and found that they are accurate and complete and are approved by the undersigned.
2. That I (we), have carefully examined the site of the work, and that, from my (our) investigation, has satisfied myself (ourselves) as to the nature and location of the work, the character, quality, and quantity of materials and the kind and extent of equipment and other facilities needed for the performance of the work, the general and local conditions and all difficulties to be encountered, and all other items which may, in any way, effect the work or its performance.
3. That this bid is made without any understanding, agreement or connection with any other person, firm, or corporation making a bid for the same purposes, and is in all respects fair and without collusion or fraud; and that I (we) are not barred from bidding as a result of a bid-rigging or bid-rotating conviction.

4. That accompanying the Proposal is a Bidder's Bond in the amount specified in Article 1, Notice to Bidders, payable to the Board of Trustees of the Rock River Water Reclamation District, which it is agreed, shall be retained as liquidated damages by said Rock River Water Reclamation District if the undersigned fails to execute the Contract in conformity with the contract documents incorporated in the contract documents and furnish bond as specified, within ten (10) days after notification of the award of the contract to the undersigned.
5. The Bidder is of lawful age and that no other person, firm or corporation has any interest in this Proposal or in the Contract proposed to be entered into.
6. The Bidder is not in arrears to the Rock River Water Reclamation District, upon debt or contract, and is not a defaulter, as surety or otherwise, upon any obligation to the Rock River Water Reclamation District.
7. No officer or employee or person whose salary is payable in whole or in part by the District is, shall be or become interested, directly or indirectly as a contracting party, partner, stockholder, surety or otherwise, in this Proposal, or in the performance of the Contract, or in the work to which it is relates, or in any portion of the profits thereof.
8. The Bidder which I represent complies with all applicable requirements of the Americans with Disabilities Act (ADA) and the Occupational Safety and Health Act (OSHA) and that if said bidder is awarded a contract, it will complete all OSHA-required or ADA-required employee and customer training, will make available all required information, and will hold harmless and indemnify the District and the District's representatives.

In regard to participation in an approved Apprenticeship program, upon request, Contractor will be required to provide written proof of participation.
9. The undersigned, as Bidder, declares that he has adopted and promulgated written sexual harassment policies in accordance with Public Act 99-093 and will make this information available upon request.
10. The undersigned, as Bidder, declares he will comply with prevailing wages in accordance with the Illinois Department of Labor Standards. The State of Illinois requires contractors and subcontractors on public works projects (including Rock River Water Reclamation District) to submit certified payroll reports via the State's Certified Transcript of Payroll Portal found at <https://www2.illinois.gov/idol/Laws-Rules/CONMED/Pages/certifiedtranscriptofpayroll.aspx>.
11. The undersigned, as Bidder, declares he will comply with the Federal Drug Free Workplace Act.
12. The undersigned, as Bidder, declares he will comply with Public Act 83-1030 entitled "Steel Products Procurement Act".
13. The undersigned, as Bidder, declares he will comply with Public Act 96-929 (30 ILCS 570) regarding Illinois residents' employment.
14. The undersigned, as Bidder, declares he will comply with non-discrimination in employment in accordance with the Illinois Fair Employment Practices Commissions Rules & Regulations.
15. The undersigned, as Bidder, declares that he currently participates in an apprenticeship or training program that is registered with the United States Department of Labor's Bureau of

Apprenticeship and Training or other acceptable State of Illinois Department of Labor monitored program.

In submitting this bid, it is understood that the right is reserved by the Rock River Water Reclamation District to reject any and all bids. It is agreed that this bid may not be withdrawn for a period of sixty (60) days from the opening thereof.

The undersigned further declares that he (they) has (have) carefully examined the following items of work and that the cost of all the work to complete this project is given in this Proposal.

Not to be used for bidding purposes

| Item No. | Quantity | Unit | Description | Unit Price (In Writing) | Unit Price (In Figures) | Total Price (In Figures) |
|----------|----------|------|---|-------------------------|-------------------------|--------------------------|
| 1 | 2,335.0 | LF | Sanitary Sewer, PVC SDR 35, 8" Dia. | | | |
| 2 | 11.0 | EA | Sanitary Manhole, 4' Dia. | | | |
| 3 | 1.0 | EA | Sanitary Manhole, 5' Dia. | | | |
| 4 | 1.0 | EA | Connect To Existing Sanitary Manhole | | | |
| 5 | 41.0 | EA | Sanitary Sewer Service, PVC SDR26 (WMQ), 4" Dia. | | | |
| 6 | 1.0 | EA | Reconnect Existing 4" Dia Sanitary Sewer Service | | | |
| 7 | 100.0 | CY | Sanitary Sewer Trench Subbase Improvement | | | |
| 8 | 7,050.0 | SY | Pavement Removal | | | |
| 9 | 50.0 | LF | Pipe Culverts Removal, 20" Elliptical | | | |
| 10 | 46.0 | LF | Pipe Culverts Removal, 24" CMP | | | |
| 11 | 50.0 | LF | Pipe Culverts Removal, 48" Horizontal Elliptical CMP | | | |
| 12 | 50.0 | LF | Pipe Culverts, Class C TY 1 Galvanized Corrugated Steel, 20" Elliptical | | | |
| 13 | 46.0 | LF | Pipe Culverts, Class C TY 1 Galvanized Corrugated Steel, 24" Dia. | | | |
| 14 | 50.0 | LF | Pipe Culverts, Class C TY 1 Galvanized Corrugated Steel, 48" Elliptical | | | |
| 15 | 2.0 | EA | Metal Flared End Sections, 20" Elliptical | | | |
| 16 | 2.0 | EA | Metal Flared End Sections, 24" | | | |
| 17 | 7,800.0 | SY | Aggregate Base Course, Type B 12" | | | |
| 18 | 500.0 | CY | Aggregate Subgrade Improvement, Variable Depth | | | |
| 19 | 950.0 | TON | Hot-Mix Asphalt Binder Course, IL-19.0, N50 | | | |
| 20 | 750.0 | TON | Hot-Mix Asphalt Surface Course, Mix C, N50 | | | |

| Item No. | Quantity | Unit | Description | Unit Price (In Writing) | Unit Price (In Figures) | Total Price (In Figures) |
|------------------|----------|------|----------------------------------|-------------------------|-------------------------|--------------------------|
| 21 | 102.0 | SY | Stabilized Construction Entrance | | | |
| 22 | 43.0 | EA | Inlet and Pipe Protection | | | |
| 23 | 60.0 | LF | Temporary Ditch Checks | | | |
| 24 | 200.0 | LF | Perimeter Erosion Barrier | | | |
| 25 | 2,700.0 | SY | Erosion Control Blanket | | | |
| 26 | 2,700.0 | SY | Topsoil Furnish and Place, 6" | | | |
| 27 | 2,700.0 | SY | Seeding, Class 2 with Fertilizer | | | |
| 28 | 1.0 | LS | Construction Layout | | | |
| 29 | 1.0 | LS | Traffic Control & Protection | | | |
| TOTAL BID PRICE: | | | | | | |
| | | | | (In Writing) | | (In Figures) |

The undersigned acknowledges receiving Addendum numbers _____, _____, and realizes that all Addenda are considered part of the contract.

By: _____

Name: _____ Title: _____ Date: _____

Fair Employment Practices Affidavit of Compliance

Project: Cavendish Drive Sanitary Sewer Extension, Special Assessment No. 134

NOTE: THE BIDDER MUST EXECUTE THIS AFFIDAVIT AND SUBMIT IT WITH ITS SIGNED BID. THE ROCK RIVER WATER RECLAMATION DISTRICT CANNOT ACCEPT ANY BID WHICH DOES NOT CONTAIN THIS AFFIDAVIT

_____, being first duly sworn, deposes and says that:
(Name of person making affidavit)

They are: _____ of _____
(Officer's Title) (Company Name)

that said company is and "Equal Opportunity Employer" as defined by Section 2000(e) of Chapter 21, Title 42 of the United States Code annotated and Federal Executive Orders #11375 which are incorporated herein by reference;

and that said company will comply with any and all requirements of Title 44 Admin. Code 750. APPENDIX A – Equal Opportunity Clause, Rules and Regulations, Illinois Department of Human Rights, which read as follows:

"In the event of the contractor's non-compliance with the provisions of this Equal Employment Opportunity Clause, the Illinois Human Rights Act or the Rules and Regulations of the Illinois Department of Human Rights ("Department"), the contractor may be declared ineligible for future contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations, and the contract may be cancelled or voided in whole or in part, and such other sanctions or penalties may be imposed or remedies invoked as provided by statute or regulation. During the performance to this contract, the contractor agrees as follows:

1. That it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, marital status, national origin or ancestry, citizen status, age, physical or mental handicap unrelated to ability, sexual orientation, military status or an unfavorable discharge from military service; and further that it will examine all job classifications to determine if minority persons or women are underutilized and will take appropriate affirmative action to rectify any such underutilization.
2. That, if he or she hires additional employees in order to perform this contract or any portion of this contract, he or she will determine the availability (in accordance with the Department's Rules and Regulations) of minorities and women in the areas from which he or she may reasonably recruit and he or she will hire for each job classification for which employees are hired in a way that minorities and women are not underutilized.
3. That, in all solicitations or advertisements for employees placed by him or her or on his or her behalf, he or she will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, sexual orientation, marital status, national origin or ancestry, citizenship status, age, physical or mental handicap unrelated to ability, sexual orientation, military status or an unfavorable discharge from military service.
4. That he or she will send to each labor organization or representative of workers with which he or she has or is bound by a collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the contractor's obligations under the Illinois Human Rights Act and the Department's Rules and Regulations. If any labor organization or representative fails or refuses to cooperate with the contractor in his or her efforts to comply with such Act and Rules and Regulations, the contractor will promptly so notify the Department and the contracting agency and will recruit employees from other sources when necessary to fulfill its obligations under the contract.
5. That he or she will submit reports as required by the Department's Rules and Regulations, furnish all relevant information as may from time to time be requested by the Department or the contracting agency, and in all respects comply with the Illinois Human Rights Act and the Departments Rules and Regulations.
6. That he or she will permit access to all relevant books, records, accounts and work sites by personnel of the contracting agency and the Department for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and the Department's Rules and Regulations.
7. That he or she will include verbatim or by reference the provisions of this clause in every subcontract awarded under which any portion of the contract obligations are undertaken or assumed, so that the provisions will be binding upon the subcontractor. In the same manner as with other provisions of this contract, the contractor will be liable for compliance with applicable provisions of this clause by such subcontractors; and further it will promptly notify the contracting agency and the Department in the event any subcontractor fails or refuses to comply with the provisions. In addition, the contractor will not utilize any subcontractor declared by the Illinois Human Rights Commission to be ineligible for contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations.

(Source: Amended at 32 Ill. Reg. 16484, effective September 23, 2008)"

IL Dept of Human Rights Registration No.: _____ Expiration Date: _____

Signature

Subscribed and sworn to before me this _____ day of _____, 20_____.

Notary Public

Bid Bond

KNOW ALL MEN BY THESE PRESENTS, that we:

_____ (hereinafter called the Principal) and

_____ (hereinafter called the Surety)

a Corporation chartered and existing under the laws of the State of _____ with its principal offices in the City of _____ and authorized to do business in the State of Illinois are held and firmly bound onto the Rock River Water Reclamation District of Winnebago County, Illinois (District), in the full and just sum of: **Five Percent (5%) of the Total Bid Price** good lawful money of the United States of America, to be paid upon demand of the District, to which payment will and truly to be made we bind ourselves, our heirs, executors, administrators, and assigns, jointly and severally and firmly by these presents.

WHEREAS, the Principal is about to submit, or has submitted to the District, a proposal for constructing Sanitary Sewers and Appurtenances.

WHEREAS, the Principal desires to file this bond, in accordance with law, to accompany this Proposal.

NOW THEREFORE, The conditions of this obligation are such that if the Proposal be accepted, the Principal shall, within ten days after the date of receipt of a written notice of award of Contract, execute a Contract in accordance with the Proposal and upon the terms, conditions, and prices set forth therein, in the form and manner required by the District, and execute a sufficient and satisfactory Contract Performance Bond payable to said District in an amount of one hundred percent (100%) of the Contract price (including alternates) in form and with security satisfactory to said District, then this obligation to be void, otherwise to be and remain in full force and virtue in law; and the Surety shall, upon failure of the Principal to comply with any or all of the foregoing requirements within the time specified above, immediately pay to the aforesaid District, upon demand, the amount hereof in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

IN TESTIMONY THEREOF, the Principal and Surety have caused these presents to be duly signed and sealed this _____ day of _____, 20_____.

Principal

(Seal)

By _____

Name: _____

Title: _____

Date: _____

Attest:

Secretary

Surety

(Seal)

By _____

Name: _____

Title: _____

Date: _____

Agreement

1. General

THIS AGREEMENT, made and concluded this ____ day of _____, 2020, between the Rock River Water Reclamation District, Rockford, Illinois (District), acting by and through the Board of Trustees, and _____, his/their executors, administrators, successors or assigns:

2. Scope of Work

WITNESSETH: That for and in consideration of the payments and agreements made in the Proposal attached hereto, to be made and performed by the District and according to the terms expressed in the Bond referring to these presents, the Contractor agrees with the District at his/their own proper cost and expense to do all the work, furnish all equipment, materials and all labor necessary to complete the work in accordance with the plans and specifications hereinafter described, and in full compliance with all of the terms of this agreement and the requirements of the District and its representative.

And it is also understood and agreed that the Bidding Requirements, Detailed Specifications, Contract Forms, General Conditions, General Requirements, Technical Specifications, Plans, Addenda, and provisions required by law are all essential documents of the contract, and are a part hereof, as if herein set out verbatim or as if attached, except for titles, subtitles, headings, table of contents and portions specifically excluded.

3. Contract Price

The District shall pay to the Contractor, and the Contractor shall accept, in full payment for the performance of this Contract, subject to any additions or deductions provided for hereby, in current funds, the Total Contract Price of _____ and 00/100 (\$_____).

Payments are to be made to the Contractor in accordance with and subject to the provisions of Section 7 of this Agreement, which is a part of this Contract.

4. Bond

The Contractor has entered into and herewith tenders a bond of even date herewith, in the penal sum of _____ and 00/100 (\$_____) to insure the faithful performance of this Contract, which said bond is hereby made a part of this Contract by reference.

5. Maintenance and Guarantee

The Contractor shall promptly repair, replace, restore or rebuild any imperfections that may arise and shall maintain satisfactory to the District all work for a period three years from the date of final acceptance of the Contract for trench settlement and for a period of two years all other work, except where periods of maintenance and guarantee are provided for. The Contractor shall, for this period, indemnify and save harmless the District, its officers and agents from any injury done to

property or persons as a direct or alleged result of imperfections in the Contractors' work, and shall immediately assume and take charge of the defense of such action or suits in like manner and to all intents and purposes as if said actions and suits had been brought directly against the Contractor.

If the Contractor shall fail to repair, replace, rebuild or restore such defective or damaged work promptly after receiving notice given by the District, the District shall have the right to have the work done by others and to call on the Contractor and his bondsman to pay the costs thereof.

6. Contract Execution

IT IS EXPRESSLY UNDERSTOOD AND AGREED that the entire improvement shall be done in a thorough and workmanlike manner, under the direction and to the satisfaction of the District and in full compliance with all the requirements of its representative under them. All loss or damage arising out of the nature of the work to be done, or from any detention of unforeseen obstruction or difficulty which may be encountered in the prosecution of the work, or from the action of the elements, shall be sustained by the Contractor.

The Contractor will be held responsible for all accidents, and hereby agrees to indemnify and protect the District from all suits, claims, and actions brought against it, and all cost, and damages which the District may be put to by reason of an injury or alleged injury, to the person or property of another in the execution of this contract, or the performance of the work, or in guarding the same, or for any material used in its prosecution or in its construction.

Any person employed on the work who shall refuse or neglect to obey the directions of the District or its representative, or who shall be deemed by the District to be incompetent, or who shall be guilty of any disorderly conduct, or who shall commit any trespass on any public or private property in the vicinity of the work, shall at once be removed from the work by the Contractor when so requested by the District.

Any request to extend the contract completion date must be considered by the Board at the Board meeting prior to the then-existing contract termination date. Any deviation from this action will result in the liquidated damage clause in the contract to be exercised.

7. Payments to Contractor

The District hereby covenants and agrees, in consideration of the covenants and agreements in this Contract, specified to be kept and performed by the Contractor and subject to the conditions herein contained, and if the District receives an acceptable invoice prior to the tenth day of the month and receives approval of the work by the District's Director of Engineering, the District shall issue payment before the fifth day of the succeeding month. If the District receives an acceptable invoice on or after the tenth day of the month, the District shall issue payment before the fifth day of the second succeeding month.

The District reserves the right at all times to refuse to issue payment in case the Contractor has neglected or failed to pay any subcontractors, workmen or employee on the work.

The Contractor will be paid for the sanitary sewer of this project in part with Special Assessment vouchers at par with interest at five percent (5%) per annum. Cash shall be drawn from the District Public Benefit Fund to pay a portion of the project.

Cavendish Drive Sanitary Sewer Extension Special Assessment No. 134 cash payments shall be determined as follows:

1. Construction Cost (CC) = Contractor's Bid
2. Engineering (E) = $CC \times 0.15$
3. Reserve for Deficit (RD) = $0.045 \times (CC + E)$
4. Cost of Making (CM) = $0.045 \times (CC + E)$
5. Total Project Cost (TPC) = $CC + E + RD + CM$
6. Property Benefit Amount (PBA) = \$-----
7. Public Benefit (PB) = $TPC - PBA$
8. Minimum Cash to Contractor = $PB - (E + RD + CM)$

Payments to be made in accordance with these bidding requirements and those additional provisions contained in the attached contract forms.

8. Subcontracts

No part of the work herein provided for shall be sublet or subcontracted without the express consent of the District, to be entered in the records, and in no case shall consent relieve the Contractor from the obligation herein entered into, or change the terms of this Agreement.

9. Contractor's Responsibility

This Contract shall extend to and be binding upon the successors and assigns, and upon the heirs, administrators, executors, and legal representatives of the Contractor.

In consideration of and to induce the award of this Contract to him, the Contractor represents and warrants: that he is not in arrears to the District upon debt of the Contract and that he is not a defaulter, as surety, contractor or otherwise; that he is financially solvent and sufficiently experienced and competent to perform the work; that the work can be performed as called for by the Contract; that the facts stated in his proposal and the information given by him is true and correct in all respects, and that he is fully informed regarding all the conditions affecting the work to be done and labor and materials to be furnished for the completion of this Contract and that his information was secured by personal investigation and research.

The Contractor shall pay not less than the prevailing wage rate as determined by the Department of Labor, to all laborers, workmen and mechanics performing work under this Contract. Contractor shall comply with current revisions of the wage standards; as required by law. The Contractor shall be responsible for verifying the prevailing wages each month and notifying all subcontractors of the appropriate monthly rates. Certified payroll reports shall be submitted on industry standard forms such as IDOT Statement of Compliance (Form SBE 348).

In regard to nondiscrimination in employment, Contractor will be required to comply with the Illinois Fair Employment Practices Commission's Rules and Regulations as provided herein.

The Contractor shall comply with the American Disabilities Act of 1990 (ADA). The Contractor will hold harmless and indemnify the District and their representatives from all:

- (a) suits, claims, or actions;
- (b) costs, either for defense (including but not limited to reasonable attorney's fees and expert witness fees) or for settlement, and;

(c) damages of any kind (including but not limited to actual, punitive, and compensatory damages) relating in any way to or arising out of the ADA, to which said firm is exposed or which it incurs in the execution of the contract.

Contractor shall also comply with Public Act 99-0933, which requires any party to a contract to adopt and enforce a written policy regarding sexual harassment that includes, as a minimum, the following information:

- (a) the illegality of sexual harassment
- (b) the definition of sexual harassment under Illinois State law;
- (c) a description of sexual harassment, utilizing examples;
- (d) my (our) organization's internal complaint process including penalties;
- (e) through the Illinois Department of Human Rights and the Illinois Human Rights Commission;
- (f) directions on how to contact the Department and the Commission; and
- (g) protection against retaliation as provided by Section 6-101 of the Illinois Human Rights Act.

Upon request this information will be provided to the Illinois Department of Human Rights. Upon District award of a contract, the District will be provided this information described no more than ten working days after the District issues its award notification.

The Contractor shall comply with Article 2 of Public Act 83-1472 which provides that Illinois residents be employed on Illinois public works projects, provided there has been a period of excessive unemployment (5%) in the State of Illinois as defined in the Act; and further, that Illinois workers are available and capable of performing the particular type work involved.

The Contractor shall comply with all rules and regulations of OSHA during the execution of this Contract.

The Contractor shall comply with the Federal Drug Free Workplace Act.

The Steel Products Procurement Act, Illinois Public Act 83-1030, requires that steel products used or supplied in performance of this Contract or subcontract shall be manufactured or produced in the United States with three exceptions, as explained in the Instructions to Bidders.

The Contractor shall comply with Public Act 96-1416 regarding the disposal of CCDD and uncontaminated soil at CCDD fill sites as explained in the Instructions to Bidders.

10. Time

Work under this Agreement shall be commenced upon written Notice to Proceed. The completion date for this project shall be October 30, 2020.

11. Liquidated Damages

The amount of liquidated damages shall be \$300.00 per calendar day.

12. Counterparts

This Agreement may be executed and recorded in counterparts, each of which shall be deemed an original and all of which, when taken together, shall constitute one and the same instrument. The Parties hereby acknowledge and agree that facsimile signatures or signatures transmitted by electronic mail in so-called "pdf" format shall be legal and binding and shall have the same full force and effect as if an original of this Agreement had been delivered. Each of the parties (a) intend to be bound by the signatures on any document sent by facsimile or electronic mail, (b) are aware that the other party will rely on such signatures, and (c) hereby waive any defenses to the enforcement of the terms of this Agreement based on the foregoing forms of signature.

13. Seals

IN WITNESS WHEREOF, the parties have hereunto set their hands and seals, and such of them as are corporations have caused these presents to be signed by their duly authorized officers.

**Rock River Water Reclamation District
Winnebago County, Illinois**

(Seal)

By _____
President, Board of Trustees

ATTEST: _____
Clerk of the Board

Contractor

(Corporate Seal)

By _____
Contractor's Officer

Name: _____

Title: _____

Date: _____

ATTEST: _____

Labor & Material Payment Bond

TO: _____ Contractor Name

_____ Contractor City, State

KNOW ALL MEN BY THESE PRESENTS

That _____ (Contractor)

as Principal, and _____

a corporation of the State of _____ as Surety, are held and firmly bound unto the Rock River Water Reclamation District, as Obligee, for the use and benefit of claimants as hereinafter defined in the amount of

_____ Dollars (\$ _____), for the payment where of Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has by written agreement dated _____ 20__ Entered into a Contract with Obligee for _____ in accordance with contract documents prepared by the Rock River Water Reclamation District which Contract is by reference made a part hereof, and is hereinafter referred to as "the Contract".

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if Principal shall promptly pay for all laborers, workers and mechanics engaged in the work under the Contract, and not less than the general prevailing rate of hourly wages of a similar character in the locality in which the work is performed, as determined by the State of Illinois Department of Labor pursuant to the Illinois Compiled Statutes 280 ILCS 130 / 1-12 et.seq. and for all material used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise it shall remain in full force and effect.

1. A claimant is deemed as any person, firm, or corporation having contracts with the Principal or with any of Principal's subcontractors for labor or materials furnished in the performance of the Contract on account of which this Bond is given.
2. Nothing in this Bond contained shall be taken to make the Obligee liable to any subcontractor, material man or laborer, or to any other person to any greater extent than it would have been liable prior to the enactment of The Public Construction Bond Act, approved June 20, 1931, as amended; provided further, that any person having a claim for labor and materials furnished in the performance of the Contract shall have no right of action unless he shall have filed a verified notice of such claim with the Obligee within 180 days after the date of the last item of work or the furnishing of the last item of materials, which claim shall have been verified and shall contain the name and address of the claimant, the business address of the claimant within the State of Illinois, if any, or if the claimant be a foreign corporation having no place of business within the State the principal place of business of the corporation, and in all cases of partnership the names and residences of each of the partners, the name of the Contractor

for the Obligee, the name of the person, firm or corporation by whom the claimant was employed or to whom such claimant furnished materials, the amount of the claim and a brief description of the public improvement for the construction or installation of which the contract is to be performed. No defect in the notice herein provided for shall deprive the claimant of its right of action under the terms and provisions of this Bond unless it shall affirmatively appear that such defect has prejudiced the rights of an interested party asserting the same.

3. No action shall be brought on this Bond until the expiration of 120 days after the date of the last item of work or of the furnishing of the last item of material except in cases where the final settlement between Obligee and the Contractor shall have been made prior to the expiration of the 120 day period, in which case action may be taken immediately following such final settlement; nor shall any action of any kind be brought later than 6 months after the acceptance by the Obligee of the work. Such suit shall be brought only in the circuit court of this State in the judicial district in which the Contract is to be performed.
4. Surety hereby waives notice of any changes in the Contract, including extensions of time for the performance thereof.
5. The amount of this Bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder.
6. The Principal and Surety shall be liable for any attorneys' fees, engineering costs, or court costs incurred by the Obligee relative to claims made against this Bond.

Signed and Sealed this _____ day of _____, 20____.

CONTRACTOR

SURETY

Contractor Firm Name

By: _____
Signature

Printed Name

Title

By: _____
Attorney-in-Fact Signature

Printed Name

Resident Agent

ATTEST:

Corporate Secretary (Corporations only)

Performance Bond

KNOW ALL MEN BY THESE PRESENTS, that WHEREAS, the Rock River Water Reclamation District has awarded to: _____ hereinafter designated as the "Principal", a contract, dated, _____, for the Rock River Water Reclamation District.

WHEREAS, said Principal is required under the terms of said Contract to furnish a bond for the faithful performance of said Contract (the "Bond");

NOW, THEREFORE, we the Principal and _____, as Surety, are firmly bound unto the Rock River Water Reclamation District in the penal sum of _____ Dollars (\$ _____) lawful money of the United States for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally firmly by these presents for a performance bond. The conditions of this obligation is such that if the said Principal does well and faithfully performs all the conditions and covenants of said Contract, according to the true intent and meaning thereof, upon its part to be kept and performed, then the above obligation is to be null and void, otherwise to remain in full force and effect.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the above bounden Principal, its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the said Contract, including the provisions for liquidated damages in the said Contract, any changes, additions or alterations thereof made as therein provided, on its part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the Rock River Water Reclamation District, its officers and agents, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect. And the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the specifications accompanying the same and no inadvertent overpayment of progress payments shall in any way affect its obligations on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the specifications or of any inadvertent overpayment of progress payments. The Rock River Water Reclamation District shall be named as beneficiary on this Performance Bond.

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their seal this _____ day of _____, 20_____, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

CONTRACTOR

SURETY

Contractor Firm Name

By: _____
Signature

Printed Name

Title

By: _____
Attorney-in-Fact Signature

Printed Name

Resident Agent

ATTEST:

Corporate Secretary (Corporations only)

Section III
Report of Soils Exploration

January 22, 2020



TESTING SERVICE CORPORATION

Rock River Water Reclamation District
Attn: Mr. Tyler Nelson, P.E.
3501 Kishwaukee Street, P.O. Box 7480
Rockford, Illinois 61126-7480

Local Office:

2235 23rd Avenue, Rockford, IL 61104-7334
815.394.2562 • Fax 815.394.2566

RE: L-90,794
Proposed Cavendish Drive Sanitary Sewer Extension
Special Assessment No. 134
Shelburne Drive to Abington Drive
Cherry Valley Township, Winnebago County, Illinois

Dear Mr. Nelson:

Enclosed please find three (3) copies of our Soils Exploration Report prepared for the referenced project. A copy of the report has also been forwarded to you via e-mail. The invoice covering these geotechnical services will be sent under separate cover.

It has been a pleasure to assist you with this work. Please call if there are any questions or if we may be of further service.

Respectfully submitted,

TESTING SERVICE CORPORATION

Jeffrey L. Martin, P.E.
Rockford Branch Manager

JLM/rb

Enc. 3 Reports

cc: Mr. Tyler V. Nelson, P.E.
Rock River Water Reclamation District
Via e-mail: Tnelson@rwrw.illinois.gov



TESTING SERVICE CORPORATION

Corporate Office

360 S. Main Place, Carol Stream, IL 60188-2404
630.462.2600 • Fax 630.653.2988

Local Offices:

457 E. Gundersen Drive, Carol Stream, IL 60188-2492
630.653.3920 • Fax 630.653.2726

650 N. Peace Road, Suite D, DeKalb, IL 60115-8401
815.748.2100 • Fax 815.748.2110

1350 TriState Parkway, Unit 122, Gurnee, IL 60031-9135
847.249.6040 • Fax 844.767.4721

2235 23RD Avenue, Rockford, IL 61104-7334
815.394.2562 • Fax 815.394.2566

203 Earl Road, Suite A, Shorewood, IL 60404-9446
815.744.1510 • Fax 815.744.1728

Report of Soils Exploration

Proposed Cavendish Drive Sanitary Sewer Extension, Special Assessment No. 134

Shelburne Drive to Abington Drive Cherry Valley Township, Winnebago County, Illinois

Geotechnical & Environmental Engineering



Construction Materials Engineering & Testing



Laboratory Testing of Soils, Concrete & Asphalt



Geo-Environmental Drilling & Sampling

Prepared For:

**Rock River Water Reclamation
District**

**3501 Kishwaukee Street,
P.O. Box 7480**

Rockford, Illinois 61126-7480

GEOTECHNICAL GROUP

January 22, 2020

L-90,794

REPORT OF SUBSURFACE EXPLORATION
PROPOSED CAVENDISH DRIVE SANITARY SEWER EXTENSION
SPECIAL ASSESSMENT NO. 134
ROCK RIVER WATER RECLAMATION DISTRICT
SHELBURNE DRIVE TO ABINGTON DRIVE
CHERRY VALLEY TOWNSHIP, WINNEBAGO COUNTY, ILLINOIS

PREPARED FOR:
ROCK RIVER WATER RECLAMATION DISTRICT
3501 KISHWAUKEE STREET, P.O. BOX 7480
ROCKFORD, ILLINOIS 61126-7480

PREPARED BY:
TESTING SERVICE CORPORATION
2235 23RD AVENUE
ROCKFORD, ILLINOIS 61104-7334
815.394.2562

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January 22, 2020

L - 90,794

REPORT OF SUBSURFACE EXPLORATION
PROPOSED CAVENDISH DRIVE SANITARY SEWER EXTENSION
SPECIAL ASSESSMENT NO. 134
SHELBURNE DRIVE TO ABINGTON DRIVE
CHERRY VALLEY TOWNSHIP, WINNEBAGO COUNTY, ILLINOIS

1.0 INTRODUCTION

This report presents results of the subsurface exploration performed in connection with the proposed Cavendish Drive Sanitary Sewer Extension Project in Cherry Valley Township in Winnebago County, Illinois. These geotechnical services are being provided in general accordance with Testing Service Corporation (TSC) Proposal Number (P.N.) 64,196 dated December 6, 2020, the attached TSC General Conditions incorporated herein by reference and Rock River Water Reclamation District's (RRWRD) Purchase Order Number 81192.

It is understood that the proposed sewer extension will extend along Cavendish Drive between Shelburne Drive and Abington Drive. According to preliminary information provided by Mr. Tyler Nelson, P.E., of RRWRD, pipe inverts are anticipated to generally range from approximately 8.3 to 11.5 feet below existing grade or between Elevations 769.2 and 800.9 at the test locations. Other details regarding the design and construction of the proposed sewer project were not available/provided to us as yet.

The results of field and laboratory testing and recommendations based upon these data are included in this report. It should be noted that specific means and methods recommendations are not included in the scope of our work.



2.0 SITE DESCRIPTION

The proposed sewer will extend along Cavendish Drive, between Shelburne Drive and Abington Drive, in Cherry Valley Township in Winnebago County, Illinois. The project site is located in a residential subdivision, east of South Mulford Road in the southeast portion of the City of Rockford, Illinois.

Existing grade along Cavendish Drive slopes down from the north end of the project near the intersection of Cavendish Drive and Abington Drive to the south end of the project at Shelburne Drive. Total relief at the test boring locations is on the order of 32 feet.

3.0 FIELD EXPLORATION AND LABORATORY TESTING

A total of eight (8) soil borings were performed as part of this exploration at the approximate locations determined by RRWRD. The borings were numbered C-1 through C-8. They were drilled at or very near the locations marked in the field by RRWRD personnel. Reference is made to the Boring Location Plan in the Appendix for the boring locations. The elevations at the borings were provided by RRWRD, as indicated on the "Proposed Soil Boring Location Exhibit", sheet #1 dated December 30, 2019. The ground surface elevation for each boring is shown on the boring logs, as well as in parentheses on the Boring Location Plan, in the Appendix of this report.

The borings were each extended to or very near a depth of 20 feet below existing grade, as requested. The borings were drilled and samples tested according to currently recommended American Society for Testing and Materials specifications. Soil sampling was generally performed at 5 foot depth intervals in conjunction with the Standard Penetration Test (SPT), for which driving resistance to a 2" split-spoon sampler ("N" value in blows per foot) provides an indication of the relative density of granular materials and consistency of cohesive soils. Water level readings were taken during and following completion of drilling operations.

Soil samples were examined in the laboratory to verify field descriptions and to classify them in accordance with the Unified Soil Classification System. Laboratory testing included moisture content determinations for all cohesive and intermediate (silt or loamy) soil types. An estimate of unconfined compressive strength



was obtained for all inorganic native clay soils using a calibrated pocket penetrometer, with actual measurements of unconfined compressive strength performed on representative cohesive sample(s).

A portion of each split spoon soil sample from the borings was collected and placed in a separate sealed jar for headspace analysis only. A total of thirty-two (32) samples were collected from these eight soil borings. Headspace analysis on these samples was performed at the TSC office following completion of the borings. The headspace analysis was conducted using a Mini-RAE photo-ionization detector (PID) equipped with a 10.6 eV probe, similar to the instrument utilized to screen each load of soil for final acceptance at a Clean Construction Demolition Debris (CCDD) facility. The PID was used to check for the presence of volatile organic vapors such as those present in petroleum products and solvents. The headspace analysis was performed by removing the screw lid from each sample jar and inserting the tip of the probe into the jar. The vapors that accumulated in the headspace of the jar were drawn into the probe and ionized by an ultraviolet light source. The concentration of these vapors in parts per million (ppm), relative to a Benzene-equivalent calibration standard, was displayed on the instrument display. The background level (or a 0.0 value noted on the logs) refers to the reading associated with the ambient air located at the test location, which in this case is the TSC office. The PID readings for each soil sample are noted on the attached boring logs in the column labeled "PID"; the readings are in units of parts per million (ppm).

Reference is made to the boring logs in the Appendix which indicate subsurface stratigraphy and soil descriptions, results of field and laboratory tests, as well as water level observations. Definitions of descriptive terminology are also included. While strata changes are shown as a definite line on the boring logs, the actual transition between material layers will probably be more gradual. It should be noted that in the absence of foreign substances it is often nearly impossible to distinguish disturbed samples of native soil from fill materials.

4.0 DISCUSSION OF TEST DATA

The following is a generalized description of the pavement materials and soil conditions found in the borings. The reader should refer to the individual boring logs in the Appendix of this report for more specific details.

Pavement materials were found at the surface of the borings. The pavement materials consisted of a bituminous concrete binder and/or surface course(s) overlying granular base course material. The total thickness of the bituminous concrete layer(s) were determined to vary from approximately 3½ to 7 inches at the boring locations. The bituminous pavement materials were underlain by a layer of sand and gravel base course, which was found to be approximately 5 to 9½ inches in thickness. The above pavement thicknesses should be considered approximate as they were estimated from the disturbed sides of the augered boring holes at the test locations. Pavement core(s) should be taken if more exact measurements or detailed pavement material descriptions are required.

Native soils were encountered below the existing pavement materials in the borings made at this site. These native soils generally consisted of layers of silty or sandy clays overlying clayey or silty ("loamy") sands, sands, sandy or clayey silts and very silty clays often with silty sand seams. Sandy or silty clays were found directly below the pavement materials in the borings, extending to depths varying from 6.5 to 8.0 feet in Borings C-1 thru C-5 and C-8 and depths of 17.0 feet in C-6 and 12.0 feet in C-7. Unconfined compressive strengths of these clays varied from 0.39 to 1.5 tons per square foot (tsf), characterizing them as soft to tough, at moisture contents of between 12 and 35 percent.

Layers of clayey or silty sands, sands, clayey or sandy silts and very silty clays with varying amounts of gravel were found below the aforementioned clay deposits in the borings, extending to the boring termination depths. The "loamy" sand, sand and silt deposits exhibited SPT "N" values ranging from 10 blows per foot (bpf) to 50 blows per 2 inches, characterizing them as firm to very dense. Layers of very tough to hard very silty clays with varying amounts of gravel and often interbedded with silty sand seams were found in Borings C-6 through C-8 at depths varying from 7.0 to 17.0 feet below existing grade. These very silty clays exhibited unconfined compressive strengths ranging from 2.0 to 4.5+ tsf at moisture contents of 8 or 9 percent.

Free water was encountered during drilling operations in Borings C-1 thru C-5 at depths ranging from 8.0 to 10.5 feet below existing grade or Elevations 770.4 to 779.5. Upon completion of drilling operations and removal of the augers from the boreholes, free water was observed in Borings C-1 thru C-5 at depths varying from 6.5 to 10.5 feet below existing grade or Elevations 770.9 to 779.5. No groundwater was encountered to the depths drilled, during and shortly after drilling operations, in Borings C-6, C-7 and C-8.

5.0 ANALYSIS AND RECOMMENDATIONS

Summarized by boring location in the following table are the existing ground surface elevations, the proposed preliminary sewer invert elevations (provided by RRWRD), the corresponding invert depths in feet below existing grade, and descriptions of the material found at or near the proposed invert elevation/depth. Comments are also provided regarding construction considerations indicated by the findings.

| Boring Number | Existing Ground Surface Elevation | Preliminary Proposed Invert | | Material at or near Invert Elevation | Comments |
|---------------|-----------------------------------|-----------------------------|------------------------------------|--|----------|
| | | Elevation | Depth in Feet below existing grade | | |
| C-1 | 779.9 | 769.2 | 10.7 | Firm silty Sand, some gravel, trace clay, wet | W |
| C-2 | 783.4 | 771.9 | 11.5 | Firm silty Sand, trace gravel, wet | W |
| C-3 | 784.2 | 773.1 | 11.1 | Firm silty Sand, some gravel, trace clay, wet | W |
| C-4 | 785.6 | 774.5 | 11.1 | Firm clayey Silt, trace sand, very moist over firm clayey Sand and silty Sand, little gravel, wet | M, W |
| C-5 | 789.2 | 780.9 | 8.3 | Firm silty Sand, some gravel, very moist to wet | W |
| C-6 | 796.3 | 786.6 | 9.7 | Stiff silty Clay, trace sand, very moist | M |
| C-7 | 805.0 | 793.7 | 11.3 | Tough sandy Clay, moist to very moist over very tough very silty Clay, some sand, trace gravel, with silty sand seams, moist | CL |
| C-8 | 812.0 | 800.9 | 11.1 | Very tough very silty Clay, some sand, trace gravel, with silty sand seams, moist over very dense silty Sand, some gravel, trace clay, moist | CL |



Legend

- CL Native clay soils found at or near invert depth considered suitable for pipe support.
- M Marginal strength/stability soil found at or near invert depth - anticipate placing an additional 0.5 to 2.0 feet of crushed stone bedding material to provide adequate stability and pipe support.
- W Wet silty or clayey sand soils found at or near pipe invert depth/elevation - may need to place an additional 12 to 24 inches of coarse aggregate below bottom of sewer and provide "tight" excavation support system and/or pre-construction dewatering in order to provide adequate stability and pipe support conditions.

Based on preliminary information provided by RRWRD, it is understood that, generally, the sewer will have invert depths varying between approximately 8 and 12 feet below existing grade at the locations of the borings. Depending on final grades for the sewer, it is anticipated that the excavations for the sewer pipes will encounter layers of surficial pavement materials underlain by mostly soft to tough clay soils overlying firm to very dense saturated clayey or silty sands, sands and silts or very tough to hard very silty clays with gravel and silty sand seams. Tough to very tough sandy or very silty clays (comment "CL" in the above table) are expected to be present in the bottoms of sewer trench excavations in the areas represented by Borings C-7 and C-8. These tough to very tough clays are considered suitable for sewer pipe support.

Stiff silty clay or clayey silt deposits exhibiting marginal stability characteristics (comment "M" in the table) were found at or near invert elevations in Borings C-4 and C-6. These marginal clays exhibited low unconfined compressive strengths ($Q_u/Q_p < 1.0$ tsf). The clayey silts are intermediate materials which are considered moisture sensitive, i.e., can experience a loss of stability when exposed by excavation and subjected to construction traffic in the presence of free moisture. Marginal stability can also be expected at sewer invert depths in C-1, C-2, C-3 and C-5, where wet silty sand was found. These low strength clays, silts or wet silty sands may need to be undercut 6 to 24 inches, as

determined in the field, and replaced with additional crushed stone bedding. This should provide adequate bearing capacity as well as a stable platform for pipe installation.

Relatively thick deposits of saturated "loamy" sands, sands and silts are present in the areas represented by Borings C-1 through C-5 at the site. Groundwater was encountered in these borings at depths as shallow as 6.5 to 10.5 feet below existing grade. These groundwater depths correspond to Elevations ranging from 770.4 to 779.5. Sewer inverts are expected to vary between depths of 8 and 12 feet or Elevations 769.2 and 780.9 at these test locations. Accordingly, some problems with groundwater can be expected for the sewer excavations; as noted in the table above, the excavations are expected to extend into wet sand deposits. Granular soil types under hydrostatic pressure at the time of construction can lead to a running condition, where the materials in the side walls will rapidly slough or "flow" into the excavation. If allowed to occur, running soil conditions may lead to loss of ground and settlement in surrounding areas. Running soil conditions can be controlled with a "tight" excavation support system, preconstruction dewatering procedures or a combination thereof.

To the extent that laborers will work in the excavations, protection against cave-ins must be provided. It should be noted that sand and gravel deposits were found in the borings. These materials are prone to sloughing and caving into excavations. Protective measures for worker safety and loss-of-ground in surrounding properties should include the use of safety trench boxes, sheeting and bracing, or other appropriate methods. In this regard, the contractor must be responsible for meeting OSHA requirements, local regulations and/or project specifications with respect to the safety of his work force.

The clay, silt and silty/clayey sand soils observed in the borings do not appear to be well-suited for use as backfill material. The inorganic, moist to very moist silts and silty, very silty or sandy clays found in the borings may become unstable under vibratory compaction. Clay backfill is not recommended below settlement sensitive structures, pavements or other features. Also, silts and "loamy" sands containing a significant amount of clay and/or silt may also become unstable under vibratory compaction, particularly if they are or become significantly wet of the optimum moisture content for compaction. Wet silty or clayey sands were encountered in the borings at varying depth intervals. The sands with trace amounts or less of fines encountered in the borings are likely to be suitable for backfill. Presently, the sands and silty or clayey sands encountered in the borings were often

saturated/wet, and it appears that they are generally above their optimum moisture contents for compaction and will likely require drying to effectively compact.

Lateral earth pressures for permanent underground structures will be dependent on the type of backfill used and groundwater levels. Equivalent fluid pressures are given for cohesive and granular backfills, assuming at-rest (K_0) earth pressures. The values shown represent the increase in lateral pressure over a 1.0 foot distance measured in pounds per square foot (psf/ft).

| EQUIVALENT FLUID PRESSURE (PSF/FT) | | |
|------------------------------------|-------------------------|-------------------------|
| BACKFILL TYPE | ABOVE WATER TABLE | BELOW WATER TABLE |
| Granular | 50 | 90 |
| Cohesive | 65 | 100 |

As previously noted in this report, headspace analysis was performed on each soil sample obtained from the borings using a Mini-RAE photo-ionization detector (PID). The vapors that accumulated in the headspace of each sample jar were measured with the PID probe. The concentration of these vapors in parts per million (ppm), relative to a Benzene-equivalent calibration standard, was displayed on the instrument display; the results are shown on the attached boring logs in the column headed PID. All samples tested were analyzed to be at or below the background level. The background level (or a 0.0 value noted on the boring logs) refers to the reading associated with the ambient air located at the test location, which in this case is the TSC office.

6.0 CLOSURE

This report includes information regarding subsurface conditions and general recommendations and considerations for the proposed sewer system. It should be noted that means and methods of



construction are the responsibility of the contractor. It is recommended that testing and observation services be provided by Testing Service Corporation personnel during construction.

The analysis and recommendations submitted in this report are based upon the data obtained from the eight (8) soil borings performed at the locations indicated on the Boring Location Plan. This report does not reflect any variations which may occur between or beyond these borings, the nature and extent of which may not become evident until during the course of construction. If variations are then identified, recommendations contained in this report should be re-evaluated after performing on-site observations.

We are available to review this report with you at your convenience.

Prepared by:

A handwritten signature in black ink, appearing to read "Steven R. Koester".

Steven R. Koester, P.E.
Vice President

JLM/rb

Jeffrey L. Martin
Registered Professional Engineer
Illinois No. 062-047621





TESTING SERVICE CORPORATION

GENERAL CONDITIONS

Geotechnical and Construction Services

1. PARTIES AND SCOPE OF WORK: If Client is ordering the services on behalf of another, Client represents and warrants that Client is the duly authorized agent of said party for the purpose of ordering and directing said services, and in such case the term "Client" shall also include the principal for whom the services are being performed. Prices quoted and charged by TSC for its services are predicated on the conditions and the allocations of risks and obligations expressed in these General Conditions. Unless otherwise stated in writing, Client assumes sole responsibility for determining whether the quantity and the nature of the services ordered by Client are adequate and sufficient for Client's intended purpose. Unless otherwise expressly assumed in writing, TSC's services are provided exclusively for Client. TSC shall have no duty or obligation other than those duties and obligations expressly set forth in this Agreement. TSC shall have no duty to any third party. Client shall communicate these General Conditions to each and every party to whom the Client transmits any report prepared by TSC. Ordering services from TSC shall constitute acceptance of TSC's proposal and these General Conditions.

2. SCHEDULING OF SERVICES: The services set forth in this Agreement will be accomplished in a timely and workmanlike manner. If TSC is required to delay any part of its services to accommodate the requests or requirements of Client, regulatory agencies, or third parties, or due to any cause beyond its reasonable control, Client agrees to pay such additional charges, if any, as may be applicable.

3. ACCESS TO SITE: TSC shall take reasonable measures and precautions to minimize damage to the site and any improvements located thereon as a result of its services or the use of its equipment; however, TSC has not included in its fee the cost of restoration of damage which may occur. If Client desires or requires TSC to restore the site to its former condition, TSC will, upon written request, perform such additional work as is necessary to do so and Client agrees to pay to TSC the cost thereof plus TSC's normal markup for overhead and profit.

4. CLIENT'S DUTY TO NOTIFY ENGINEER: Client represents and warrants that Client has advised TSC of any known or suspected hazardous materials, utility lines and underground structures at any site at which TSC is to perform services under this Agreement. Unless otherwise agreed in writing, TSC's responsibility with respect to underground utility locations is to contact the Illinois Joint Utility Locating Information for Excavators for the location of public, but not private, utilities.

5. DISCOVERY OF POLLUTANTS: TSC's services shall not include investigation for hazardous materials as defined by the Resource Conservation Recovery Act, 42 U.S.C. § 6901, et seq., as amended ("RCRA") or by any state or Federal statute or regulation. In the event that hazardous materials are discovered and identified by TSC, TSC's sole duty shall be to notify Client.

6. MONITORING: If this Agreement includes testing construction materials or observing any aspect of construction of improvements, Client's construction personnel will verify that the pad is properly located and sized to meet Client's projected building loads. Client shall cause all tests and inspections of the site, materials and work to be timely and properly performed in accordance with the plans, specifications, contract documents, and TSC's recommendations. No claims for loss, damage or injury shall be brought against TSC unless all tests and inspections have been so performed and unless TSC's recommendations have been followed.

TSC's services shall not include determining or implementing the means, methods, techniques or procedures of work done by the contractor(s) being monitored or whose work is being tested. TSC's services shall not include the authority to accept or reject work or to in any manner supervise the work of any contractor. TSC's services or failure to

perform same shall not in any way operate or excuse any contractor from the performance of its work in accordance with its contract. "Contractor" as used herein shall include subcontractors, suppliers, architects, engineers and construction managers.

Information obtained from borings, observations and analyses of sample materials shall be reported in formats considered appropriate by TSC unless directed otherwise by Client. Such information is considered evidence, but any inference or conclusion based thereon is, necessarily, an opinion also based on engineering judgment and shall not be construed as a representation of fact. Subsurface conditions may not be uniform throughout an entire site and ground water levels may fluctuate due to climatic and other variations. Construction materials may vary from the samples taken. Unless otherwise agreed in writing, the procedures employed by TSC are not designed to detect intentional concealment or misrepresentation of facts by others.

7. DOCUMENTS AND SAMPLES: Client is granted an exclusive license to use findings and reports prepared and issued by TSC and any sub-consultants pursuant to this Agreement for the purpose set forth in TSC's proposal provided that TSC has received payment in full for its services. TSC and, if applicable, its sub-consultant, retain all copyright and ownership interests in the reports, boring logs, maps, field data, field notes, laboratory test data and similar documents, and the ownership and freedom to use all data generated by it for any purpose. Unless otherwise agreed in writing, test specimens or samples will be disposed immediately upon completion of the test. All drilling samples or specimens will be disposed sixty (60) days after submission of TSC's report.

8. TERMINATION: TSC's obligation to provide services may be terminated by either party upon (i) seven days prior written notice. In the event of termination of TSC's services, TSC shall be compensated by Client for all services performed up to and including the termination date, including reimbursable expenses. The terms and conditions of these General Conditions shall survive the termination of TSC's obligation to provide services.

9. PAYMENT: Client shall be invoiced periodically for services performed. Client agrees to pay each invoice within thirty (30) days of its receipt. Client further agrees to pay interest on all amounts invoiced and not paid or objected to in writing for valid cause within sixty (60) days at the rate of twelve (12%) per annum (or the maximum interest rate permitted by applicable law, whichever is the lesser) until paid and TSC's costs of collection of such accounts, including court costs and reasonable attorney's fees.

10. WARRANTY: TSC's professional services will be performed, its findings obtained and its reports prepared in accordance with these General Conditions and with generally accepted principles and practices. In performing its professional services, TSC will use that degree of care and skill ordinarily exercised under similar circumstances by members of its profession. In performing physical work in pursuit of its professional services, TSC will use that degree of care and skill ordinarily used under similar circumstances. This warranty is in lieu of all other warranties or representations, either express or implied. Statements made in TSC reports are opinions based upon engineering judgment and are not to be construed as representations of fact.

Should TSC or any of its employees be found to have been negligent in performing professional services or to have made and breached any express or implied warranty, representation or contract, Client, all parties claiming through Client and all parties claiming to have in any way relied upon TSC's services or work agree that the maximum aggregate amount of damages for which TSC, its officers, employees and agents shall be liable is limited to \$50,000 or the total amount of the fee paid to TSC for its services performed with respect to the project, whichever amount is greater.

In the event Client is unwilling or unable to limit the damages for which TSC may be liable in accordance with the provisions set forth in the preceding paragraph, upon written request of Client received within five days of Client's acceptance of TSC's proposal together with payment of an additional fee in the amount of 5% of TSC's estimated cost for its services (to be adjusted to 5% of the amount actually billed by TSC for its services on the project at time of completion), the limit on damages shall be increased to \$500,000 or the amount of TSC's fee, whichever is the greater. This charge is not to be construed as being a charge for insurance of any type, but is increased consideration for the exposure to an award of greater damages.

11. INDEMNITY: Subject to the provisions set forth herein, TSC and Client hereby agree to indemnify and hold harmless each other and their respective shareholders, directors, officers, partners, employees, agents, subsidiaries and division (and each of their heirs, successors, and assigns) from any and all claims, demands, liabilities, suits, causes of action, judgments, costs and expenses, including reasonable attorneys' fees, arising, or allegedly arising, from personal injury, including death, property damage, including loss of use thereof, due in any manner to the negligence of either of them or their agents or employees or independent contractors. In the event both TSC and Client are found to be negligent or at fault, then any liability shall be apportioned between them pursuant to their pro rata share of negligence or fault. TSC and Client further agree that their liability to any third party shall, to the extent permitted by law, be several and not joint. The liability of TSC under this provision shall not exceed the policy limits of insurance carried by TSC. Neither TSC nor Client shall be bound under this indemnity agreement to liability determined in a proceeding in which it did not participate represented by its own independent counsel. The indemnities provided hereunder shall not terminate upon the termination or expiration of this Agreement, but may be modified to the extent of any waiver of subrogation agreed to by TSC and paid for by Client.

12. SUBPOENAS: TSC's employees shall not be retained as expert witnesses except by separate, written agreement. Client agrees to pay TSC pursuant to TSC's then current fee schedule for any TSC employee(s) subpoenaed by any party as an occurrence witness as a result of TSC's services.

13. OTHER AGREEMENTS: TSC shall not be bound by any provision or agreement (i) requiring or providing for arbitration of disputes or controversies arising out of this Agreement or its performance, (ii) wherein TSC waives any rights to a mechanics lien or surety bond claim; (iii) that conditions TSC's right to receive payment for its services upon payment to Client by any third party or (iv) that requires TSC to indemnify any party beyond its own negligence. These General Conditions are notice, where required, that TSC shall file a lien whenever necessary to collect past due amounts. This Agreement contains the entire understanding between the parties. Unless expressly accepted by TSC in writing prior to delivery of TSC's services, Client shall not add any conditions or impose conditions which are in conflict with those contained herein, and no such additional or conflicting terms shall be binding upon TSC. The unenforceability or invalidity of any provision or provisions shall not render any other provision or provisions unenforceable or invalid. This Agreement shall be construed and enforced in accordance with the laws of the State of Illinois. In the event of a dispute arising out of or relating to the performance of this Agreement, the breach thereof or TSC's services, the parties agree to try in good faith to settle the dispute by mediation under the Construction Industry Mediation Rules of the American Arbitration Association as a condition precedent to filing any demand for arbitration, or any petition or complaint with any court. Paragraph headings are for convenience only and shall not be construed as limiting the meaning of the provisions contained in these General Conditions.

APPENDIX

UNIFIED CLASSIFICATION CHART

LEGEND FOR BORING LOGS

BORING LOGS

BORING LOCATION PLAN

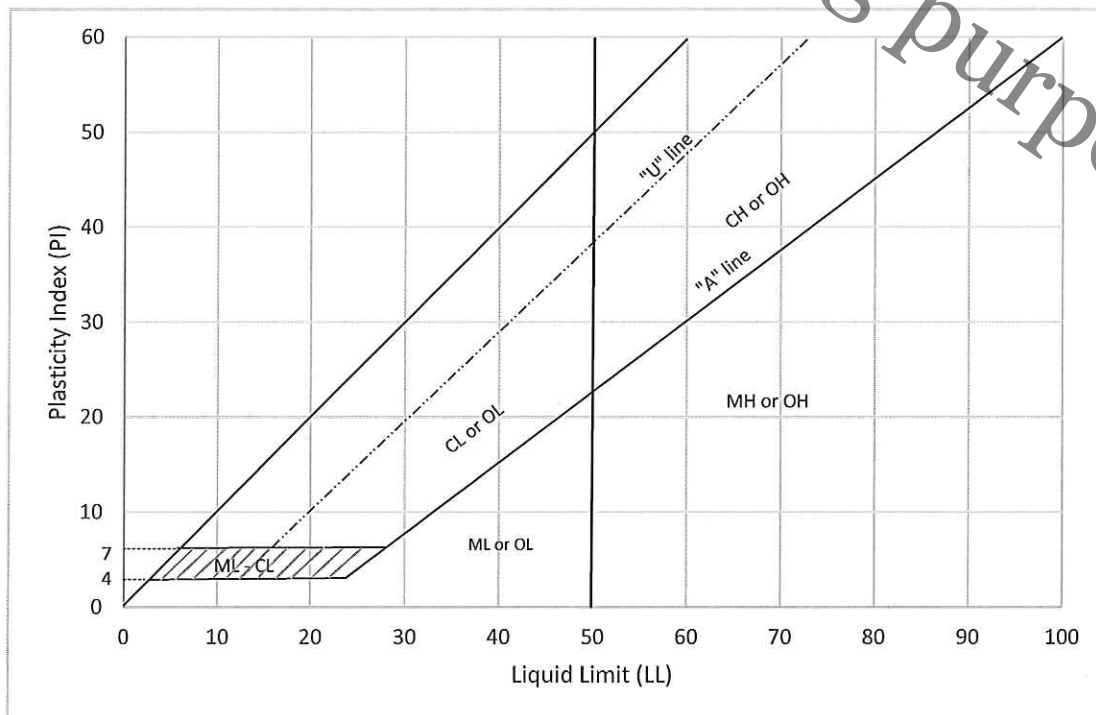
Not to be used for bidding purposes

Testing Service Corporation Unified Classification Chart



| CRITERIA FOR ASSIGNING GROUP SYMBOLS AND GROUP NAMES USING LABORATORY TEST ^a | | | | SOIL CLASSIFICATION | |
|--|--|---|---|---------------------|--|
| | | | | Group Symbol | GROUP NAME ^b |
| COARSE - GRAINED SOILS more than 50% retained on No. 200 sieve | GRAVELS More than 50% of coarse fraction retained on No. 4 sieve | CLEAN GRAVELS less than 5% fines ^c | $C_u \geq 4$ and $1 \leq C_c \leq 3$ ^e | GW | Well-graded gravel ^f |
| | | | $C_u < 4$ and/or $1 > C_c > 3$ ^e | GP | Poorly-graded gravel ^f |
| | | GRAVELS WITH FINES more than 12% fines ^c | Fines classify as ML or MH | GM | Silty gravel ^{f, g, h} |
| | | | Fines classify as CL or CH | GC | Clayey gravel ^{f, g, h} |
| | SANDS 50% or more of coarse fraction passes No. 4 sieve | CLEAN SANDS less than 5% fines ^d | $C_u \geq 6$ and $1 \leq C_c \leq 3$ ^e | SW | Well-graded sand ⁱ |
| | | | $C_u < 6$ and/or $1 > C_c > 3$ ^e | SP | Poorly-graded sand ⁱ |
| | | SANDS WITH FINES more than 12% fines ^d | Fines classify as ML or MH | SM | Silty sand ^{g, h, f} |
| | | | Fines classify as CL or CH | SC | Clayey sand ^{g, h, f} |
| FINE - GRAINED SOILS 50% or more passed the No. 200 sieve | SILTS & CLAYS Liquid limit less than 50% | Inorganic | PI > 7 or plots on or above "A" line ^j | CL | Lean clay ^{k, l, m} |
| | | | PI < 4 or plots below "A" line ^j | ML | Silt ^{k, l, m} |
| | | Organic | $\frac{\text{Liquid limit} - \text{oven dried}}{\text{Liquid limit} - \text{not dried}} < 0.75$ | OL | Organic clay ^{k, l, m, n} Organic silt ^{k, l, m, o} |
| | | | | | |
| | SILTS & CLAYS Liquid limit 50% or more | Inorganic | PI plots on or above "A" line | CH | Fat clay ^{k, l, m} |
| | | | PI plots below "A" line | MH | Elastic silt ^{k, l, m} |
| | | Organic | $\frac{\text{Liquid limit} - \text{oven dried}}{\text{Liquid limit} - \text{not dried}} < 0.75$ | OH | Organic clay ^{k, l, m, p} Organic silt ^{k, l, m, q} |
| | | | | | |
| Highly organic soils | | Primarily organic matter, dark in color, and organic odor | | PT | Peat |

- a. Based on the material passing the 3-inch (75-mm) sieve.
- b. If field sample contained cobbles and/or boulders, add "with cobbles and/or boulders" to group name
- c. Gravels with 5 to 12% fines required dual symbols
GW-GM well graded gravel with silt
GW-GC well graded gravel with clay
GP-GM poorly graded gravel with silt
GP-GC poorly graded gravel with clay
- d. Sands with 5 to 12% fines require dual symbols
SW-SM well graded sand with silt
SW-SC well graded sand with clay
SP-SM poorly graded sand with silt
SP-SC poorly graded sand with clay
- e. $C_u = D_{60}/D_{10}$ $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$
- f. If soils contains $\geq 15\%$ sand, add "with sand" to group name.
- g. If fines classify as CL-ML, use dual symbol GC-GM, SC-SM
- h. If fines are organic, add "with organic fines" to group name
- i. If soils contains $\geq 15\%$ gravel, add "with gravel" to group name
- j. If Atterberg Limits plot in hatched area, soil is a CL – ML, silty clay
- k. If soils contains 15 to 29% plus No. 200, add "with sand" or "with gravel" whichever is predominant
- l. If soil contains $\geq 30\%$ plus No. 200, predominantly sand, add "sandy" to group name.
- m. If soils contains $\geq 30\%$ plus No. 200, predominantly gravel, add "gravelly" to group name
- n. PI ≥ 4 and plots on or above "A" line
- o. PI ≥ 4 and plots below "A" line
- p. PI plots on or above "A" line
- q. PI plots below "A" line





TESTING SERVICE CORPORATION

LEGEND FOR BORING LOGS



FILL



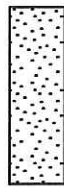
TOPSOIL



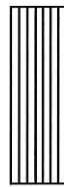
PEAT



GRAVEL



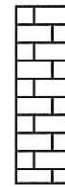
SAND



SILT



CLAY



DOLOMITE

SAMPLE TYPE

SS = Split Spoon
ST = Thin-Walled Tube
A = Auger
MC = Macro-Core (Geo Probe)

WATER LEVELS:

▼ While Drilling
▼ End of Boring
▼ 24 Hours

FIELD AND LABORATORY TEST DATA

N = Standard Penetration Resistance in Blows per Foot
WC = In-Situ Water Content
Qu = Unconfined Compressive Strength in Tons per Square Foot
* Pocket Penetrometer Measurement. Maximum Reading = 4.5 tsf
Y_{DRY} = Dry Unit Weight in Pounds per Cubic Foot

SOIL DESCRIPTION

MATERIAL

BOULDER

COBBLE

Coarse GRAVEL

Small GRAVEL

Coarse SAND

Medium SAND

Fine SAND

SILT and CLAY

PARTICLE SIZE RANGE

Over 12 inches

12 inches to 3 inches

3 inches to $\frac{3}{4}$ inch

$\frac{3}{4}$ inch to No. 4 Sieve

No. 4 Sieve to No. 10 Sieve

No. 10 Sieve to No. 40 Sieve

No. 40 Sieve to No. 200 Sieve

Passing No. 200 Sieve

COHESIVE SOILS

CONSISTENCY

Very Soft

Soft

Stiff

Tough

Very Tough

Hard

Qu (tsf)

Less than 0.3

0.3 to 0.6

0.6 to 1.0

1.0 to 2.0

2.0 to 4.0

4.0 and over

COHESIONLESS SOILS

RELATIVE DENSITY

Very Loose

Loose

Firm

Dense

Very Dense

N (bpf)

0 - 4

4 - 10

10 - 30

30 - 50

50 and over

MODIFYING TERM

Trace

Little

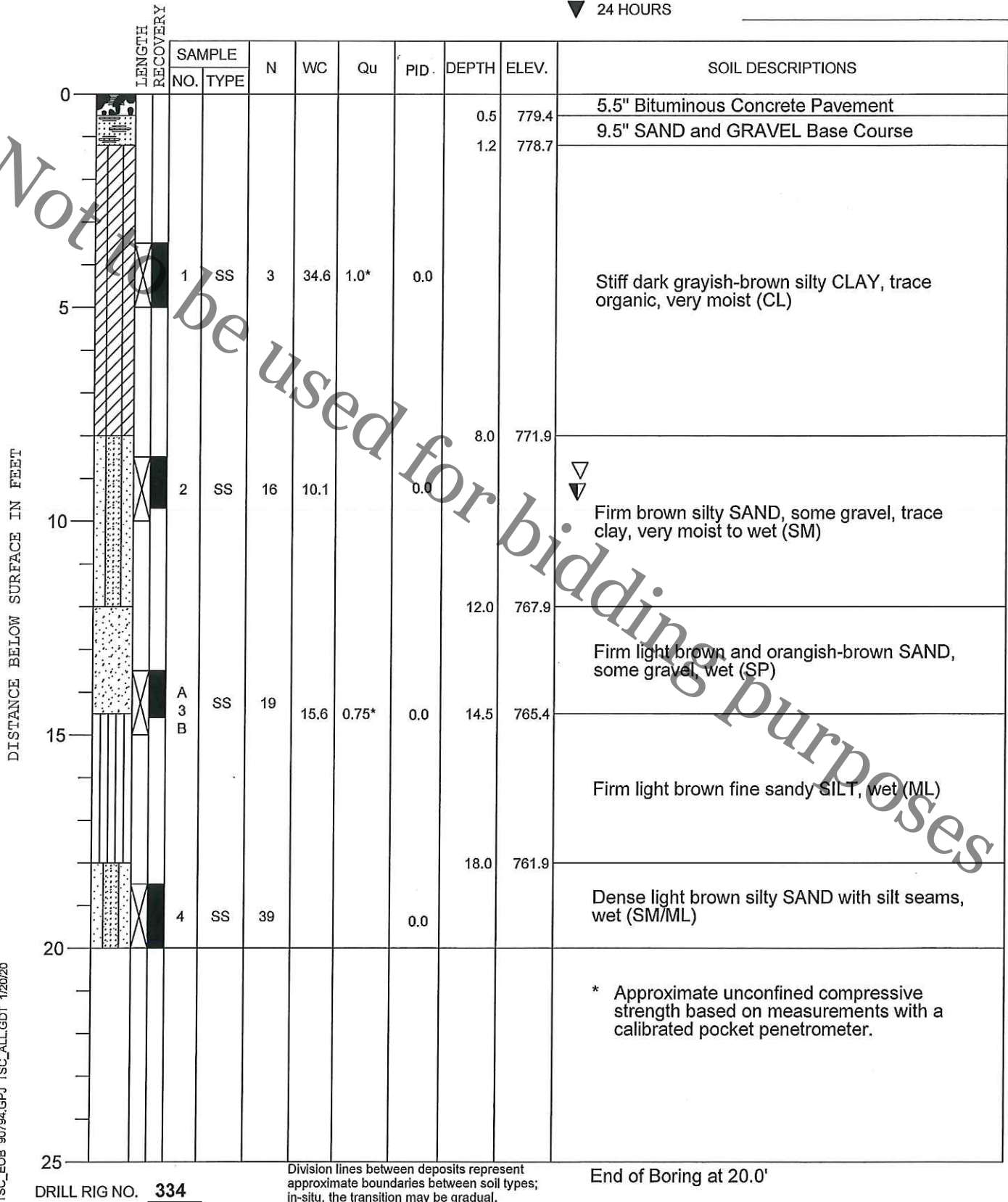
Some

PERCENT BY WEIGHT

1 - 10

10 - 20

20 - 35

PROJECT Cavendish Drive Sanitary Sewer Extension, Winnebago County, IllinoisCLIENT Rock River Water Reclamation District, Rockford, IllinoisBORING C1 DATE STARTED 1-13-20 DATE COMPLETED 1-13-20 JOB L-90,794ELEVATIONS
GROUND SURFACE 779.9
END OF BORING 759.9WATER LEVEL OBSERVATIONS
▽ WHILE DRILLING 9.5'
▽ AT END OF BORING 9.0'
▽ 24 HOURS

PROJECT **Cavendish Drive Sanitary Sewer Extension, Winnebago County, Illinois**CLIENT **Rock River Water Reclamation District, Rockford, Illinois**BORING **C2** DATE STARTED **1-13-20** DATE COMPLETED **1-13-20** JOB **L-90,794**ELEVATIONS
GROUND SURFACE **783.4**END OF BORING **763.4**WATER LEVEL OBSERVATIONS
▽ WHILE DRILLING **10.0'**
▽ AT END OF BORING **9.5'**
▽ 24 HOURS

| DISTANCE BELOW SURFACE IN FEET | LENGTH RECOVERY | SAMPLE | | N | WC | Qu | PID | DEPTH | ELEV. | SOIL DESCRIPTIONS |
|--------------------------------|--------------------|--------|------|----|------|--------------|-----|-------|-------|--|
| | | NO. | TYPE | | | | | | | |
| 0 | | | | | | | | 0.4 | 783.0 | 5" Bituminous Concrete Pavement |
| | | | | | | | | 1.0 | 782.4 | 7.5" SAND and GRAVEL Base Course |
| 5 | | 1 | SS | 6 | 26.2 | 0.78 1.0* | 0.0 | | | Stiff light brown and rusty brown silty CLAY, very moist (CL) |
| 10 | | 2 | SS | 12 | 12.7 | | 0.0 | 8.0 | 775.4 | ▽ Firm light brown silty SAND, trace small gravel, very moist to wet (SM) |
| 15 | | 3 | SS | 13 | | | 0.0 | 12.0 | 771.4 | Firm light brown and orangish-brown SAND, some gravel, trace silt, wet (SP-SM) |
| 20 | | 4 | SS | 35 | | | 0.0 | 18.0 | 765.4 | Dense light brown silty SAND, little to some gravel, wet (SM) |
| 25 | | | | | | | | | | * Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer. |

DRILL RIG NO. **334**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

End of Boring at 20.0'

PROJECT **Cavendish Drive Sanitary Sewer Extension, Winnebago County, Illinois**CLIENT **Rock River Water Reclamation District, Rockford, Illinois**BORING **C4** DATE STARTED **1-10-20** DATE COMPLETED **1-10-20** JOB **L-90,794**ELEVATIONS
GROUND SURFACE **785.6**END OF BORING **765.6**WATER LEVEL OBSERVATIONS
▽ WHILE DRILLING **10.5'**▽ AT END OF BORING **10.5'**

▽ 24 HOURS

| DISTANCE BELOW SURFACE IN FEET | LENGTH RECOVERY | SAMPLE | | N | WC | Qu | PID | DEPTH | ELEV. | SOIL DESCRIPTIONS |
|--------------------------------|--------------------|--------|------|----|------|------|-----|-------|-------|--|
| | | NO. | TYPE | | | | | | | |
| 0 | | | | | | | | 0.6 | 785.0 | 7" Bituminous Concrete Pavement |
| | | | | | | | | 1.2 | 784.4 | 8" SAND and GRAVEL Base Course |
| 5 | | 1 | SS | 7 | 23.6 | 1.5* | 0.0 | | | Tough light brown and rusty brown silty CLAY, moist to very moist (CL) |
| 10 | | 2 | SS | 10 | 13.5 | 0.5* | 0.0 | | | Firm light brown to pinkish-brown clayey SILT, trace sand, very moist (ML) |
| 15 | | 3 | SS | 11 | 8.7 | | 0.0 | 13.0 | 772.6 | Firm light brown clayey SAND and silty SAND, little gravel, very moist to wet (SC/SM) |
| 20 | | 4 | SS | 25 | | | 0.0 | 17.0 | 768.6 | Firm light brown SAND, trace gravel and silt, wet (SP-SM) |
| 25 | | | | | | | | | | * Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer. |

DRILL RIG NO. **334**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

End of Boring at 20.0'

PROJECT Cavendish Drive Sanitary Sewer Extension, Winnebago County, IllinoisCLIENT Rock River Water Reclamation District, Rockford, IllinoisBORING C5 DATE STARTED 1-10-20 DATE COMPLETED 1-10-20 JOB L-90,794ELEVATIONS
GROUND SURFACE 789.2END OF BORING 769.2

WATER LEVEL OBSERVATIONS

▽ WHILE DRILLING 10.0'▽ AT END OF BORING 10.0'

▽ 24 HOURS

| DISTANCE BELOW SURFACE IN FEET | LENGTH RECOVERY | SAMPLE | | N | WC | Qu | PID | DEPTH | ELEV. | SOIL DESCRIPTIONS |
|--------------------------------|--------------------|-------------|------|----|------|------|-----|-------|-------|---|
| | | NO. | TYPE | | | | | | | |
| 0 | | | | | | | | 0.4 | 788.8 | 5" Bituminous Concrete Pavement |
| | | | | | | | | 0.8 | 788.4 | 5" SAND and GRAVEL Base Course |
| 5 | | 1 | SS | 7 | 24.9 | 1.0* | 0.0 | | | Stiff rusty brown and light gray silty CLAY, slight mottling, very moist (CL) |
| 10 | | 2 | SS | 27 | 6.9 | | 0.0 | 8.0 | 781.2 | Firm light brown silty SAND, some gravel and dolomite fragments, very moist (SM) |
| | | | | | | | | 10.0 | 779.2 | |
| 15 | | A 3 B | SS | 32 | 9.5 | 4.5* | 0.0 | 14.5 | 774.7 | Dense light brown and pinkish-brown silty SAND, trace to little gravel, wet (SM) |
| | | | | | | | | | | Dense pinkish-brown clayey SILT, some sand, trace to little gravel, very moist (ML) |
| | | | | | | | | 17.0 | 772.2 | |
| 20 | | 4 | SS | 72 | | | 0.0 | | | Very dense brown SAND, some gravel, trace silt, wet (SP-SM) |
| 25 | | | | | | | | | | |

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DRILL RIG NO. 334

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

End of Boring at 20.0'

PROJECT **Cavendish Drive Sanitary Sewer Extension, Winnebago County, Illinois**CLIENT **Rock River Water Reclamation District, Rockford, Illinois**BORING **C6** DATE STARTED **1-10-20** DATE COMPLETED **1-10-20** JOB **L-90,794**ELEVATIONS
GROUND SURFACE **796.3**END OF BORING **776.3**WATER LEVEL OBSERVATIONS
▽ WHILE DRILLING **Dry**
▽ AT END OF BORING **Dry**
▽ 24 HOURS

| DISTANCE BELOW SURFACE IN FEET | LENGTH RECOVERY | SAMPLE | | N | WC | Qu | PID | DEPTH | ELEV. | SOIL DESCRIPTIONS |
|--------------------------------|--------------------|--------|------|----|------|---------------|-----|-------|-------|--|
| | | NO. | TYPE | | | | | | | |
| 0 | | | | | | | | 0.4 | 795.9 | 4.5" Bituminous Concrete Pavement |
| | | | | | | | | 0.8 | 795.5 | 5.5" SAND and GRAVEL Base Course |
| 5 | | 1 | SS | 6 | 25.5 | 1.01 1.25* | 0.0 | | | Tough brown silty CLAY, very moist (CL) |
| 10 | | 2 | SS | 5 | 21.4 | 0.70 1.0* | 0.0 | 8.0 | 788.3 | Stiff grayish-brown silty CLAY, trace sand, very moist (CL) |
| 15 | | 3 | SS | 3 | 12.3 | 0.5* | 0.0 | 13.0 | 783.3 | Soft light brown sandy CLAY, little gravel, very moist (CL-ML) |
| 20 | | 4 | SS | 46 | 8.3 | 2.47 2.0* | 0.0 | 17.0 | 779.3 | Very tough light brown very silty CLAY, some sand, trace gravel with silty sand seams, moist (CL-ML/SM) |
| 25 | | | | | | | | | | * Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer. |

DRILL RIG NO. **334**Division lines between deposits represent
approximate boundaries between soil types;
in-situ, the transition may be gradual.

End of Boring at 20.0'

TSC_EOB 90794.GPJ TSC_ALL_GDT 1/20/20

PROJECT **Cavendish Drive Sanitary Sewer Extension, Winnebago County, Illinois**CLIENT **Rock River Water Reclamation District, Rockford, Illinois**BORING **C7** DATE STARTED **1-10-20** DATE COMPLETED **1-10-20** JOB **L-90,794**

ELEVATIONS

GROUND SURFACE **805.0**END OF BORING **785.0**

WATER LEVEL OBSERVATIONS

▼ WHILE DRILLING **Dry**▼ AT END OF BORING **Dry**

▼ 24 HOURS

| DISTANCE BELOW SURFACE IN FEET | LENGTH RECOVERY | SAMPLE | | N | WC | Qu | PID | DEPTH | ELEV. | SOIL DESCRIPTIONS |
|--------------------------------|--------------------|--------|------|----|------|--------------|-----|-------|-------|---|
| | | NO. | TYPE | | | | | | | |
| 0 | | | | | | | | 0.3 | 804.7 | 4" Bituminous Concrete Pavement |
| | | | | | | | | 0.9 | 804.1 | 6.5" SAND and GRAVEL Base Course |
| 5 | | 1 | SS | 5 | 29.7 | 0.5* | 0.0 | | | Soft brown silty CLAY, very moist (CL) |
| 10 | | 2 | SS | 10 | 14.9 | 1.55 1.5* | 0.0 | 7.0 | 798.0 | Tough reddish-brown sandy CLAY, moist to very moist (CL) |
| 15 | | 3 | SS | 18 | 8.6 | 2.09 3.5* | 0.0 | 12.0 | 793.0 | Very tough to hard pinkish-brown very silty CLAY, some sand, trace gravel with silty sand seams, moist (CL-ML/SM) |
| 20 | | 4 | SS | 80 | 8.5 | 4.5+* | 0.0 | | | |
| 25 | | | | | | | | | | |

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

End of Boring at 20.0'

DRILL RIG NO. **334**

PROJECT **Cavendish Drive Sanitary Sewer Extension, Winnebago County, Illinois**CLIENT **Rock River Water Reclamation District, Rockford, Illinois**BORING **C8** DATE STARTED **1-10-20** DATE COMPLETED **1-10-20** JOB **L-90,794**

ELEVATIONS

GROUND SURFACE **812.0**END OF BORING **792.0**

WATER LEVEL OBSERVATIONS

▼ WHILE DRILLING **Dry**▼ AT END OF BORING **Dry**

▼ 24 HOURS

| DISTANCE BELOW SURFACE IN FEET | LENGTH RECOVERY | SAMPLE | | N | WC | Qu | PID | DEPTH | ELEV. | SOIL DESCRIPTIONS |
|--------------------------------|--------------------|--------|------|-------|------|--------------|-----|-------|-------|--|
| | | NO. | TYPE | | | | | | | |
| 0 | | | | | | | | 0.3 | 811.7 | 3.5" Bituminous Concrete Pavement |
| | | | | | | | | 1.1 | 810.9 | 9.5" SAND and GRAVEL Base Course |
| 5 | | 1 | SS | 6 | 15.7 | 1.0* | 0.0 | | | Stiff reddish-brown sandy CLAY, trace gravel, very moist (CL) |
| 10 | | 2 | SS | 24 | 8.4 | 2.89 3.5* | 0.0 | 7.0 | 805.0 | Very tough pinkish-brown very silty CLAY, some sand, trace gravel with silty sand seams, moist (CL-ML/SM) |
| 15 | | 3 | SS | 50/3" | 6.1 | | 0.0 | 12.0 | 800.0 | Very dense light brown silty SAND, some gravel, trace clay, moist (SM) |
| 20 | | 4 | SS | 50/2" | 5.9 | | 0.0 | | | |
| 25 | | | | | | | | | | * Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer. |

DRILL RIG NO. **334**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

End of Boring at 20.0'

TSC_EOB 90794.GPJ TSC_ALL.GDT 1/20/20

BORING LOCATION PLAN
PROPOSED CAVENDISH DRIVE SANITARY SEWER EXTENSION
SPECIAL ASSESSMENT NO. 134
SHELBURNE DRIVE TO ABINGTON DRIVE
CHERRY VALLEY TOWNSHIP, WINNEBAGO COUNTY, ILLINOIS
JANUARY, 2020
TSC JOB NO. L-90,794



| SOIL BORING TABLE | | | | |
|-------------------|----------|-------------------|------------|------------|
| PT # | Boring # | Surface Elevation | Horshing | Existing |
| 1 | C-8 | 795.02 | 2027799.26 | 2015047.78 |
| 2 | C-7 | 795.42 | 2027793.52 | 2014018.57 |
| 3 | C-6 | 794.48 | 2020545.92 | 2014745.25 |
| 4 | C-5 | 793.64 | 2021278.62 | 2014133.21 |
| 5 | C-4 | 793.35 | 2020331.30 | 2014191.82 |
| 6 | C-3 | 793.29 | 2020209.71 | 2014112.48 |
| 7 | C-2 | 805.03 | 2020425.49 | 2013828.93 |
| 8 | C-1 | 812.04 | 2020109.09 | 2014042.21 |
| 9 | S-1 | 797.81 | 2027708.84 | 2014133.36 |
| 10 | S-2 | 795.19 | 2027753.13 | 2013822.37 |
| 11 | S-3 | 793.49 | 2020593.92 | 2013833.19 |
| 12 | S-4 | 801.52 | 2020174.67 | 2013948.37 |
| 13 | S-5 | 807.65 | 2020497.25 | 2013904.65 |
| 14 | S-6 | 814.43 | 2020108.92 | 2013982.21 |

ALL BORINGS TO HAVE A DEPTH OF 20' OR DEEPER.



ROCK RIVER WATER
 RECLAMATION DISTRICT
 3501 KISHWAUKEE STREET
 ROCKFORD, ILLINOIS 61109
 (815) 397-7669

| No. | DATE | REVISION | BY |
|-----|------|----------|----|
| | | | |
| | | | |
| | | | |

CAVENDISH DRIVE - SPECIAL ASSESSMENT #134
 SHELBURNE DRIVE - SPECIAL ASSESSMENT #135

PROPOSED SOIL BORING LOCATION EXHIBIT

Sheet No.
 1 OF 1
 Date
 12/20/2019

Section IV
IDOT Check Sheets



The Following Recurring Special Provisions Indicated By An "X" Are Applicable To This Contract And Are Included By Reference:

Recurring Special Provisions

| <u>Check Sheet #</u> | | <u>Page No.</u> |
|----------------------|---|-----------------|
| 1 | <input type="checkbox"/> Additional State Requirements for Federal-Aid Construction Contracts | 83 |
| 2 | <input type="checkbox"/> Subletting of Contracts (Federal-Aid Contracts) | 86 |
| 3 | <input type="checkbox"/> EEO | 87 |
| 4 | <input type="checkbox"/> Specific EEO Responsibilities Non Federal-Aid Contracts | 97 |
| 5 | <input checked="" type="checkbox"/> Required Provisions - State Contracts | 102 |
| 6 | <input type="checkbox"/> Asbestos Bearing Pad Removal | 108 |
| 7 | <input type="checkbox"/> Asbestos Waterproofing Membrane and Asbestos HMA Surface Removal | 109 |
| 8 | <input type="checkbox"/> Temporary Stream Crossings and In-Stream Work Pads | 110 |
| 9 | <input type="checkbox"/> Construction Layout Stakes Except for Bridges | 111 |
| 10 | <input type="checkbox"/> Construction Layout Stakes | 114 |
| 11 | <input type="checkbox"/> Use of Geotextile Fabric for Railroad Crossing | 117 |
| 12 | <input type="checkbox"/> Subsealing of Concrete Pavements | 119 |
| 13 | <input type="checkbox"/> Hot-Mix Asphalt Surface Correction | 123 |
| 14 | <input type="checkbox"/> Pavement and Shoulder Resurfacing | 125 |
| 15 | <input type="checkbox"/> Patching with Hot-Mix Asphalt Overlay Removal | 126 |
| 16 | <input type="checkbox"/> Polymer Concrete | 128 |
| 17 | <input type="checkbox"/> PVC Pipeliner | 130 |
| 18 | <input type="checkbox"/> Bicycle Racks | 131 |
| 19 | <input type="checkbox"/> Temporary Portable Bridge Traffic Signals | 133 |
| 20 | <input type="checkbox"/> Work Zone Public Information Signs | 135 |
| 21 | <input type="checkbox"/> Nighttime Inspection of Roadway Lighting | 136 |
| 22 | <input type="checkbox"/> English Substitution of Metric Bolts | 137 |
| 23 | <input type="checkbox"/> Calcium Chloride Accelerator for Portland Cement Concrete | 138 |
| 24 | <input type="checkbox"/> Quality Control of Concrete Mixtures at the Plant | 139 |
| 25 | <input type="checkbox"/> Quality Control/Quality Assurance of Concrete Mixtures | 147 |
| 26 | <input type="checkbox"/> Digital Terrain Modeling for Earthwork Calculations | 163 |
| 27 | <input type="checkbox"/> Reserved | 165 |
| 28 | <input type="checkbox"/> Preventive Maintenance - Bituminous Surface Treatment (A-1) | 166 |
| 29 | <input type="checkbox"/> Reserved | 172 |
| 30 | <input type="checkbox"/> Reserved | 173 |
| 31 | <input type="checkbox"/> Reserved | 174 |
| 32 | <input type="checkbox"/> Temporary Raised Pavement Markers | 175 |
| 33 | <input type="checkbox"/> Restoring Bridge Approach Pavements Using High-Density Foam | 176 |
| 34 | <input type="checkbox"/> Portland Cement Concrete Inlay or Overlay | 179 |
| 35 | <input type="checkbox"/> Portland Cement Concrete Partial Depth Hot-Mix Asphalt Patching | 183 |
| 36 | <input type="checkbox"/> Longitudinal Joint and Crack Patching | 186 |

The Following Local Roads And Streets Recurring Special Provisions Indicated By An "X" Are Applicable To This Contract And Are Included By Reference:

Local Roads And Streets Recurring Special Provisions

| <u>Check Sheet #</u> | | <u>Page No.</u> |
|----------------------|---|-----------------|
| LRS 1 | <input type="checkbox"/> Reserved | 189 |
| LRS 2 | <input type="checkbox"/> Furnished Excavation | 190 |
| LRS 3 | <input type="checkbox"/> Work Zone Traffic Control Surveillance | 191 |
| LRS 4 | <input type="checkbox"/> Flaggers in Work Zones | 192 |
| LRS 5 | <input type="checkbox"/> Contract Claims | 193 |
| LRS 6 | <input type="checkbox"/> Bidding Requirements and Conditions for Contract Proposals | 194 |
| LRS 7 | <input type="checkbox"/> Bidding Requirements and Conditions for Material Proposals | 200 |
| LRS 8 | Reserved | 206 |
| LRS 9 | <input checked="" type="checkbox"/> Bituminous Surface Treatments | 207 |
| LRS 10 | Reserved | 208 |
| LRS 11 | <input type="checkbox"/> Employment Practices | 209 |
| LRS 12 | <input type="checkbox"/> Wages of Employees on Public Works | 211 |
| LRS 13 | <input type="checkbox"/> Selection of Labor | 213 |
| LRS 14 | <input type="checkbox"/> Paving Brick and Concrete Paver Pavements and Sidewalks | 214 |
| LRS 15 | <input type="checkbox"/> Partial Payments | 217 |
| LRS 16 | <input type="checkbox"/> Protests on Local Lettings | 218 |
| LRS 17 | <input type="checkbox"/> Substance Abuse Prevention Program | 219 |
| LRS 18 | <input type="checkbox"/> Multigrade Cold Mix Asphalt | 220 |

CHECK SHEET #10

State of Illinois
Department of Transportation

SPECIAL PROVISION FOR CONSTRUCTION LAYOUT STAKES

Effective: May 1, 1993
Revised: January 1, 2007

Description. The Contractor shall furnish and place construction layout stakes for this project. The Department will provide adequate reference points to the centerline of survey and bench marks as shown in the plans and listed herein. Any additional control points set by the Department will be identified in the field to the Contractor and all field notes will be kept in the office of the Resident Engineer.

The Contractor shall provide field forces, equipment, and material to set all additional stakes for this project, which are needed to establish offset stakes, reference points, and any other horizontal or vertical controls, including supplementary bench marks, necessary to secure a correct layout of the work. Stakes for line and grade of pavement and/or curb shall be set at sufficient station intervals (not to exceed 50 ft (15 m)) to assure substantial conformance to plan line and grade. The Contractor will not be required to set additional stakes to locate a utility line which is not included as a pay item in the contract nor to determine property lines between private properties.

The Contractor shall be responsible for having the finished work conform to the lines, grades, elevations, and dimensions called for in the plans. Any inspection or checking of the Contractor's layout by the Department Engineer and the acceptance of all or any part of it shall not relieve the Contractor of his/her responsibility to secure the proper dimensions, grades and elevations of the several parts of the work. The Contractor shall exercise care in the preservation of stakes and bench marks and shall have them reset when any are damaged, lost, displaced, removed, or otherwise obliterated.

Responsibility of the Department.

- (a) The Department will locate and reference the centerline of all roads and streets, except interchange ramps. The centerline of private entrances and short street intersection returns may not be located or referenced by the Department.

Locating and referencing the centerline of survey will consist of establishing and referencing the control points of the centerline of surveys such as PC's, PT's and as many POT's as are necessary to provide a line of sight.

- (b) Bench marks will be established along the project outside of construction lines not exceeding 1000 ft (300 m) intervals horizontally and 20 ft (6 m) vertically.

CHECK SHEET #10

- (c) Stakes set for (a) and (b) above will be identified in the field to the Contractor.
- (d) The Department will make random checks of the Contractor's staking to determine if the work is in conformance with the plans. Where the Contractor's work will tie into work that is being or will be done by others, checks will be made to determine if the work is in conformance with the proposed overall grade and horizontal alignment.
- (e) The Department will set all stakes for utility adjustments and for building fences along the right-of-way line by parties other than the Contractor.
- (f) The Department will make all measurements and take all cross sections from which the various pay items will be measured.
- (g) Where the Contractor, in setting construction stakes, discovers discrepancies, the Department will check to determine their nature and make whatever revisions are necessary in the plans, including the recross sectioning of the area involved. Any additional restaking required by the Engineer will be the responsibility of the Contractor. The additional restaking done by the Contractor will be paid for according to Article 109.04 of the Standard Specifications.
- (h) The Department will accept responsibility for the accuracy of the initial control points as provided herein.
- (i) It is not the responsibility of the Department, except as provided herein, to check the correctness of the Contractor's stakes; any errors apparent will be immediately called to the Contractor's attention and s(he) shall make the necessary correction before the stakes are used for construction purposes.
- (j) Where the plan quantities for excavation are to be used as the final pay quantities, the Department will make sufficient checks to determine if the work has been completed in conformance with the plan cross sections.

Responsibility of the Contractor.

- (a) The Contractor shall establish from the given survey points and bench marks all the control points necessary to construct the individual project elements. S(he) shall provide the Engineer adequate control in close proximity to each individual element to allow adequate checking of construction operations. This includes, but is not limited to, line and grade stakes, line and grade nails in form work, and/or filed or etched marks in substantially completed construction work. It is the Contractor's responsibility to tie in centerline control points in order to preserve them during construction operations.
- (b) At the completion of the grading operations, the Contractor shall set stakes at 100 ft (25 m) Station intervals along each profile grade line. These stakes will be used for final cross sectioning by the Department.

CHECK SHEET #10

- (c) The Contractor shall locate the right-of-way points for the installation of right-of-way markers. The Contractor shall set all line stakes for the construction of fences by the Contractor.
- (d) All work shall be according to normally accepted self-checking surveying practices. Field notes shall be kept in standard survey field notebooks and those books shall become the property of the Department at the completion of the project. All notes shall be neat, orderly and in accepted form.
- (e) For highway structure staking, the Contractor shall use diligent care and appropriate accuracy. Points shall be positioned to allow reuse throughout the construction process. Prior to the beginning of construction activities, all structure centerlines and pier lines are to be established by the Contractor and checked by the Engineer. The Contractor shall provide a detailed structure layout drawing showing span dimensions, staking lines and offset distances.

Measurement and Payment. This work will be paid for at the contract lump sum price for CONSTRUCTION LAYOUT.

Section V

General Provisions & Technical Specifications for Sanitary Sewer Construction

(Separate document incorporated by reference)