

**Project Specifications
and
Contract Documents
For:**

**33rd STREET and 82ND AVENUE
ROAD IMPROVEMENTS**

Section 21

Prepared for:

PRINCETON TOWNSHIP

Mille Lacs County, MN

JANUARY 2020

Prepared by: **Loucks**
Project number: 12091.IB



PROJECT SPECIFICATIONS
AND
CONTRACT DOCUMENTS
FOR:

**33rd STREET AND 82ND AVENUE
ROAD IMPROVEMENTS**
Section 21

PRINCETON TOWNSHIP
Mille Lacs County, MN

January 2020

PROJECT NO: 12091.IB

Owner: Princeton Township
Doug Dahl, Clerk
10039 55th Street
Princeton, MN 55371

Township Engineer: Loucks
Todd McLouth, P.E.
7200 Hemlock Lane, Suite 300
Maple Grove, MN 55369
Phone: 763-424-5505
tmclouth@loucksinc.com

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am duly Registered Engineer under the laws of the State of Minnesota.



Todd W. McLouth, P.E.
Minnesota Registration No. 20383

Date: January 17, 2020

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NOTICE OF
ADVERTISEMENT FOR BIDS

33rd STREET and 82nd AVENUE ROAD IMPROVEMENTS
Section 21
PRINCETON TOWNSHIP, MILLE LACS COUNTY, MINNESOTA

TO WHOM IT MAY CONCERN

The Supervisors of Princeton Township will receive sealed bids at the office of the Engineer: Loucks, 7200 Hemlock Lane, Suite 300, Maple Grove, MN 55369, until 2:00 P.M. on February 6, 2020 for:

ROAD IMPROVEMENTS

Estimated Quantities

Subgrade Preparation	5,000 LF
Subgrade Excavation	1,150 CY
Class 5 Aggregate Base	4,300 TN
Bituminous Non-Wear Course	1,700 TN
Bituminous Wear Course	1,600 TN
Crushed Concrete Shouldering	800 TN
and other necessary Appurtenances,	

according to plans and specifications as prepared by Loucks, 7200 Hemlock Lane, Suite 300, Maple Grove, MN 55369.

Hard copies of the plans and specifications will be furnished on request to any prospective bidder upon receipt of a non-refundable deposit of \$50.00. Hard copies of the plans and specifications may be seen or can be obtained at Loucks, 7200 Hemlock Lane, Suite 300, Maple Grove, MN 55369.

Electronic copies of the plans and specifications can be viewed or downloaded on the Franz Reprographics website at www.franzrepro.com and selecting the **Franz Public Plan Room** tab. Login with your email address and password or register if this is your first time in the plan room. Upon login select **33rd St. & 82nd Ave. Road Improvements** from the list of public projects.

All bids shall be accompanied by a cash deposit, cashier's check, bid bond, or certified check payable to the order of Princeton Township for not less than five percent (5%) of the amount bid.

Bids shall be addressed to the Township Clerk, securely sealed, and endorsed upon the outside wrapper with a brief statement or summary as to work or materials for which the bid is made.

The bids will be opened by the Engineer, Loucks, 7200 Hemlock Lane, Suite 300, Maple Grove, MN 55369 at 2:00 P.M. on Thursday February 6, 2020.

The Township Supervisors reserve the right to reject all bids or any alternatives or to hold bids for sixty (60) days; to accept any bid which, in the opinion of the Township Supervisors, serves the best interest of the Township; and to waive any minor irregularities.

The successful bidder must be a "responsible contractor." The term "responsible contractor" means a contractor as defined in MN statues Section 16C.285, subdivision 3.

The bids will be considered by the Township Supervisors at the Township Hall at 7:30 P.M. on Tuesday, February 18, 2020.

Doug Dahl
Township Clerk

**INSTRUCTIONS TO BIDDERS
FOR:**

**33rd STREET and 82nd AVENUE ROAD IMPROVEMENTS
Section 5**

**PRINCETON TOWNSHIP
Mille Lacs County, MN**

1. LOCATION OF WORK

The contemplated work is located within Princeton Township, Mille Lacs County, MN. A vicinity / project location map is included in the appendix.

2. OWNER / CLIENT

Princeton Township
C/O Doug Dahl, Clerk
10039 55th Street
Princeton, MN 55371

3. DESCRIPTION OF WORK

The general scope of work consists of the following:

33rd Street and 82nd Avenue: The existing gravel roads shall be widened and improved to a bituminous top width of 22 feet with a one foot gravel shoulder. Aggregate gravel base shall be installed followed by bituminous paving and shouldering.

4. BID TABULATION

The Contractor shall submit duplicate bids. Additional copies of the Bid Proposal Form are included in the specification or can be copied from the electronic file. A completed and signed 'Responsible Contractor Certification of Compliance' form shall be attached to the bids.

The Township reserves the right to delete or reduce any items or schedule on the Bid Proposal Form without causing a price adjustment in that item or in the other remaining items. The Township has a given maximum budget amount that must be maintained and not exceeded. The Township will review the bids and determine the final scope of the contract work based on their budget.

5. PROJECT SCHEDULE

It is anticipated to complete the subgrade work and complete the project by July 31, 2020.

6. PROJECT WARRANTY

Upon completion of the project, the Contractor shall provide a two (2) year warranty as stated in the General Conditions.

**BID PROPOSAL FORM
FOR**

33rd STREET and 82nd AVENUE ROAD IMPROVEMENTS

Section 21

PRINCETON TOWNSHIP, MILLE LACS COUNTY, MN

Bids due on or before: 2:00 PM, February 6, 2020

BIDS SHALL BE SUBMITTED IN DUPLICATE

We propose to enter into a contract with the OWNER to furnish and deliver all labor, material and equipment to perform all work according to the Plans and Project Manual prepared by Loucks, 7200 Hemlock Ln, Maple Grove, MN 55369.

The undersigned BIDDER understands that the quantities of work as shown herein are approximate, and are subject to increase or decrease as noted in the Project Specifications, and offers to do the work, whether the quantities are increased or decreased, at the unit price stated in the proceeding schedule. These unit prices include applicable Minnesota sales tax.

The undersigned BIDDER hereby agrees to commence work under this contract on or before the date specified in the Notice To Proceed and to fully complete the project by July 31, 2020.

This is to acknowledge receipt of addendum numbered _____ through _____.

Company Name _____

Signed by _____

Printed Name _____

Title _____

Address _____

City/State/Zip _____

Date _____

Phone Number _____ Email _____

SCHEDULE A - 33rd STREET - West of 82nd Avenue

No.	ITEM	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL AMOUNT
1	Shoulder Reconstruction	LF	2,640	\$	\$
2	Subgrade Preparation	LF	1,320	\$	\$
3	3" Class 5 Aggregate	TN	910	\$	\$
4	2" Bituminous Non-Wear course	TN	430	\$	\$
5	2" Bituminous Wear course	TN	430	\$	\$
6	Crushed Concrete Shouldering	TN	195	\$	\$
7	Tack - Shoulder Stabilization	Gal	250	\$	\$
8	Traffic Control	LS	1	\$	\$
SCHEDULE A - 33rd STREET - West of 82nd Ave. \$					

SCHEDULE B - 33rd STREET - East of 82nd Avenue

No.	ITEM	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL AMOUNT
1	Shoulder Reconstruction	LF	1,800	\$	\$
2	Subgrade Preparation	LF	900	\$	\$
3	3" Class 5 Aggregate	TN	720	\$	\$
4	2" Bituminous Non-Wear course	TN	295	\$	\$
5	1-1/2" Bituminous Wear course	TN	220	\$	\$
6	Crushed Concrete Shouldering	TN	135	\$	\$
7	Tack - Shoulder Stabilization	Gal	100	\$	\$
8	Traffic Control	LS	1	\$	\$
Subtotal					\$
Turn-Around at East End					
9	Silt Fence	LF	120	\$	\$
10	Site Grading	LS	1	\$	\$
11	8" Class 5 Aggregate	TN	380	\$	\$
12	2" Bituminous Non-Wear course	TN	110	\$	\$
13	1-1/2" Bituminous Wear course	TN	80	\$	\$
14	Crushed Concrete Shouldering	TN	25	\$	\$
15	Seed, Mulch & Fertilizer	AC	0.3	\$	\$
16	Traffic Control	LS	1	\$	\$
Subtotal					\$
SCHEDULE B - 33rd STREET - East of 82nd Ave. \$					

SCHEDULE C - 82nd AVENUE - South of 33rd Street

No.	ITEM	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL AMOUNT
1	Shoulder Reconstruction	LF	2,040	\$	\$
2	Subgrade Preparation	LF	1,020	\$	\$
3	3" Class 5 Aggregate	TN	735	\$	\$
4	2" Bituminous Non-Wear course	TN	330	\$	\$
5	2" Bituminous Wear course	TN	430	\$	\$
6	Bituminous Tack Coat	Gal	30	\$	\$
7	Crushed Concrete Shouldering	TN	195	\$	\$
8	Tack - Shoulder Stabilization	Gal	100	\$	\$
9	Traffic Control	LS	1	\$	\$
SCHEDULE C - 82nd AVENUE - South of 33rd St. \$ _____					

SCHEDULE D - 82nd AVENUE - North of 33rd Street

No.	ITEM	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL AMOUNT
1	Subgrade Excavation	CY	1,150	\$	\$
2	Geotextile Fabric	SY	1,880	\$	\$
3	Granular Borrow, CV	CY	1,150	\$	\$
4	Shoulder Reconstruction	LF	3,320	\$	\$
5	Subgrade Preparation	LF	1,660	\$	\$
6	Class 5 Aggregate	TN	1,490	\$	\$
7	2" Bituminous Non-Wear course	TN	540	\$	\$
8	1-1/2" Bituminous Wear course	TN	405	\$	\$
9	Crushed Concrete Shouldering	TN	250	\$	\$
10	Tack - Shoulder Stabilization	Gal	250	\$	\$
11	Traffic Control	LS	1	\$	\$
SCHEDULE D - 82nd AVENUE - North of 33rd St. \$ _____					

SUMMARY

a	TOTAL BID SCHEDULE A - 33rd STREET - West of 82nd Avenue	\$
b	TOTAL BID SCHEDULE B - 33rd STREET - East of 82nd Avenue	\$
c	TOTAL BID SCHEDULE C - 82nd AVENUE - South of 33rd Street	\$
d	TOTAL BID SCHEDULE D - 82nd AVENUE - North of 33rd Street	\$
TOTAL BID		\$

RESPONSIBLE CONTRACTOR AND CERTIFICATION OF COMPLIANCE

PROJECT TITLE: _____

Minn. Stat. §16.285, Subd., 7, **IMPLEMENTATION.** any prime contractor or subcontractor that does not meet the minimum criteria in subdivision 3 or fails to verify it meets those criteria is not a responsible contractor and is not eligible to be awarded a construction contract for the project or to perform work on the project.

Minn. Stat. §16.285, Subd. 3. **RESPONSIBLE CONTRACTOR, MINIMUM CRITERIA.** "Responsible contractor" means a contractor that conforms to the responsibility requirements in the solicitation document for its portion of the work on the project and verifies that it meets the following minimum criteria:

1. The Contractor:
 - a. is in compliance with workers' compensation and unemployment insurance requirements;
 - b. is currently registered with the Department of Revenue and the Department of Employment and Economic Development if it has employees;
 - c. has a valid federal tax identification number or a valid Social Security number if an individual; and
 - d. has filed a certificate of authority to transact business in Minnesota with the secretary of state if a foreign corporation or cooperative.
2. The contractor or related entity is in compliance with and, during the three-year period before submitting the verification, has not violated section 177.24, 177.25, 177.41 to 177.44, 181.13, 181.14, or 181.722, and has not violated United States Code, title 29, sections 201 to 219, or United States Code, title 40, sections 3141 to 3148. For purposes of this clause, a violation occurs when a contractor or related entity:
 - a. repeatedly fails to pay statutorily required wages or penalties on one or more separate projects for a total underpayment of \$25,000 or more within the three-year period;
 - b. has been issued an order to comply by the commissioner of labor and industry that has become final;
 - c. has been issued at least two determination letters within the three-year period by the Department of Transportation finding an underpayment by the contractor or related entity to its own employees;
 - d. has been found by the commissioner of labor and industry to have repeatedly or willfully violated any of the sections referenced in this clause pursuant to section 177.27;
 - e. has been issued a ruling or findings of underpayment by the administrator of the Wage and Hour Division of the United States Department of Labor that have become final or have been upheld by an administrative law judge or the Administrative Review Board; or
 - f. has been found liable for underpayment of wages or penalties or misrepresenting a construction worker as an independent contractor in an action brought in a court having jurisdiction. Provided that, if the contractor or related entity contests a determination of underpayment by the Department of Transportation in a contested case proceeding, a violation does not occur until the contested case proceeding has

concluded with a determination that the contractor or related entity underpaid wages or penalties.

3. The contractor or related entity is in compliance with and, during the three-year period before submitting the verification, has not violated section 181.723 or chapter 326B. For purposes of this clause, a violation occurs when a contractor or related entity has been issued a final administrative or licensing order.
4. The contractor or related entity has not, more than twice during the three-year period before submitting the verification, had a certificate of compliance under section 363A.36 revoked or suspended based on the provisions of section 363A.36, with the revocation or suspension becoming final because it was upheld by the Office of Administrative Hearings or was not appealed to the office.
5. The contractor or related entity has not received a final determination assessing a monetary sanction from the Department of Administration or Transportation for failure to meet targeted group business, disadvantaged business enterprise, or veteran-owned business goals, due to a lack of good faith effort, more than once during the three-year period before submitting the verification.
6. The contractor or related entity is not currently suspended or debarred by the federal government or the state of Minnesota or any of its departments, commissions, agencies, or political subdivisions; and
7. All subcontractors that the contractor intends to use to perform project work have verified to the contractor through a signed statement under oath by an owner or officer that they meet the minimum criteria listed in clauses (1) to (6).

Minn. Stat. 1§16.285, Subd. 5. **SUBCONTRACTOR VERIFICATION.** A prime contractor or subcontractor shall include in its verification of compliance under subdivision 4 a list of all of its first-tier subcontractors that it intends to retain for work on the project.

If a prime contractor or any subcontractor retains additional subcontractors on the project after submitting its verification of compliance, the prime contractor or subcontractor shall obtain verifications of compliance from each additional subcontractor with which it has a direct contractual relationship and shall submit a supplemental verification confirming compliance with subdivision 3, clause (7), within 14 days of retaining the additional subcontractors.

A prime contractor shall submit to the contracting authority upon request copies of the signed verifications of compliance from all subcontractors of any tier pursuant to subdivision 3, clause (7). A prime contractor and subcontractors shall not be responsible for the false statements of any subcontractor with which they do not have a direct contractual relationship. A prime contractor and subcontractors shall be responsible for false statements by their first-tier subcontractors with which they have a direct contractual relationship only if they accept the verification of compliance with actual knowledge that it contains a false statement.

Minn.Stat. §16.285, Subd. 4. **VERIFICATION OF COMPLIANCE.** A contractor responding to a solicitation document of a contracting authority shall submit to the contracting authority a signed statement under oath by an owner or officer verifying compliance with each of the minimum criteria in subdivision 3 at the time that it responds to the solicitation document.

A contracting authority may accept a sworn statement as sufficient to demonstrate that a contractor is a responsible contractor and shall not be held liable for awarding a contract in reasonable reliance on that statement. Failure to verify compliance with any one of the minimum criteria or a false statement under oath in a verification of compliance shall render the prime contractor or subcontractor that makes the false statement ineligible to be awarded a construction contract on the project for which the verification was submitted.

A false statement under oath verifying compliance with any of the minimum criteria may result in termination of a construction contract that has already been awarded to a prime contractor or subcontractor that submits a false statement. A contracting authority shall not be liable for declining to award a contract or terminating a contract based on a reasonable determination that the contractor

CERTIFICATION

By signing this document I certify that I am an owner or officer of the company, and I swear under oath that:

- 1) My company meets each of the Minimum Criteria to be a responsible contractor as defined herein and is in compliance with Minn. Stat. §16.285,**
- 2) I have included Attachment A-1 with my company’s solicitation response, and**
- 3) if my company is awarded a contract, I will also submit Attachment A-2 as required.**

Authorized Signature of Owner or Officer:	Printed Name:
Title:	Date:
Company Name:	

Sworn to and subscribed before me this

_____ day of _____, 20____,

Notary Public

My Commission Expires: _____

NOTE: Minn. Stat. §16C.285, Subd. 2, (c) If only one prime contractor responds to a solicitation document, a contracting authority may award a construction contract to the responding prime contractor even if the minimum criteria in subdivision 3 are not met.

ATTACHMENT A-2

ADDITIONAL SUBCONTRACTOR LIST

(Prime Contractor to submit as subcontractors are added to the project)

PROJECT TITLE: _____

This form must be submitted to the Project Manager or individual as identified in the solicitation document.

Minn. Stat. §16.285, Subd. 5: If a prime contractor or any subcontractor retains additional subcontractors on the project after submitting its verification of compliance, the prime contractor or subcontractor shall obtain verifications of compliance from each additional subcontractor with which it has a direct contractual relationship and shall submit a supplemental verification confirming compliance with subdivision 3, clause (7), within 14 days of retaining the additional subcontractors.

Additional Subcontractor Names (Legal name of company as registered with the Secretary of State)	Name of city where company home office is located

SUPPLEMENTAL CERTIFICATION FOR ATTACHMENT A-2

By signing this document I certify that I am an owner or officer of the company, and I swear under oath that:

All additional subcontractors listed on Attachment A-2 have verified through a signed statement under oath by an owner or officer that they meet the minimum criteria to be a responsible contractor as defined in Minn. Stat. §16.285.

Authorized Signature of Owner or Officer:	Printed Name:
Title:	Date:
Company Name:	

GENERAL CONDITIONS

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1.00 DEFINITIONS AND ABBREVIATIONS

1.01 DEFINITIONS

- a. Unless another intention clearly appears, words and phrases (including technical words and phrases and such others as have acquired a special meaning) shall be construed according to rules of grammar and according to general usage.
- b. Wherever the following terms, or pronouns in place of them, are used in these Specifications, the Plans, or other Contract documents, the intent and meaning shall be interpreted as follows:

ACTS OF GOD

An Act of God is an unusual, extraordinary and sudden manifestation of the forces of nature, uncontrolled and uninfluenced by the power of man and without human intervention that could not under normal circumstances have been anticipated or expected. The probability of such occurrence in a given year shall be less than 1 in 100 or 1%. Ordinary, expectable, and gradual weather conditions of normal intensity for the locality shall not be considered as an Act of God.

ADDENDUM OR ADDENDA

A supplement to the proposal form as originally issued or printed, covering additions, corrections, or changes in the bidding conditions for the advertised work, that is issued by the ENGINEER to prospective BIDDERS prior to the date set for opening of proposals.

ADDITIONAL WORK

The increased quantity or amount of work above that shown in the proposal and plans for each contract item.

ADVERTISEMENT FOR BIDS

The public announcement, as required by law, on some projects inviting bids for the work to be performed or materials to be furnished.

AGGREGATE

Natural materials such as sand, gravel, crushed rock, or taconite tailings, and crushed concrete or salvaged bituminous mixtures, usually with a specified particle size, for use in base course construction, paving mixtures, and other specified applications.

AGREEMENT

The agreement is the written contract between the CLIENT and CONTRACTOR covering the performance of the work described in the contract documents. Other contract documents are attached to the agreement.

AWARD

The acceptance by the CLIENT of a bid, subject to execution and approval of the contract.

BIDDER

A BIDDER is an individual or other entity submitting a proposal for the advertised work.

BID SCHEDULE

A listing of contract items in the proposal forms, showing quantities and units of measurement, and having blank spaces for insertion of bid prices.

BID SECURITY

The bid security, where required by the advertisement or information to BIDDERS, is a cashier's or certified check or bid bond accompanying the proposal submitted by the BIDDER, pledging that the BIDDER will enter into an agreement with the OWNER for the carrying out of the work, should the contract for the work be awarded to him.

CALENDAR DAY

Every day shown on the calendar, being 24 hours in length measured from midnight to the next midnight.

CHANGE ORDER

A written order to the CONTRACTOR authorizing an addition, deletion or revision in the work within the general scope of the contract documents, or authorizing an adjustment in the contract price or contract time.

CLIENT

The CLIENT is a public quasi-public body or authority, corporation, association, partnership, or individual for whom the work is to be performed, as named in the contract documents.

Note: Many other specifications refer to the CLIENT as the "OWNER". "OWNER" may be misleading in some instance where the ultimate owner of the facilities or the current owner of the lands under or over which the work is being constructed is different than the party for which the work is being performed.

CONTRACT

The contract documents form the contract. The contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral.

CONTRACT DOCUMENTS

The contract documents consist of the following, including all addenda issued prior to the opening of bids and change orders issued after execution of the contract:

- a. Bid Documents (Advertisement, Instructions to Bidders, Proposal and Bid Security);
- b. Agreement;
- c. Performance and Payment Bonds;
- d. Proof of Insurance;
- e. Project Manual Specifications and Contract Documents Including:
 1. Division 1 – General Conditions of the Contract
 2. Division 2 – Site Work
 3. Division 3 – Special Provisions
- f. Plans, drawings and details.

CONTRACT PRICE

The total monies payable to the CONTRACTOR under the terms and conditions of the Contract Documents.

CONTRACT TIME

The number of calendar days stated in the contract documents for the completion of the work.

CONTRACTOR

The CONTRACTOR is the person, entity or authorized representative thereof named in the contract document to construct the project pursuant to the plans and specifications.

DETOUR

A road or system of roads, usually existing, designated as a temporary route by the ENGINEER or CONTRACTOR to divert through traffic from a section of roadway being improved.

EASEMENT

A right acquired to use or control property for a designated purpose.

ENGINEER

The ENGINEER is Loucks Associates. Loucks Associates is the authorized representative of the CLIENT. The term ENGINEER will also refer to the professional responsible for the design, his assistants and authorized representatives.

EQUIPMENT

All machinery and equipment, together with the necessary supplies for upkeep and maintenance, and also tools and apparatus necessary for the proper construction and acceptable completion of the contract within its intended scope.

EROSION CONTROL SCHEDULE

A document illustrating construction sequences and proposed methods to control erosion at a specific site for the time interval from initial disturbance until permanent erosion control measures are operational.

FIELD ORDER

A written order effecting change in the work not involving an adjustment in the contract price or an extension of the contract time, issued by the ENGINEER to the CONTRACTOR during construction.

GUARANTEED ANALYSIS

A guarantee from a manufacturer, producer or supplier of a product that the product complies with the ingredients or specifications as indicated on the product label.

HIGHWAY, STREET OR ROAD

A general term denoting a public way for purposes of vehicular travel, including the entire area within the right of way.

HOLIDAYS

The days of each year set aside by legal authority for public commemoration of special events, and on which no public business shall be transacted except as specifically provided in cases of necessity. Unless other noted, holidays shall be as established in MS 645.44.

INDUSTRY STANDARD

An acknowledged and acceptable measure of quantitative or qualitative value or an established procedure to be followed for a given operation within the given industry. This will generally be in the form of a written code, standard or specification by a creditable association.

INSPECTOR

An authorized representative of the ENGINEER assigned to observe the work while performed, verify that the materials furnished meet the specifications, witness tests performed, and conduct the final inspection.

INTERSECTION

The general area where two or more streets join or cross, within which are included the roadway and roadside facilities for traffic movements in the area.

LIMESTONE

A sedimentary rock composed primarily of the mineral calcite, CaCO_3 . Where used herein, the term includes the rock dolostone (dolomite), $\text{CaMg}(\text{CO}_3)_2$ and mixtures of limestone and dolostone. These rocks may also be referred to as carbonates.

MATERIALS

Any substances specified for use in the construction of the project and its appurtenances.

NOTICE OF AWARD

The written notice of the acceptance of the bid from the CLIENT to the successful BIDDER.

NOTICE TO PROCEED

Written communication issued by the CLIENT to the CONTRACTOR authorizing him to proceed with the work and establishing the date of commencement of the work.

PAY, BID OR CONTRACT ITEM

A specifically described unit of work for which a price is provided for in the contract.

PERFORMANCE AND PAYMENT BONDS

Separate performance and payment bonds are the approved form of security furnished by the CONTRACTOR and his surety prior to the execution of the agreement as a pledge of good faith on the part of the CONTRACTOR, and the surety in the event of the CONTRACTOR's default, covering the CONTRACTOR's faithful performance under the contract documents and the payment of all obligations arising thereunder.

PLANS (DRAWINGS)

The approved plans, profiles, typical cross sections and supplemental drawings, or exact reproductions thereof, which show the locations, character, dimensions, and details of the work to be done.

PROFILE GRADE

The trace of a vertical plane intersecting the top surface of the roadbed or pavement structure, usually along the longitudinal centerline of the traveled way. Profile grade means either elevation or gradient of such trace according to the context.

PROJECT

The undertaking to be performed as provided in the contract documents.

PROPOSAL

The proposal is the offer of a BIDDER to perform the work described in the bid documents, when made out and submitted on the prescribed proposal form, properly signed and secured, that sets forth the prices for the work to be performed.

PUNCH LIST

A notification to the CONTRACTOR, in writing, of any particulars in which an inspection revealed that the work is defective or incomplete.

RESIDENT PROJECT REPRESENTATIVE

The authorized representative of the CLIENT who is assigned to the project site.

RIGHT OF WAY

A general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to a road.

ROADBED

The graded portion of a street within top and side slopes, prepared as a foundation for the pavement structure and shoulders.

SHOP DRAWINGS

All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the CONTRACTOR, a subcontractor, manufacturer, supplier or distributor, which illustrate how specific portions of the work shall be fabricated or installed.

SHOULDER

The portion of the road contiguous with the traveled way for accommodation of stopped vehicles, for emergency use, and for lateral support of the base and surface courses.

SIDEWALK/TRAIL

A paved surface primarily constructed for the use of pedestrians.

SIEVE

A woven wire screen meeting the requirements of AASHTO M-92 for the size specified.

SPECIFICATIONS

The specifications consist of the Loucks and Associates, Inc. Standard Specifications for Grading, Utility and Street Construction.

SPECIFIED COMPLETION DATE

The date on which the contract work is specified to be completed.

SPECIMEN TREE

Historic or otherwise significant trees from the standpoint of the adjacent residents, the general public, or the CLIENT.

STRUCTURES

Bridges, culverts, catch basins, drop inlets, retaining walls, cribbing, manholes, endwalls, buildings, sewers, service pipes, underdrains, foundation drains, and other features which may be encounter in the work and not otherwise classified herein.

SUBCONTRACTOR

The subcontractor is an individual, firm or corporation acting for or on behalf of the CONTRACTOR in performing any part of the contract. The subcontractor has a debt contract with the CONTRACTOR or another subcontractor and not the CLIENT.

SUBGRADE

The top surface of a roadbed upon which the pavement structure and shoulders are constructed. Also, a general term denoting the foundation upon which embankment is to be placed, in which case reference to a subgrade operations may imply depth as well as top surface.

SUBSTANTIAL COMPLETION

That date as certified by the ENGINEER when the construction of the project or a specified part thereof is sufficiently completed, in accordance with the contract documents, so that the project or specified part can be utilized for the purposes for which it is intended.

SUPPLEMENTAL AGREEMENT

A written agreement between the CLIENT and the CONTRACTOR, covering the performance of extra work or other alterations or adjustments as provided for within the general scope of the contract, but which extra work or change order constitutes a modification of the contract as originally executed and approved.

SUPPLIERS

Any person, supplier or organization who supplies materials or equipment for the work, including that fabricated to a special design, but who does not perform labor at the site.

SURETY

A surety is the person or other entity executing the CONTRACTOR's performance and payment bond.

TEMPORARY BY-PASS

A section of roadway, usually within existing right of way, provided to temporarily carry all traffic around a specific work site.

TRAFFIC LANE

The portion of a traveled way for the movement of a single line of vehicles.

TRAVELED WAY

The portion of the road for the movement of vehicles, exclusive of shoulders and auxiliary lanes.

TURN LANE OR BYPASS LANE

An auxiliary lane for left or right turning vehicles or to by-pass on the right side of left turning vehicles.

WORK

The furnishing of all labor, materials, equipment, and other incidentals necessary or convenient to the successful completion of the project and the carrying out of all the duties and obligations imposed by the contract upon the CONTRACTOR.

WORKING DAY

A calendar day, exclusive of Sundays, and State recognized legal holidays, on which weather and other conditions not under the control of the CONTRACTOR will permit construction operation to proceed for at least 4 hours of the day with the normal working force engaged in performing the controlling item or items of work which would be in progress at the time.

WRITTEN NOTICE

Written notice shall be deemed to have been served if delivered in person or sent by registered or certified mail to the individual or other entity or to the last known business address of such individual entity or said party. It shall be the duty of each party to advise the other parties to the agreement as to any change in the business address until completion and acceptance of the work. A facsimile shall serve as written notice if an original copy mailed or delivered as described above follows it.

1.02 ABBREVIATIONS

Wherever the following abbreviations are used in these Specifications, the Plans or other Contract documents, they are to be construed the same as the respective expressions represented:

AAN	American Association of Nurserymen
AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
AC	Alternating Current
ACI	American Concrete Institute
AGC	Associated General Contractors of America, Inc.
AIA	American Institute of Architects
AISC	American Iron and Steel Institutes
ANSI	American National Standards Institute
ARA	American Railway Association
AREA	American Railway Engineering Association
ASCE	American Society of Civil Engineers
ASLA	American Society of Landscape Architects
ASME	American Society of Mechanical Engineers
ASTM	American Society of Testing and Materials
AWPA	American Wood Preservers Association
AWS	American Welding Society
AWG	American Wire Gauge
AWWA	American Water Works Association
CL	Center line
CCTV	Closed Circuit Television
CMS	Changeable Message Sign
COAX	Radio Frequency Transmission Cable (Coaxial Cable)
COE	United States Corps of Engineers
CRSI	Concrete Reinforcing Steel Institute
FHWA	Federal Highway Administration, U.S. Department of Transportation
FSS	Federal Specifications and Standards, General Services Administration
GFI	Ground Fault Interrupter
IEEE	Institute of Electrical and Electronics Engineers
IES	Illuminating Engineers Society
IPCEA	Insulated Power Cable Engineers Association
ITE	Institute of Transportation Engineers
KVA	Kilovolt Ampere
MN/DOT	Minnesota Department of Transportation
MN/DNR	Minnesota Department of Natural Resources
MS	Minnesota Statutes
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
PCI	Prestressed Concrete Institute
PL	Property Line
RCS	Ramp Control Signal
REA	Rural Electrification Association
RF	Radio Frequency

ROW	Right of Way
R/W	Right of Way
SAE	Society of Automotive Engineers
SPDT	Single Pole Double Throw
SPST	Single Pole Single Throw
TMC	Traffic Management Center
TMS	Traffic Management System
TSM	Traffic System Management
UL	Underwriters Laboratories, Inc.

2.00 BIDDING REQUIREMENTS

2.01 PROPOSAL FORMS

The project will be publicly Bid. Bid Documents will furnished to BIDDER's upon request

2.02 INTERPRETATION OF QUANTITY ESTIMATES

The quantities appearing in the proposal shall be used as the basis of calculation for comparison of proposals. The scheduled quantities are to be considered approximate only and may be increased, decreased or omitted as provided in Section 10.09.

2.03 EXAMINATION OF SITE AND CONTRACT DOCUMENTS

- a. BIDDERS are expected to make a thorough examination of the site of the work and contract documents prior to submitting a quotation.
- b. BIDDERS must satisfy themselves by personal examination of the contract documents and by such other means, as they prefer as to the accuracy of the description of the work to be performed, the intent of the contract documents, and the requirements of the CLIENT and ENGINEER. The successful BIDDER must employ, as fast as possible, the methods and means of carrying out the work in a manner as will not cause any interference or interruption with the work of others or the operation of the CLIENT.
- c. Submission of a proposal shall be considered prima facia evidence that the BIDDER has thoroughly familiarized himself with the conditions to be encountered, the character, quality, and quantity of the work to be performed, materials to be furnished, and the requirements of the contract documents and other local conditions affecting the execution of the work. After submission of the proposal, no claim for additional compensation due to the BIDDER's misunderstanding of the intent of the CLIENT, ENGINEER or the contract documents nor failure to acquire information necessary for the intelligent preparation of the BIDDER'S proposal will be entertained.

2.04 MODIFICATIONS TO CONTRACT DOCUMENTS

The CLIENT reserves the right to modify the contract documents at any time prior to the opening of bids, subject to the following conditions: Such modification will be made by addendum, duly numbered and dated; Such addendum will be attached to all proposals issued after the date of the addendum and shall remain a part thereof; If addenda are issued, BIDDERS shall acknowledge receipt thereof on the proposal form. Failure to do so may be cause for rejection of any such proposal.

2.05 PREPARATION OF BID

- a. The BIDDER shall submit his proposal in duplicate on the proposal forms provided by the client. All blank spaces in the proposal must be filled in clearly and correctly in ink or typewritten. The signer of the proposal must initial any interlineations, alteration or erasure.
- b. The BIDDER, when signing the proposal(s), shall meet the following requirements: The full name and business address of each BIDDER must be entered on the proposal submitted. The proposal shall be signed in the space provided therefore by written signature of the person or persons properly authorized to sign it; A proposal submitted by an individual shall be signed by the BIDDER or by an authorized agent; A proposal submitted by a firm or partnership shall be signed by a member or by an authorized agent thereof; If by joint ventures, the proposal shall be signed by each of their authorized agent or agents; Proposals which are signed by an attorney-

in-fact for individuals, firms, partnerships, or joint ventures shall have attached thereto a power-of-attorney evidencing authority to sign the bid; A proposal submitted by a corporation shall be signed by an authorized officer or agent of such corporation. Such corporation must be licensed to do business in the State of Minnesota before a contract to do the work embraced in the proposal can be signed. If a foreign corporation, the State under which it is incorporated must be named.

- c. BIDDERS are cautioned to check their proposals carefully before submitting, as no claim for error in the same will be considered after the bids have been opened.

2.06 BID SECURITY

If so stipulated in the advertisement or invitation to bid, each proposal shall be accompanied by a bid security in the required form and amount pledging that the BIDDER will enter into a contract with the CLIENT on the terms stated in his proposal and will, if required, furnish bonds as described hereunder in Section 8.03 covering the faithful performance of the contract and the payment of all obligation arising thereunder. Should the BIDDER refuse to enter into such contract or fail to furnish such bond, if required, the amount of the bid security shall be forfeited to the owner as liquidated damages, not as a penalty. The owner will have the right to retain the bid security of the three (3) low BIDDERS until either (a) the contract has been executed and performance bonds, if required, have been furnished, or (b) the specified time has elapsed for proposals to be withdrawn, or (c) all proposals have been rejected. Unless otherwise stipulated, the bid security shall be in an amount of 5% of the BIDDERS proposed contract amount.

2.07 WITHDRAWAL OF BIDS

Proposals may be withdrawn any time previous to the hour of opening bids but no proposal may be withdrawn for a period of sixty (60) calendar days after the time indicated for the opening of bids in the instructions to BIDDERS.

2.08 DELIVERY OF PROPOSAL

Each proposal shall be placed in an opaque envelope and securely sealed. The envelope shall be so marked as to indicate the name and address of the BIDDER, the type of work and the project designation. If mailed, the sealed envelope shall be enclosed in a separate mailing envelope with the bid number on the face thereof. All proposals shall be in the office of the designated recipient before the time set for bid opening.

2.09 OPENING OF PROPOSALS

Proposals will be opened publicly and read aloud at the time, date and place designated in the advertisement.

2.10 EVALUATION OF PROPOSALS

- a. The CLIENT reserves the right to reject any proposal if it shows any omissions, alterations, irregularities, is submitted subsequent to the opening of the first proposal, or is unaccompanied by any required bid security. The BIDDER further acknowledges the right of the CLIENT to reject all proposals and re-advertisement with the same or different bid documents. In any event, the CLIENT reserves the right to waive any informalities, irregularities or minor deviations in the proposal.
- b. A bid which has not been prepared according to the instructions contained herein or which does not contain a unit price which is both adequate and reasonable for each and every item named in the Proposal may be considered irregular and subject to rejection. Unbalanced bids are subject to rejection.

- c. Errors in extension may be corrected providing that the unit cost is legible and can be definitely identified as complying with the item specified. The total bid shall be adjusted in accordance with approved extension corrections. An extension may not be divided by the number of units specified to determine a unit cost, if such is omitted by the BIDDER. It is the responsibility of the BIDDER to submit a neat, accurate, and complete proposal if his bid is to be accepted.
- d. A bid proposal will be disqualified because of gross errors in computation which cannot be resolved by mathematical correction without resorting to information not contained in the bids.

2.11 CERTIFICATE OF INDEPENDENT PRICE DETERMINATION

By submission of a proposal, each BIDDER certifies that: The prices in the proposal have been arrived at independently, without consultation, communication or agreement as to any matters relating to such prices with any other BIDDER or with any competitor for the purpose of restricting completion; The prices which have been quoted in the proposal have not been or will not be knowingly disclosed to any other BIDDER or competitor prior to the opening of the proposals; No attempt has been made or will be made by the BIDDER to induce any other person or firm to submit or not to submit a proposal for the purpose of restricting completion; The BIDDER has not submitted more than one proposal under the same or different names. Evidence that any BIDDER is interested in more than one proposal for the same work will constitute cause for rejection of all such proposals.

2.12 INADEQUACIES, OMISSIONS, CONFLICTS

- a. Any verbal information obtained from or statement made by representatives of the CLIENT or ENGINEER at the time of the examination of the contract documents or the site for purpose of bidding which apparently corrects or in any way amends the contract documents, shall be invalid. The CLIENT will not be responsible for such verbal information or statements.
- b. BIDDERS shall bring any inadequacies, omissions or conflicts to ENGINEER'S attention at least seven (7) calendar days before the due date for bids. Prompt clarification will be immediately supplied to all BIDDERS by addenda, and each addendum shall be acknowledged on the proposal form. Failure to so request clarification of any inadequacy, omission, or conflict will not relieve the BIDDER of responsibility.
- c. The signing of the proposal will be considered as implicitly denoting that the BIDDER has a thorough comprehension of the full intent and scope of the contract documents.

2.13 SUBSTITUTION OF MATERIALS

Should a BIDDER propose to substitute materials other than those specified herein, said materials must be found acceptable and approved by the ENGINEER, in writing, three (3) calendar days prior to the opening of bids. Otherwise, it is understood that the BIDDER shall furnish materials exactly as specified.

2.14 QUALIFICATIONS OF BIDDERS

- a. BIDDERS will be required to submit evidence that they have a practical knowledge of the particular work bid upon and that they have the financial resources to complete the proposed work. Failure on the part of any BIDDER to carry out previous contracts satisfactorily or his lack of experience or equipment necessary for the satisfactory and timely completion of this project may be deemed sufficient cause for disqualification of said BIDDER.
- b. Each BIDDER shall submit on the form furnished for that purpose the following information to CLIENT for

consideration: The address and description of the BIDDER'S place of business and phone number where the BIDDER can be easily contacted during business hours; A list of the plant and equipment owner by the BIDDER to evaluate if the BIDDER can complete the work properly and expeditiously; The BIDDER's performance record giving the description and location of similar projects constructed in a satisfactory manner by the BIDDER; The technical experience of personnel guaranteed to be employed in responsible charge of the work. In addition, the BIDDER shall list the hourly rental rates for all equipment as basis for any extra work or changed conditions compensation.

- c. Each BIDDER may be asked to submit the following information to the CLIENT for consideration: A financial statement of the BIDDER showing that the BIDDER has the financial resources to meet all obligations incidental to the work; Such additional information as will assist CLIENT in determining whether the BIDDER is adequately prepared to fulfill the Contract.
- d. The object of the request for the qualifications of the BIDDER is not to discourage bidding or to make it difficult for qualified BIDDERS to file bids. Neither is it intended to discourage beginning CONTRACTORS. It is intended to make it possible for CLIENT to have exact information on financial ability, equipment and experience in order to reduce the hazards involved in awarding contracts to parties apparently not qualified to perform them and to select those CONTRACTORS qualified to properly complete the work proposed.
- e. The CLIENT reserves the right to reject any bid where an investigation of the available evidence or information does not satisfy the CLIENT that the BIDDER is qualified to carry out properly the terms of the Contract. The CLIENT's decision as to qualifications of the BIDDER shall be final.

2.15 OMISSION OF EXPRESS REFERENCE

Any work that may reasonably be inferred from the contract documents, as being required to produce the intended result shall be supplied whether or not it is specifically called for. Work, materials, or equipment described in words that so applied have a well-known technical or trade meaning shall be deemed to refer to such recognized standards.

3.00 AWARD AND EXECUTION OF CONTRACT

3.01 BID OPENING

No award will be made immediately upon opening bids nor until the bids opened can be compared, scheduled, and reviewed by the CLIENT. The contract shall be awarded by CLIENT action, and the BIDDER to whom award of contract is made will be notified at the earliest possible date.

3.02 AWARD OF CONTRACT

When the proposal of the lowest responsible BIDDER is accepted and within 60 days after opening, the CLIENT will send him the necessary contract documents and a notice that the contract has been awarded to him, subject to the furnishing of performance and payment bonds, and proof of insurance coverage.

3.03 PERFORMANCE AND PAYMENT BOND

Where required and prior to or at the time of the execution of the agreement the BIDDER determined to be the lowest responsible BIDDER shall furnish separate performance and payment bonds, both in the total amount of

the contract as required by these specifications.

3.04 EXECUTION OF AGREEMENT

The lowest responsible BIDDER shall, within ten (10) days after receiving the notice of award, sign the agreement contained in the contract documents and return the signed agreement and other contract documents to the CLIENT. No proposal will be considered as binding on the CLIENT until the contract has been approved and executed by all parties.

3.05 FAILURE TO EXECUTE AGREEMENT

Upon the failure of the lowest responsible BIDDER to furnish an acceptable bond, where required, or to execute the agreement within the time above specified, the CLIENT may have the option to annul the award and retain the bid security accompanying the bid as liquidated damages and not as a penalty. This shall not be the sole remedy of the CLIENT but upon default by the BIDDER the owner may adopt any legal remedy which it may see fit to adopt.

4.00 DRAWINGS, SPECIFICATIONS AND RELATED DATA

4.01 INTENT OF PLANS AND SPECIFICATIONS

The intent of the plans and specifications is that the CONTRACTOR shall furnish all labor and materials, equipment and transportation necessary for the proper execution of the work unless specifically noted otherwise. The CONTRACTOR shall do all the work shown on the drawings and described in the specifications and all incidental work considered necessary to complete the project in an acceptable manner, and to fully complete the work or improvement, ready for use, occupancy and operation by the owner.

4.02 ORDER OF PRECEDENCE

- a. If there is a conflict between or among any of the terms or provisions of the contract documents, the following order of precedence shall apply.
 1. Agreement
 2. Special Provisions
 3. Instructions to Bidders
 4. Technical Specifications
 5. Special Supplemental Revisions to the Specification for the Department of Public Work, City of St. Paul
 6. General Conditions of the Contract
 7. Plans
 8. Bid Proposal

- b. Figure dimensions or plans shall govern over scaled dimensions; details shall govern over general plans.

4.03 INCLUSION OF OTHER SPECIFICATIONS, RULES AND REGULATIONS

- a. All work and materials covered by these specifications must conform to the current respective requirements of the following:
 - 1. The published rules and regulations of the Minnesota State Board of Health.
 - 2. American Water Works Association Standard Specifications.
 - 3. Standard Specifications of American Society of Testing Materials.
 - 4. State Industrial Commission of Minnesota
 - 5. State Laws of Minnesota
 - 6. Ordinances of the municipality in which work is performed.
- b. Should the special provisions or specifications conflict with any of the regulations and standards mentioned above, the regulations and standards should take precedence. This shall not, however, be construed to relieve the CONTRACTOR from complying with requirements of the contract documents which are in excess of, but not contrary to, the regulations and standards.
- c. Any conflict between items in the above, between themselves, or with this specification must be submitted to the ENGINEER for adjustment, the prime object being to obtain the best quality installation possible.

4.04 DISCREPANCIES

Any ambiguity or discrepancy drawings and specifications, no matter how seemingly insignificant to the CONTRACTOR, shall be brought immediately to the attention of the ENGINEER for clarification. The ENGINEER shall promptly correct such ambiguity or discrepancy in writing. Any CONTRACTOR who fails to bring any ambiguity or discrepancy in writing of which it was or should have been aware, shall assume the risk of loss because of, and shall be allowed no claim for the misinterpretation of the drawings and specifications contrary to the intended interpretation of the ENGINEER. Work done by the CONTRACTOR after his discovery of such discrepancies, inconsistencies or ambiguities shall be done at the CONTRACTOR's risk.

4.05 ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS

- a. The CONTRACTOR may be furnished additional instructions and detail drawings by the ENGINEER, as necessary, to carry out the work required by the contract documents.
- b. The additional drawings and instruction thus supplied will become a part of the contract documents. The contract shall carry out the work in accordance with the additional detail drawings and instructions.

4.06 COPIES OF DRAWINGS AND SPECIFICATIONS FURNISHED

Except as provided for otherwise, five (5) copies of drawings and specifications shall be furnished to the CONTRACTOR without charge. Any additional copies requested by CONTRACTOR shall be furnished upon payment of cost of reproduction.

4.07 DRAWINGS AND SPECIFICATIONS AT JOB SITE

One complete set of all drawings, annotated to show all changes made during construction and specifications, addenda, approved shop drawings, change orders, other modifications, and samples, shall be maintained by CONTRACTOR at the job site and shall be available to the ENGINEER at all times. Upon completion of the work, these record documents, samples and shop drawings shall be delivered to the ENGINEER.

4.08 OWNERSHIP OF DRAWINGS AND SPECIFICATIONS

All drawings and specifications and copies thereof and other data furnished by the ENGINEER are and shall remain his property. They are to be used only with respect to this project and are not to be used on any other project. Said documents are to be returned or suitably accounted for to the ENGINEER on request at the completion of the work. Submission or distribution to meet official regulatory requirements or for other purposes in connection with the project is not to be construed as publication in derogation of the ENGINEER's common law copyright or other reserved rights.

4.09 SAMPLES

All samples called for in the specifications or required by the ENGINEER shall be furnished by the CONTRACTOR and shall be submitted to the ENGINEER for his approval. Samples shall be furnished so as not to delay the project. The contract shall furnish such samples of material as may be required for examination and testing. All materials and workmanship shall be in accordance with approved samples. All samples of materials for test shall be taken according to methods provided for in the specifications.

4.10 PRODUCT DATA

Product data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the CONTRACTOR to illustrate a material, product or system for some portion of the work.

4.11 SHOP DRAWINGS

- a. General. The CONTRACTOR shall provide shop drawings as may be necessary for the prosecution of the work as required by the contract documents. The ENGINEER shall promptly review all shop drawings. The ENGINEER's review of any shop drawing shall not release the CONTRACTOR from responsibility for deviations from the contract documents. The discovery of any shop drawing which substantially deviates from the requirement of the contract documents shall be evidenced by a change order or corrected and resubmitted by the CONTRACTOR, at the ENGINEER's discretion.
- b. Contractor's Certification. When submitting for the ENGINEER's review, shop drawings shall bear the CONTRACTOR's certification that he has reviewed, checked and approved the shop drawings and that they are in conformance with the requirements of the contract documents.
- c. Record Keeping. Portions of the work requiring a shop drawing or sample submission shall not begin until the shop drawing or submission has been reviewed by the ENGINEER. A copy of each approved shop drawing and each approved sample shall be kept in good order by the CONTRACTOR at the site and shall be available to the ENGINEER.
- d. Items Requiring Shop Drawings and Samples. The CONTRACTOR shall provide shop drawings for all precast manhole structures, lift stations, special sections and controls and any other items specified in the special provisions. The CONTRACTOR shall submit samples and test results for all materials proposed as equivalent to

those specified.

4.12 SUBSTITUTIONS

Whenever a material, article or piece of equipment is identified on the drawings or specifications by reference to brand name or catalog number, it shall be understood that this is reference for the purpose of defining the performance or other salient requirements and that other products of equivalent capacities, quality and function shall be considered. The CONTRACTOR may recommend the substitution of a material, article, or piece of equipment of equivalent substance and function for those referred to in the Contract Documents by reference to brand name or catalog number, and if, in the opinion of the ENGINEER, such material, article, or piece of equipment is of equivalent substance and function to that specified, the ENGINEER may approve its substitution and use by the CONTRACTOR. Where applicable the ENGINEER will only approve substitutions after the CONTRACTOR has received approval from the municipality, county, state or other regulatory agencies with jurisdiction. The ENGINEER will not lobby for the approval of the substituted material. Any cost differential shall be deductible from the contract price and the contract documents shall be appropriately modified by change order. The CONTRACTOR warrants that if substitutes are approved, no major changes in the function or general design of the project will result. Incidental changes or extra component parts required to accommodate the substitute will be made by the CONTRACTOR without a change in the contract price or contract time. Requests for review of substitute items will not be accepted by the ENGINEER from anyone other than the CONTRACTOR. The CONTRACTOR shall reimburse the CLIENT for the charges of the ENGINEER for evaluation of each proposed substitution.

4.13 FURNISHING OF PRODUCT DATA

- a. The CONTRACTOR shall furnish one copy of complete product data for every manufactured item of equipment and all components to be used to perform the work, including specific performance data, material description, rating, capacity, working pressure, material gauge or thickness, brand name, catalog number and general type. This data shall be compiled by the contract and reviewed by the ENGINEER before any of the equipment is ordered. All data shall be indexed according to specification section and paragraph for easy reference. After review, this data shall become a part of the contract, and may not be deviated from except upon written approval of the ENGINEER.
- b. Product data for equipment reviewed by the ENGINEER does not in any case supersede the contract documents. The review of the ENGINEER shall not relieve the CONTRACTOR from responsibility for deviations from drawings or specifications unless he has in writing called the ENGINEER's attention to such deviations at the time of furnishing said data. Nor shall such review relieve the CONTRACTOR from responsibility for errors of any sort in the items furnished. The CONTRACTOR shall check the work described by the product data with the contract documents for deviations and errors.
- c. It shall be the responsibility of the CONTRACTOR to insure that items to be furnished fit the space available. He shall make necessary field measurements to ascertain space requirements, including those for connections and shall order such sizes and shapes of equipment that the final installation shall suit the true intent and meaning of the drawings and specifications.
- d. Where equipment requiring different arrangement of connections from those shown is approved, it shall be the responsibility of the CONTRACTOR to install the equipment so as to allow for proper operation and to be in harmony with the intent of the drawings and specifications, and to make all changes in the work required by the different arrangement of connections.
- e. Product data shall be promptly submitted by the CONTRACTOR after he has reviewed, checked and approved the data to determine if they are in harmony with the requirements of the project and with the provisions of the

contract documents and after he has verified all field measurements and construction criteria, materials, catalog numbers and similar data. In submitting the product data, the CONTRACTOR is certifying that the product represented by the data is recommended by the CONTRACTOR.

5.00 ENGINEER-OWNER-CONTRACTOR RELATIONS

5.01 OWNER'S REPRESENTATIVE:

The ENGINEER will be the CLIENT'S representative during the construction period. The duties and responsibilities and the limitations of authority of the ENGINEER as the CLIENT'S representative during construction are set forth in the contract documents and shall not be extended without written consent of the CLIENT and the ENGINEER.

5.02 VISITS TO SITE:

The ENGINEER will make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed work and to determine, in general, if the work is proceeding in accordance with the contract documents. The ENGINEER will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the work. The ENGINEER's efforts will be directed toward providing for the CLIENT a greater degree of confidence that the completed work will conform to the contract documents. The ENGINEER will keep the CLIENT informed of the progress of the work and will endeavor to guard the CLIENT against defects and inefficiencies in the work.

5.03 PROJECT REPRESENTATION

The resident project representative is the ENGINEER'S agent, and will act as directed by and under the supervision of the ENGINEER, and will confer with the ENGINEER regarding his action. The resident project representative's dealings in matters pertaining to the on-site work shall in general be only with the ENGINEER and the CONTRACTOR, and the dealings with subcontractors shall only be through or with the full knowledge of the CONTRACTOR. Written communication with the CLIENT will be only through or as directed by the ENGINEER. The resident project representative's duties and responsibilities will be as follows:

- a. Review the progress schedule, schedule of shop drawings submissions and schedule of values prepared by the CONTRACTOR and consult with the ENGINEER concerning their acceptability.
- b. Attend preconstruction conferences. Arrange a schedule of progress meeting and other job conferences as required in consultation with the ENGINEER and notify those expected to attend in advance. Attend meetings, and maintain and circulate copies of minutes thereof.
- c. Serve as the ENGINEER's liaison with the CONTRACTOR, working principally through the CONTRACTOR's superintendent and assist him in understanding the intent of the contract documents. Assist the ENGINEER in serving as the CLIENT's liaison with the CONTRACTOR when the CONTRACTOR's operations affect the CLIENT'S on-site operations.
- d. Receive and record date of receipt of shop drawings and samples, receive samples which are furnished at the site by the CONTRACTOR, and notify the ENGINEER of their availability for examination.
- e. Advise the ENGINEER and the CONTRACTOR or its superintendent immediately of the

commencement of any work requiring a shop drawing or sample submission if the submission has not been approved by the ENGINEER.

- f. Conduct on-site observations of the work in progress to assist the ENGINEER in determining if the work is proceeding in accordance with the contract documents and that completed work will conform to the contract documents and approved shop drawings and samples.
- g. Report to the ENGINEER whenever he believes that any work is unsatisfactory, faulty or defective or does not conform to the contract documents, or does not meet the requirements of any inspections, tests or approval required to be made or has been damaged prior to final payment; and advise the ENGINEER when he believes work should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
- h. Verify that tests, equipment and systems startups and operating and maintenance instructions are conducted as required by the contract documents and in presence of the required personnel, and that the CONTRACTOR maintains adequate record thereof; observe, record and report to the ENGINEER appropriate details relative to the test procedures and startups.
- i. Accompany visiting inspectors representing public or other agencies having jurisdiction over the project, record the outcome of these inspections and report to the ENGINEER.
- j. Transmit to the CONTRACTOR the ENGINEER'S clarifications and interpretations of the contract documents.
- k. Consider and evaluate the CONTRACTOR'S suggestions for modifications in drawings or specifications and report them with recommendations to the ENGINEER.
- l. Maintain at the job site orderly files for correspondence, reports of job conferences, shop drawings and samples submissions, reproductions of original contract documents including all addenda, change orders, field orders, additional drawings issued subsequent to the execution of the contract, the ENGINEER'S clarifications and interpretations of the contract documents, progress reports, and of project related documents.
- m. Keep a diary or log book, recording hours on the job site, weather conditions, data relative to questions of extras or deductions, list of visiting officials and representatives of manufacturers, fabricators, suppliers and distributors, daily activities, decisions, observations in general and specific observations in more detail as in the case of observing test procedures. Send copies to the ENGINEER.
- n. Measure and record quantities of work completed in accordance with the units and method of measurement specified in the contract documents, or CONTRACTOR breakdown in the case of lump sum bids.
- o. Furnish the ENGINEER periodic reports as required of progress of the work and CONTRACTOR'S compliance with the approved progress schedule and schedule of shop drawing submissions.
- p. Consult with the ENGINEER in advance of scheduled major tests, inspections or start of important phases of the work.
- q. Report immediately to the ENGINEER upon the occurrence of any accident.
- r. Review applications for payment with the CONTRACTOR for compliance with the established

procedure for their submission and forward them with recommendations to the ENGINEER, noting particularly their relation to the schedule of values, work completed and materials and equipment delivered at the site but not incorporated in work.

- s. During the course of the work, verify that certificates, maintenance and operation manuals and other data required to be assembled and furnished by the CONTRACTOR are applicable to the items actually installed; and deliver this material to the ENGINEER for his review and forwarding to the CLIENT prior to final acceptance of the work.
- t. Conduct final inspection in the company of the ENGINEER, the CLIENT and the CONTRACTOR and prepare a final list of items to be completed or corrected.
- u. Verify that all items on final list have been completed or corrected and make recommendations to the ENGINEER concerning acceptance.
- v. Except upon written instructions of the ENGINEER, the resident project representative:
 - 1. Shall not authorize any deviation from the contract documents or approve any substitute materials or equipment.
 - 2. Shall not exceed limitations on the ENGINEER'S authority as set forth in the contract documents.
 - 3. Shall not undertake any of the responsibilities of the CONTRACTOR, subcontractors or the CONTRACTOR's superintendent, or expedite the work.
 - 4. Shall not advise on or issue directions relative to any aspect of the means, methods, techniques, sequences or procedures of construction unless such is specifically called for in the contract documents.
 - 5. Shall not advise on or issue directions as to safety precautions and programs in connection with the work.
 - 6. Shall not authorize the CLIENT to occupy the project in whole or in part.
 - 7. Shall not participate in specialized field or laboratory tests.

5.04 CLARIFICATIONS AND INTERPRETATIONS

The ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the contract documents (in the form of drawings or otherwise) as the ENGINEER may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the contract documents. If the CONTRACTOR believes that a written clarification or interpretation justifies and increase in the contract price or an extension of the contract time and the parties are unable to agree to the amount or extent thereof, the CONTRACTOR may make a claim therefore as provided in Section 10.10.

5.05 LIMITATION'S ON THE ENGINEER'S RESPONSIBILITIES

- a. Neither the ENGINEER'S authority to act under this Section 5 or elsewhere in the contract documents nor any decision made by the ENGINEER in good faith either to exercise or not exercise such authority shall give rise to

any duty or responsibility of the ENGINEER to the CONTRACTOR, any subcontractor, any supplier, or any other person or organization performing any of the work, or to any surety for any of them.

- b. Whenever in the contract documents the terms "as orders", "as directed", "as required", "as allowed", "as approved", or terms of like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "proper", or "satisfactory" or adjectives of like effect or import are used to describe a requirement, direction, review or judgment of the ENGINEER as to the work, it is intended that such requirement, direction, review, or judgment will be solely to evaluate the work for compliance with the contract documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to the ENGINEER any duty or authority to supervise or direct the furnishing or performance of the work or any duty or authority to undertake responsibility contrary to the provisions below.
- c. The ENGINEER will not be responsible for the CONTRACTOR'S means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, and the ENGINEER will not be responsible for the CONTRACTOR'S failure to perform or furnish the work in accordance with the contract documents.
- d. The ENGINEER will not be responsible for the acts or omissions of the CONTRACTOR'S or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the work.

5.06 CONTRACTUAL RELATIONSHIPS

The ENGINEER is under contract to provide certain services to the CLIENT. These may include but are not limited to project design, project coordination, construction observation and staking. Likewise, the CONTRACTOR is contractually bound to the CLIENT by these contract documents. There is no contractual relationship between the ENGINEER and CONTRACTOR. Therefore the CONTRACTOR shall not make any claims against the ENGINEER for the CLIENT's failure to meet obligations of this or subsequent contracts.

5.07 DECISIONS ON DISAGREEMENTS

- a. Claims, disputes, disagreements, or other matters in question between the CONTRACTOR and the CLIENT relating to the execution or progress of the work or the interpretation of the contract documents shall be referred initially to the ENGINEER for decision which he will render in writing within a reasonable time.
- b. Any claim, dispute, disagreement or other matter that has been referred to the ENGINEER, except any which has been waived by the making or acceptance of final payment, shall be subject to arbitration under paragraph 5.08 below upon the written demand of either party. However, no demand for arbitration of any such claim, dispute or other matter may be made until the earlier of the date on which the ENGINEER has rendered his written decision, or the tenth day after the parties have presented their evidence to the ENGINEER or have been given a reasonable opportunity to do so, if the ENGINEER has not rendered his written decision by that date.
- c. No demand for arbitration of a claim, dispute or other matter covered by such decision may be made later than 30 days after the date on which the party making the demand received the decision. The failure to demand arbitration within said 30 day period will result in the ENGINEER's decision becoming final and binding upon the CLIENT and the CONTRACTOR. If the ENGINEER renders a decision after arbitration proceedings have been initiated, such decision may be entered as evidence but will not supersede any arbitration proceedings unless the decision is acceptable to the parties concerned.

5.08 ARBITRATION

- a. All claims, disputes and other matters in question arising out of, or relating to, this contract or the breach thereof,

except as to claims which have been waived by the making or acceptance of final payment, or barred by failure to demand arbitration within time limits specified, shall be decided by Arbitration Rules of the American Arbitration Association unless the parties mutually agree otherwise. Pre-arbitration discovery proceedings shall be conducted in accordance with the Federal Rules of Civil Procedure as amended. The parties agree not to consolidate their arbitration proceedings with any such proceedings to which the ENGINEER is a party without the written consent of the ENGINEER. This agreement to arbitrate shall be specifically enforceable under the then prevailing arbitration law. The award rendered by the arbitrators, unless duly appealed pursuant to law, shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction.

- b. Notice of the demand for arbitration shall be filed in writing with the other party to the contract and with the American Arbitration Association, and a copy shall be filed with the ENGINEER. Demand for arbitration shall in no event be made after institution of legal proceedings based on any claim, dispute or other matter in question or on any claim, dispute or other matter in question that would be barred by the applicable statute of limitations nor prior to the complete execution of a separate instrument of agreement to arbitrate.
- c. The CONTRACTOR shall carry on the work and maintain the progress schedule during any arbitration proceedings, unless otherwise agreed by him and the CLIENT in writing.

5.09 OBSERVATION AND TESTING OF WORK AND MATERIALS

- a. All workmanship and materials, either at the installation or intended for it, are subject to observation, testing and approval of the ENGINEER and CLIENT either during manufacture or any other time. Such observations may include mill, plant, or shop inspection, and any material furnished under these specifications is subject to such observation. Where specific inspections, observations or tests are required by the contract documents, laws, ordinances, rules, regulations or orders of any public authority the CONTRACTOR will give the ENGINEER timely notice of readiness. No claims of delay will be justified for less than 48 hours notice. The ENGINEER shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the CONTRACTOR as is required to make his observations and construction review. If questionable work is detected and found unacceptable by the ENGINEER, the CONTRACTOR shall bear all necessary expense of replacement. In addition, authorized representatives and agents of any participating municipal, county, state, or federal agency shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records. The CONTRACTOR will provide proper facilities for such access and observation of the work and also for any inspection, or testing thereof.
- b. The CONTRACTOR will be responsible for strict adherence to the true intent of the specifications in regard to quality of materials, workmanship, and the diligent execution of the work. The ENGINEER may reject and required immediate removal from the premises of any material or work that he may decide contrary to the contract, either before or after the same has been delivered to installation. Neither observations by the ENGINEER nor inspections, tests or approvals by persons other than the CONTRACTOR shall relieve the CONTRACTOR from his obligations to perform the work in accordance with the requirements of the Contract Documents. Any error or defect which may be discovered before final acceptance of the work must be corrected by the CONTRACTOR regardless of previous inspections.
- c. If any work is covered contrary to the request of the ENGINEER it must, if requested by the ENGINEER, be uncovered for his observation and replaced at the CONTRACTOR'S expense. If any work has been covered which the ENGINEER has not specifically requested to observe prior to its being covered, or if the ENGINEER considers it necessary or advisable that covered work be inspected or tested by others, the CONTRACTOR at the ENGINEER'S request, will uncover, expose or otherwise make available for observation, inspection or testing as the ENGINEER may require, that portion of the work in question, furnishing all necessary labor, materials, tools and equipment. If it is found that such work is defective, the CONTRACTOR will bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction. If, however, such

work is not found to be defective, the CONTRACTOR will be allowed an increase in the Contract price or an extension of the Contract time, or both; directly attributable to such uncovering, observation, inspection, testing and reconstruction, and an appropriate change order shall be issued.

- d. Should the CONTRACTOR fail to remove and renew any defective materials within the time indicated in writing, the ENGINEER shall have the authority to cause the unacceptable or defective materials to be removed and renewed at the CONTRACTOR'S expense. Any expense incurred by the CLIENT in making these removals or renewals, which the CONTRACTOR has failed or refused to make, shall be paid for out of any monies due or which may become due the CONTRACTOR, or may be charged the contract bond deposit.
- e. If, in the opinion of the ENGINEER, it is not expedient to correct injured work, or work not done in accordance with the Contract, the CLIENT may deduct the difference in value between the work involved and that called for by the Contract, together with fair allowance for damages, the amount of which shall be determined by the ENGINEER.
- f. The CONTRACTOR must employ competent, experienced craftsman and all work must be executed in the best and most thorough workmanlike manner known to each trade. The CLIENT reserves the right to require the removal of any particular workman or workmen from the job for cause.

5.10 CONTRACTOR'S RESPONSIBILITY

- a. A competent superintendent, who is designated in writing and whom is acceptable to the CLIENT, shall give efficient supervision to the work until its completion and shall be available to the work site when given verbal notice. The superintendent shall have full authority to act on behalf of the CONTRACTOR, and all communications given to the superintendent or in his absence the project foreman, shall be as binding as if given to the CONTRACTOR. Important communications shall be confirmed by the ENGINEER in writing. Other communications shall be so confirmed upon written request of the CONTRACTOR. The superintendent will supervise and direct the work. He will be solely responsible for the means, methods, techniques, sequences and procedures of construction. It shall be the responsibility of the CONTRACTOR'S superintendent to coordinate the work of all the subcontractors. The superintendent shall be present on the site at all times as required to perform adequate supervision and coordination of the work.
- b. The superintendent shall report daily to the ENGINEER on the progress of the work and number of men on the job. The superintendent shall maintain complete records of the work as it progresses and shall submit these records with each request for payment. The CLIENT may elect to have weekly progress meetings at which the CONTRACTOR and superintendent shall be present.
- c. The CONTRACTOR shall also provide an adequate staff for properly coordinating and expediting the work including office staff to handle by telephone any questions that may arise in the conductance of the work.

5.11 ASSIGNMENT OF CONTRACT

Neither the CONTRACTOR nor the CLIENT shall sell, transfer, assign or otherwise dispose of the contract or any portion thereof, or of his right, title or interest therein, or his obligations thereunder, without written consent of the other party.

5.12 SUSPENSION OF WORK, TERMINATION AND DELAY

- a. The CLIENT may, at any time and without cause, suspend the work or any portion thereof by written notice to the CONTRACTOR and the ENGINEER, this notice shall fix the date on which work shall be resumed. The CONTRACTOR will resume that work on the date so fixed. The CONTRACTOR will be allowed an increase in

the contract price or any extension of the contract time, or both, directly attributable to any suspension.

- b. If the CONTRACTOR is adjudged a bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the CONTRACTOR or for any of his property, or if he files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or applicable laws, or if he repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if he repeatedly fails to make prompt payments to subcontractors or for labor, materials or equipment or if he disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction of the work or if he disregards the authority of the ENGINEER, or if he otherwise violates any provision of the contract documents, then the CLIENT may, without prejudice to any other right or remedy and after giving the CONTRACTOR and his surety a minimum of ten (10) days from delivery of a written notice, terminate the services of the CONTRACTOR and take possession of the project and of all materials, equipment, tools, construction equipment and machinery thereon owned by the CONTRACTOR, and finish the work by whatever method he may deem expedient. In such case the CONTRACTOR shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the contract price exceeds the direct and indirect costs of completing the project, including compensation for additional professional services, such excess shall be paid to the CONTRACTOR. If such costs exceed such unpaid balance, the CONTRACTOR will pay the difference to the CLIENT. Such costs incurred by the CLIENT will be determined by the ENGINEER and incorporated in a change order.
- c. Where the CONTRACTOR'S services have been so terminated by the CLIENT, said termination shall not affect any right of the CLIENT against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of monies by the CLIENT due to the CONTRACTOR will not release the CONTRACTOR from compliance with the contract documents.
- d. After ten (10) days from delivery of a written notice to the CONTRACTOR and the ENGINEER, the CLIENT may, without cause and without prejudice to any other right or remedy, elect to abandon the project and terminate the contract. In such case, the CONTRACTOR shall be paid for all work executed and any expense sustained plus reasonable profit.
- e. If, through no act or fault of the CONTRACTOR, the work is suspended for a period of more than ninety (90) days by the CLIENT or under an order of court or other public authority, or the ENGINEER fails to act on any request for payment within thirty (30) days after it is submitted, or the CLIENT fails to pay the CONTRACTOR substantially the sum approved by the ENGINEER or awarded by arbitrators within sixty (60) days after its approval and presentation, then the CONTRACTOR may, after ten (10) days from delivery of written notice to the CLIENT and the ENGINEER, terminate the contract and recover from the CLIENT payment for all work executed and all expenses sustained. In addition and in lieu of terminating the contract, if the ENGINEER has failed to act on a request for payment of if the CLIENT has failed to make any payment as aforesaid, the CONTRACTOR may upon ten (10) days notice to the CLIENT and the ENGINEER stop the work until he has been paid all amounts then due, in which event and upon resumption of the work, change orders shall be issued for adjusting the contract price or extending the contract time or both to compensate for the costs and delays attributable to the stoppage of the work.
- f. If the performance of all or any portion of the work is suspended, delayed, or interrupted as a result of a failure of the CLIENT or ENGINEER to act within the time specified in the contract documents, or if no time is specified within a reasonable time, an adjustment in the contract price or an extension of the contract time, or both, shall be made by change order to compensate the CONTRACTOR for the costs and delays necessarily caused by the failure of the CLIENT or ENGINEER.

5.13 CLIENT'S RIGHT TO CORRECT DEFICIENCIES

In the case of an emergency the CLIENT shall have the right to correct the defective work immediately with

payment pursuant to Section 10.14.

5.14 RIGHTS OF VARIOUS INTERESTS

Wherever work being done by the CLIENT'S forces or by other contractors is contiguous to work covered by this contract, the respective rights of the various interests involved shall be established by agreement to secure the completion of the various portions of the work in general harmony.

5.15 SEPARATE CONTRACTS

- a. The CLIENT reserves the right to perform additional work himself or to let other contracts in connection with this project. The CONTRACTOR shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, and shall properly connect and coordinate his work with theirs. If the proper execution or results of any part of the CONTRACTOR'S work depends upon the work, of any other contractor, the CONTRACTOR shall inspect and promptly report to the ENGINEER any defects in such work that render it unsuitable for such proper execution and results. His failure to notify the ENGINEER of such irregularities shall indicate the work of other contractors has been satisfactorily completed to receive his work. The CONTRACTOR shall not be responsible for defects of which he could not have known, which develop in the work of others after the work is completed. It shall be the responsibility of the CONTRACTOR to measure the completed work in place and report to the ENGINEER immediately any difference between completed work by others and the drawings.
- b. If the performance of additional work by other contractors or the CLIENT is not noted in the contract documents prior to the execution of the contract, written notice thereof shall be given to the CONTRACTOR prior to starting any such additional work. If the CONTRACTOR believes that the performance of such additional work by the CLIENT or other involves him in additional expense or entitles him to an extension of the contract time, he may make a claim therefore.

5.16 SUBCONTRACTS

- a. The CONTRACTOR may utilize the services of specialty subcontractors on those parts of the work, which, under normal contracting practices, are performed, by specialty subcontractors.
- b. The CONTRACTOR shall not award work to subcontractor(s) in excess of fifty percent (50%) of the contract price, without prior written approval of the CLIENT.
- c. Unless otherwise specified in the contract documents, the CONTRACTOR shall, along with his proposal, submit in writing to the CLIENT the names of all subcontractor proposed for the work. Subcontractors may not be changed except at the request or with the consent of the CLIENT.
- d. The CONTRACTOR is responsible to the CLIENT for the acts and omissions of his subcontractors, and of their direct and indirect employees, to the same extent as he is responsible for the acts and omissions of his employees.
- e. The contract documents shall not be construed as creating any contractual relations between the CLIENT or the ENGINEER and any subcontractor.
- f. The CONTRACTOR agrees to bind every subcontractor and every subcontractor agrees to be bound by the terms of the contract documents as far as applicable to his work.
- g. For convenience of reference and to facilitate the letting of contracts and subcontracts, the specifications are separated into titled sections. Such separations shall not, however, operate to make the ENGINEER an arbitrator

to establish limits to the contracts between the CONTRACTOR and subcontractors.

- h. The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the CONTRACTOR by the terms of the contract documents insofar as applicable to the work of subcontractors and to give the CONTRACTOR the same power as regards terminating any subcontract that the CLIENT may exercise over the CONTRACTOR under any provision of the contract documents.

5.17 WORK DURING AN EMERGENCY

- a. In any emergency affecting the safety of persons or property, the CONTRACTOR shall act to prevent threatened damage, injury or loss. In all cases he shall, as soon as practicable, notify the CLIENT of the emergency and he shall not wait for instructions before proceeding to protect both life and property.
- b. Any additional compensation or extension of time claimed by the CONTRACTOR on account of said emergency work shall be determined under Section 10.

5.18 ORAL AGREEMENTS

Verbal orders and suggestions as to the performance of the work may be given from time to time by the ENGINEER, or by other representatives of the municipality, county, state or other government or regulatory agency through the ENGINEER. When in the opinion of the CONTRACTOR, such verbal orders or suggestions entitle him to a change in contract price or time or both, he must request a change order from the CLIENT. No verbal order or suggestion of any representative or employee of the municipality, county, state or other governmental or regulatory agency, or of any other person, shall be construed as authorizing any claims on the part of the CONTRACTOR for extra compensation for labor, material or other items pertaining to such work, or for damages or any other expenses incurred because of the CONTRACTOR'S compliance therewith.

5.19 NONDISCRIMINATION IN EMPLOYMENT

For work under this contract the CONTRACTOR must agree:

- a. That in the hiring of common or skilled labor for the performance of any work under this contract or any subcontract hereunder, no contractor, material supplier or vendor shall, by reason of race, creed, color or national origin, discriminate against the person or persons who are qualified and available to perform the work to which such employment relates.
- b. That no contractor, material supplier or vendor shall, in any manner, discriminate against or intimidate or prevent the employment of any person or persons, or on being hired, prevent or conspire to prevent any person or persons from the performance of the work under this contract on account of race, creed, color or national origin.
- c. Violation of this section shall be cause for cancellation or termination of this contract.

5.20 PROGRESS/COORDINATION MEETINGS

The CLIENT shall, at his discretion, hold weekly meetings to monitor progress and coordinate activities on the project site. The CONTRACTOR and his subcontractors shall attend these meetings, provide any required documentation of progress and anticipated construction scheduling as required by the CLIENT. These meetings will be held at a time and location determined by the CLIENT.

6.00 AVAILABILITY LANDS; PHYSICAL CONDITIONS; REFERENCE POINTS

6.01 LANDS BY CLIENT

The CLIENT shall provide, not later than the date specified in the instruction to bidders, the lands shown on the drawings upon which the work under the contract is to be performed. The CLIENT shall also provide rights-of-way for access thereto. Any delay in furnishing these lands by the CLIENT shall be deemed proper cause for consideration of adjustment in the time of completion, but not in the contract amount.

6.02 LANDS BY CONTRACTOR

Any additional land and access thereto not shown on the drawings that may be required for temporary construction facilities or for storage of materials shall be provided by the CONTRACTOR with no liability to the CLIENT. The CONTRACTOR shall confine his apparatus and storage of materials and operation of his workmen to those areas described in the drawings and specifications and such additional areas that he may provide at his expense. The CONTRACTOR shall notify the ENGINEER in writing of those lands provided at his expense. The CONTRACTOR shall not disturb any areas outside of his construction limits including wetlands, woodlands and previously restored work areas.

6.03 PRIVATE PROPERTY

The CONTRACTOR shall not enter upon private property for any purpose without obtaining permissions from the owner thereof, and he shall be responsible for the preservation of all public property, trees, monuments, etc., along and adjacent to the street and/or right-of-way, and shall use every precaution necessary to prevent damage or injury thereto. He shall protect carefully from disturbance or damage all monuments and property marks until the ENGINEER has witnessed or otherwise referenced their location and shall not remove them until directed.

6.04 SURVEYS, PERMITS, REGULATIONS AND NOTICES

- a. The ENGINEER shall furnish all land surveys and establish all base lines for locating the principal component parts of the work together with a suitable number of bench marks adjacent to the work as shown in the contract documents. Cut sheets will be provided to the CONTRACTOR. From the information provided by the ENGINEER, unless otherwise specified in the Contract Documents, the CONTRACTOR shall develop and make all detail surveys needed for construction such as slope stakes, batter boards, laser settings, stakes for pile locations and other working points, lines, and elevations.
- b. The CONTRACTOR shall notify ENGINEER at least three (3) days prior to the time that construction stakes are required. No additional compensation shall be allowed CONTRACTOR for any claims of crews being held up because of lack of line and grade stakes. The ENGINEER will charge the CONTRACTOR for survey crew time lost if the site isn't ready for staking at the time requested by the CONTRACTOR. The ENGINEER at no expense to CONTRACTOR will stake the proposed work once. Should CONTRACTOR request restaking this work will be done as ENGINEER'S schedule permits and at the expense of CONTRACTOR.
- c. After lines and grades for any part of the work have been given by the ENGINEER, the CONTRACTOR will be held responsible for the proper execution of the work to such lines and grades and all stakes or other marks given shall be protected and preserved by him until authorized to remove them by the inspector. The CONTRACTOR shall, at his own expense, correct any mistakes that may be caused by their unauthorized disturbance or removal. The ENGINEER may require that work be suspended at any time when for any reason such marks cannot be properly followed.

- d. The CONTRACTOR shall assist the ENGINEER, as required, in staking utility lines by exposing potentially conflicting utility lines for determination of line location and elevation as an incidental item to utility construction.
- e. The CONTRACTOR shall carefully preserve bench marks and reference points for the project duration and, in case of willful or careless destruction, he shall be charged with the resulting expense and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.
- f. Permits and licenses of a temporary nature necessary for the prosecution of the work shall be secured and paid for by the CONTRACTOR. Permits, licenses and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the CLIENT, unless otherwise specified. The CLIENT shall make application for permits for crossing highways and/or railroads prior to letting, and the CONTRACTOR shall obtain said permits and post any required bonds. The CONTRACTOR shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the work as drawn and specified. If the CONTRACTOR observes that the contract documents are at variance therewith, he shall promptly notify the ENGINEER in writing, and any necessary changes will be made by change order.
- g. The CONTRACTOR shall be responsible for necessary notices to utility companies, police and fire departments, etc., and comply with all laws, ordinances, rules, and regulations relating thereto. Adjacent property owners shall be notified 48 hours in advance, by the CONTRACTOR, of any constructions activities that will impact their property, access or availability of water, telephone, gas, or electricity, or cable television. If under emergency situations 48 hours notice is not possible the CONTRACTOR shall notify the residents as soon as practical.

6.05 SOIL BORINGS AND SUBSURFACE CONDITIONS

- a. The CLIENT may have a subsurface exploration report performed by a Geotechnical Engineer consultant. The results, if any, are included in the specifications or can be obtained by the Consultant. The Consultant's report presents his conclusions on the subsurface conditions based on his interpretation of the data obtained in the exploration.
- b. The CONTRACTOR is responsible for reviewing the consultant's report and any addenda thereto, and by submitting his proposal, the CONTRACTOR certifies that his proposal is based on the subsurface conditions, as described in that report.
- c. It is recognized that a subsurface exploration may not disclosed all conditions as they actually exist and further, conditions may change, particularly groundwater conditions, between the time of subsurface exploration and the time of construction. The CONTRACTOR shall promptly, and before such conditions are disturbed, except in the event of an emergency, notify the CLIENT by written notice of conditions that are different than those anticipated by the foundation consultant's report or differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract documents.
- d. The CLIENT shall instruct the Geotechnical Engineer consultant to promptly investigate the conditions, and if he finds that such conditions do so materially differ and cause an increase in the cost of, or in the time required for, performance of the work, an equitable adjustment shall be made and the contract documents shall be modified by a change order. Any claim of the CONTRACTOR for adjustment hereunder shall not be allowed unless he has given the required written notice prior to starting work.
- e. Likewise, if the CLIENT'S representative or ENGINEER on the construction site observes subsurface conditions which are different than those anticipated by the foundation consultant's report, he shall immediately bring this fact to the CONTRACTOR'S attention. After the unanticipated conditions have been brought to the attention of

the CONTRACTOR, and the Geotechnical Engineer consultant has concurred, immediate negotiations will be undertaken between the CLIENT and the CONTRACTOR to arrive at a change in contract price for reduction in work because of the unanticipated conditions.

6.06 PROSECUTION OF WORK NEAR PUBLIC UTILITIES PROPERTIES

- a. The location of existing utilities indicated on the drawings are based solely on known records and no responsibility is assumed by the CLIENT or ENGINEER for the accuracy of those utilities indicated on the plans.
- b. It shall be the CONTRACTOR'S responsibility to inform himself of the existence and exact location of all underground utilities which may be adjacent to the work. The CONTRACTOR shall be responsible for and shall preserve and protect all utilities that are above ground surface and below ground surface whether or not the approximate locations are shown in the plans. He shall assume full responsibility for reimbursing the owners thereof for any damage or injury to such utilities that may be caused by his operations. He shall at no time interfere with any person engaged in protecting or moving utility properties or in the operation of the utility.
- c. The CONTRACTOR shall give notice to the owners of all utilities at least 48 hours before starting any construction operations that will affect such properties. If, during the course of his operations he discovers utility properties, the existence of which was not known, he shall immediately notify the owner thereof and the ENGINEER.
- d. Should the CONTRACTOR desire to have any temporary alterations or moves made in utility properties in order to facilitate his operations and for his sole benefit, which alterations or moves would not be otherwise required, he shall make necessary arrangements with the owners of the utilities and bear all expense in connection therewith.
- e. When permanent utility moves are required the CONTRACTOR shall coordinate his operations with those of the utility owner, with no additional compensation. The costs associated with permanent utility moves will be paid by the CLIENT or the owner of the utility.
- f. The CONTRACTOR shall exercise particular care, whenever gas mains or other utility lines are crossed, to provide compacted backfill or other stable support for such lines to prevent any detrimental displacement, rupture or other failure.

6.07 FIRE PROTECTION

The CONTRACTOR shall furnish and maintain a suitable quantity and type of portable fire extinguisher at the job site. The CONTRACTOR shall be responsible for handling of the equipment and maintaining fire protection at the site.

6.08 TIME OF WORK

Work shall be done during regular working hours. No construction equipment shall be operated on the job site between the hours of 9 PM and 7 AM. No work shall be done on Sundays unless special approval therefore is granted by the CLIENT, ENGINEER and the local municipality. The CONTRACTOR shall notify the ENGINEER in advance of all times when men are to work on this construction.

7.00 MATERIALS AND WORKMANSHIP

7.01 MATERIALS FURNISHED BY CONTRACTOR

- a. All materials used in the work shall be new unless otherwise provided for in the contract documents, shall meet the requirements of the specification be in conformance with samples provided, and shall not be incorporated into the work until reviewed by the ENGINEER.
- b. Unless otherwise specifically indicated in the contract documents, all materials necessary for the proper execution of the work shall be furnished and paid for by the CONTRACTOR, whether temporary or not and whether incorporated into the work or not.
- c. Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditions as specified by the manufacturer.
- d. Materials, supplied or equipment to be incorporated into the work shall not be purchased by the CONTRACTOR or the subcontractor subject to a chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.
- e. The CLIENT will at his option pay for materials that are purchased and surface stored by the CONTRACTOR prior to their incorporation into the work.

7.02 MATERIALS FURNISHED BY CLIENT

- a. Materials specifically indicated shall be furnished by the CLIENT. Before incorporating any of the materials into the work, the CONTRACTOR shall inspect the materials so furnished by the CLIENT. If the CONTRACTOR discovers any patent defects in material furnished by the CLIENT, he shall notify the ENGINEER.
- b. Unless otherwise noted or specifically stated, materials furnished by the CLIENT are considered to be FOB the nearest railroad station or truck line. The CONTRACTOR shall transport the materials to the job site, unload and properly protect all such materials from damage or loss. The CONTRACTOR shall be responsible for material loss or damage after receipt of material at the point of delivery.

7.03 STORAGE OF MATERIALS

Materials shall be so stored by the CONTRACTOR as to insure the preservation of their quality and fitness for the work. Stored materials shall be located so as to facilitate prompt inspection. Private property shall not be used for storage purposes without the written permission of the owner or lessee thereof.

7.04 REJECTED WORK AND MATERIALS

- a. All materials, whether furnished by the CLIENT or CONTRACTOR, which do not conform to the requirements of the contract documents, or which are not equal to samples or other product data reviewed by the ENGINEER, or which are in any way unsatisfactory to the CLIENT or unsuited to the purpose for which they are intended, whether incorporated into the construction or not, shall be rejected. Any defective work whether the result of poor workmanship, use of defective materials, damage through carelessness or any other cause shall be removed within ten (10) days after written notice is given by the CLIENT or ENGINEER, and the work shall be re-executed by the CONTRACTOR. The CONTRACTOR shall bear the expense of making good all work of other

CONTRACTORS destroyed or damaged by such removal or replacement. The fact that the ENGINEER may have previously overlooked such defective work shall not constitute an acceptance of any part of it.

- b. All removal and replacement work shall be done at the CONTRACTOR'S expense. Should the CONTRACTOR fail to remove rejected work or materials within ten (10) days after written notice to do so, the CLIENT may remove them and may store the materials.
- c. Correction of faulty work after final payment shall be in accordance with Section 10.24.

7.05 MANUFACTURER'S DIRECTIONS

Manufactured supplies, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer.

7.06 CONDUCT OF WORKMEN

The qualifications and conduct of workmen shall be in accordance with MN/DOT Specification 1802.

7.07 CUTTING AND PATCHING

The CONTRACTOR shall do all necessary cutting, fixing or patching of the work that may be required to make its several parts fit together properly, or to properly receive the work of the various trades, or as required by the drawings and specifications, to complete the work. He shall restore all such cut or patched work as approved by the ENGINEER. Cutting of any existing structure that shall endanger the work, adjacent property, workmen or the public shall not be done.

7.08 WARRANTY

- a. The CONTRACTOR shall expressly warrant and guarantee the workmanship, equipment and materials furnished to be in compliance with the terms of the contract documents. The said warranty shall extend for a full two (2) year period from and after the acceptance of the project by the CLIENT. If any of the work is found to be defective or not in accordance with the contract documents, CONTRACTOR shall correct the said condition promptly after receipt of written notice from the CLIENT. This includes the repairs of any damage to other parts of the system resulting from such defects. Prior to commencement of the corrective work, the CONTRACTOR shall provide insurance certificate policies, in accordance to Section 8 herein, so as to protect the CLIENT, its ENGINEER or agents during the performance of the warranty work. Acceptance by the CLIENT for the purpose of beginning the warranty period will be deemed to be when the project is finally accepted by the CLIENT: However, in the case of a project which includes both utility improvements and street improvement, the CLIENT could accept the utility portion of the project upon written request by the CONTRACTOR and recommendation of the ENGINEER after the utility portion has been completed and is capable of being put into service.
- b. The acceptance of the installation, or any part of it, shall not act to waive the liability on the part of the CONTRACTOR and his surety.
- c. In the event that the CONTRACTOR should fail to make such repairs, adjustments or other work that may be made necessary by such defects, the CLIENT may do so and charge the CONTRACTOR the cost thereby incurred. The Performance Bond shall remain in full force and effect through the warrantee/guarantee period. The CONTRACTOR'S performance and payment bond delivered to the CLIENT pursuant to the contract shall cover the CONTRACTOR'S obligations provided for herein.

8.00 INSURANCE, LEGAL RESPONSIBILITY, PUBLIC SAFETY & MISCELLANEOUS

8.01 INSURANCE

- a. The CONTRACTOR shall secure and maintain such insurance from an insurance company authorized to write casualty insurance in the state where the work is located as will protect himself, his subcontractors, and the CLIENT and ENGINEER from claims for bodily injury, death or property damage which may arise from work performed under the contract documents. The CONTRACTOR shall not commence work under this Contract until he has obtained all insurance required under this paragraph and shall have filed the certificate of insurance or the certified copy of the insurance policy with the owner and ENGINEER. Each certificate of insurance shall name the CLIENT and the ENGINEER as additional insureds. If the CONTRACTOR’S work is done in a public easement or right-of-way, then the public entity and the public entity’s Engineer shall also be named as an additional insured. Each certificate of insurance and policy shall contain a clause providing that it shall not be canceled by the insurance company without ten (10) days written notice to the CLIENT of intention to cancel.
- b. Unless otherwise specifically waived in writing signed by the CLIENT, the required insurance and the amounts of said insurance shall not be less than the following:

1. Public Liability Insurance

- a. Bodily Injury \$1,000,000 each occurrence
\$2,000,000 aggregate
- b. Property Damage \$1,000,000 each accident
\$2,000,000 aggregate
- c. Pollution Liability \$2,000,000 each occurrence
(for accidental release of pollution during demolition of property)

2. Automobile Insurance

- a. Bodily Injury \$750,000 per person
\$1,000,000 per accident
- b. Property Damage not less than \$50,000 per accident
- c. Coverage shall include: hired, non-owned and owned auto

3. Workers Compensation and Employer’s Liability

- a. Worker’s Compensation per MN State Statute
- b. Employer’s Liability shall have minimum limits of \$500,000 per accident;
\$500,000 per employee; \$500,000 per disease policy limit.

4. General Insurance Requirements

- a. The policy is to be written on an occurrence basis or as acceptable to the CLIENT. Certificate of insurance must indicate if the policy is issued on a claims-made or occurrence basis. All certificates of insurance shall provide that the Contract and Analysis Services Office be given not less than (30) days prior written notice of cancellation, non-renewal or any material changes in the policy. Agent must state on the certificate if they carry errors and omissions coverage.
- b. The Contractor shall not commence work until a Certificate of Insurance covering all of the insurance required by these specifications is approved and a notice to proceed has been issued by the project manager. Insurance must remain in place for the duration of the original contract and any extension

- periods.
- c. Satisfaction of policy and endorsement requirements for General Liability and Auto Insurance, of “each occurrence” and “aggregate” limits, can be met with an umbrella or excess policy with the same minimum monetary limits written on an occurrence basis, providing it is written by the same insurance carrier.
 - d. Insurance coverage shall remain in effect through the warrantee period.

8.02 INDEMNITY

- a. To the fullest extent permitted by the law, the CONTRACTOR shall indemnify the CLIENT and the ENGINEER and their agents and employees from and against all claims, damages, losses and expenses, including but not limited to attorneys' fees arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expense 1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself) including the loss of use resulting therefrom, and 2) is caused in whole or in part by any negligent act or omission of the CONTRACTOR, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this Section.
- b. In any and all claims against the CLIENT or the ENGINEER or any of their agents or employees by any employee of the CONTRACTOR, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this Section shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable or for the CONTRACTOR or any subcontractor under worker's or workmen's compensation acts, disability benefit acts or other employee benefit acts.
- c. The obligation of the CONTRACTOR under this paragraph shall not extend to the liability of the ENGINEER, his agents or employees arising out of the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications.

8.03 PERFORMANCE AND PAYMENT BOND

The CONTRACTOR shall within ten (10) days after the receipt of the notice of award furnish the CLIENT with both a Performance Bond and a Payment Bond in penal sum equal to the amount of the contract price, conditioned upon the performance by the CONTRACTOR of all undertakings, covenants, terms, conditions and agreements of the contract documents, and upon the prompt payment by the CONTRACTOR to all persons supplying labor and materials in the prosecution of the work provided by the contract documents. Such bond shall be executed by the CONTRACTOR and a corporate bonding company licensed to transact such business in the state in which the work is to be performed and which is named in the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Federal Register. The bond shall be in a form acceptable to the CLIENT. The expense of this bond shall be borne by the CONTRACTOR. If any time a surety on any such bond is declared a bankrupt or loses its right to do business in the state in which the work is performed, the CONTRACTOR shall within ten (10) days after notice from the CLIENT to do so substitute an acceptable bond in such form and sum and signed by such other surety or sureties as may be satisfactory to the CLIENT. The premiums on such bond shall be paid by the CONTRACTOR. No further payments shall be deemed due nor shall be made until the new surety or sureties shall have furnished an acceptable bond to the CLIENT. When asked in writing, the ENGINEER will apprise the bonding company in writing of project status at intervals not more frequently than 90 days.

These bonds or an acceptable 100% maintenance bond shall guarantee the quality of material and Workmanship of said Work for a period of two (2) years from the date of final payment approval. The CONTRACTOR may

not release the Surety company on the bonds(s) until they have received a written release of said bond(s) from the CLIENT.

When a period of two (2) years has elapsed after the date of the acceptance of the Work by the CLIENT and if upon inspection by the CLIENT the Work is found in good condition, the bond(s) shall be released.

If it is found by the inspection after two (2) years' use that some of the work or some of the materials are defective, such Work of materials shall be replaced or repaired by the CONTRACTOR, and only when the CONTRACTOR has properly replaced and repaired such defective Work and/or materials will the CLIENT release the bond(s).

8.04 PATENTS, FEES AND ROYALTIES

CONTRACTOR shall pay all license fees and royalties and assume all costs incidental to the use in the performance of the work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the contract documents for use in the performance of the work and if to the actual knowledge of CLIENT or ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed in the contract documents. If the CONTRACTOR has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for promptly giving such information to the ENGINEER. The CONTRACTOR shall indemnify and hold harmless, the CLIENT and ENGINEER, and anyone directly or indirectly employed by either of them from and against all claims, damages, losses and expenses (including attorneys' fees) arising out of any infringement of patent rights or copyrights incident to the use in the performance of the work or resulting from the incorporation in the work of any invention, design, process, product or device not specified in the contract documents, and shall defend all such claims in connection with any alleged infringement of such rights.

8.05 PERMITS AND LICENSES

All permits and license necessary to use any invention, design, process, product or device for the performance of the work which are the subject of patent rights or copyrights held by others, shall be secured by the CONTRACTOR prior to the commencement of the work.

8.06 LAWS, REGULATIONS AND SAFETY

- a. The CONTRACTOR shall give all notices and comply with all laws, ordinances, rules and regulations applicable to the work. If the CONTRACTOR observes that the specifications or drawings are at variance therewith, he shall give ENGINEER prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate modification. If the CONTRACTOR performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to ENGINEER, he shall bear all costs arising therefrom; however, it shall not be his primary responsibility to make certain that the specifications and drawings are in accordance with such laws, ordinances, rules and regulations.
- b. The CONTRACTOR will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work. He will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to all employees on the work and other persons who may be affected thereby, all the work and all materials or equipment to be incorporated therein, whether in storage on or off the site and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

- c. The CONTRACTOR will comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. He will erect and maintain, as required by the conditions and progress of the work, all necessary safeguards for safety and protection. He will notify the owner of adjacent utilities when prosecution of the work may affect them. The CONTRACTOR will remedy all damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by the CONTRACTOR, any subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts either of them may liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the CONTRACTOR.
- d. The CONTRACTOR'S duties and responsibilities for the safety and protection of the work shall continue until such time as all the work is completed and ENGINEER has issued a notice to CLIENT and CONTRACTOR that work is acceptable.
- e. The CONTRACTOR shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be CONTRACTOR'S superintendent unless otherwise designated in writing by CONTRACTOR to CLIENT. He shall at all times keep the chief of police, the fire chief, the city, county, state, and the ENGINEER, informed of current traffic detours and patterns. If, at any time, the CONTRACTOR fails to adequately maintain any of the traffic control devices, the ENGINEER may proceed to install, replace or maintain the devices and deduct the costs thereof from any monies due the CONTRACTOR. No direct compensation will be made for any flagmen required on the project under this contract. All necessary signing and barricading for lane closures and street closing shall be done in conformance with the "Minnesota Manual on Uniform Traffic Control Devices" and shall be the responsibility of the CONTRACTOR.
- f. In emergencies affecting the safety of persons or the work or property at the site or adjacent thereto, the CONTRACTOR, without special instruction or authorization from the ENGINEER or CLIENT, shall act to prevent threatened damage, injury or loss. He will give the ENGINEER prompt written notice of any significant changes in the work or deviations from the Contract Documents caused thereby, and a change order shall there upon be issued covering the changes and deviations involved.
- g. All construction activities shall be in conformance with current OSHA standards.

8.07 WARNING SIGNS AND BARRICADES

The CONTRACTOR shall at all times so conduct his work as to insure the least possible obstruction to traffic and inconvenience to the general public and the residents in the vicinity of the work, and to insure the protection of persons and property. No road or street shall be closed to the public except with the permission of the CLIENT and proper governmental authority. The CONTRACTOR shall warn effected motorists or residents of any construction practices or situations which could be dangerous, cause personal injuries or property damage. Fire hydrants on or adjacent to the work shall be kept accessible to fire fighting equipment at all times. Temporary provisions shall be made by the CONTRACTOR to insure the use of sidewalks and the proper functioning of all gutters, sewer inlets, drainage ditches and irrigation ditches, which shall not be obstructed. The ENGINEER reserves the right to require immediate backfilling of any street area which the ENGINEER deems it required for safe traffic circulation within or adjacent to the project.

8.08 CROSSING UTILITIES, ETC.

Where the prosecution of the work results in the crossing of highways, railroads, streets or utilities under the jurisdiction of state, county, city or other public or private entities, the CONTRACTOR shall secure written permission from the proper authority to cross said highway, railroad, street or utility before further prosecuting the work (see Section 6.04f). A copy of the written document granting permission shall be filed with the CLIENT and ENGINEER before any work is done. The CONTRACTOR shall be required to obtain a written release from the applicable authority upon completion of the work. A copy of this written release shall be filed with the CLIENT and ENGINEER before final acceptance of the work is granted.

8.09 SANITARY PROVISIONS

The CONTRACTOR shall provide and maintain such sanitary facilities for the use of his employees and those of his subcontractors as may be necessary to comply with the laws, rules or regulations of the federal, state, and local governments, or agencies or departments thereof.

8.10 PRESERVATION OF HISTORICAL OBJECTS

- a. Where historical objects of potential architectural, archeological or paleontological nature are discovered within the areas on which the CONTRACTOR'S operations are in progress, the CONTRACTOR shall restrict or suspend his operations in the immediate area of the discovery as may be necessary to preserve the discovered objects until the CLIENT has made arrangements for their disposition or has recorded the desired data relative thereto.
- b. The CONTRACTOR shall immediately notify the CLIENT of any historical objects he may discover or become aware of as the work is being prosecuted, and shall aid in the preservation and salvage program decided upon, as may be requested or ordered by the owner. No work that the CONTRACTOR considers to be extra work shall be performed without the written authorization of the CLIENT.
- c. The CLIENT shall have the right to restrict or suspend the CONTRACTOR'S operations in the immediate area where historical objects are discovered for a period not to exceed 72 hours, without claim being made by the CONTRACTOR for any damages he might suffer as a result thereof.

8.11 AIR AND WATER POLLUTION

Pollution of natural resources of air, land and water by operations under this Contract shall be prevented, controlled and abated in accordance with the rules, regulations and standards adopted and established by the Minnesota Pollution Control Agency. The CONTRACTOR is solely responsible for reporting (M.S. 115.061) and the damage caused by fuel or oil leaks and spills emanating from its equipment. All contaminated soil will be removed from the site following M.P.C.A. guidelines.

9.00 PROGRESS AND COMPLETION OF WORK

9.01 NOTICE TO PROCEED

The date of commencement of the work is the date set forth in the notice to proceed. If there is no notice to proceed, commencement shall be the date of the contract or such other date as may be established therein. Thereupon, the CONTRACTOR shall begin and shall prosecute the work regularly and without interruption, unless otherwise directed in writing by the CLIENT, with such manpower and equipment as is necessary to complete the work within the time stated in the contract documents.

9.02 CONTRACT TIME

The CONTRACTOR shall complete, in an acceptable manner, all of the work contracted for in the time stated in the contract documents.

9.03 PRE-CONSTRUCTION CONFERENCE

- a. Prior to the start of the work, there will be a pre-construction conference arranged by the ENGINEER.

Representatives of effected government agencies, the CLIENT, the CONTRACTOR (including his project superintendent), the contractor's subcontractors and utility companies shall be present at this meeting.

- b. At this meeting, the CONTRACTOR shall designate a competent project superintendent as described in Section 5.06. The CONTRACTOR shall also submit a list of phone numbers for the various subcontractors, foremen and superintendents, including numbers to use in case of emergency.
- c. Also at this meeting, the CONTRACTOR shall submit in writing to the ENGINEER for approval, a schedule of procedure indicating the order in which the CONTRACTOR proposes to perform the various stages of the work, the dates on which he will start the several salient features thereof (including procurement of materials, plant, and equipment), and the contemplated dates for completing the same. This schedule shall be in the form of a bar chart of a suitable scale to indicate appropriately the percentage of work scheduled and completed at weekly intervals. The CONTRACTOR shall not deviate from said schedule after once approved without the written permission of the ENGINEER. The CONTRACTOR shall also submit a schedule of payments that he anticipates he will earn during the course of the work, based on the work schedule.

9.04 CHANGE ORDERS

- a. A change order is a written order to the CONTRACTOR signed by the CLIENT, issued after execution of the contract, authorizing a change in the work or an adjustment in the contract sum or contract time. A change order signed by the CONTRACTOR indicates his agreement therewith, including the adjustment in the contract sum or contract time.
- b. Without invalidating the contract or without affecting the validity of the performance bond, the CLIENT may, at any time or from time to time order additions, deletions or modifications in the work; these will be authorized by change orders. Upon receipt of a change order, CONTRACTOR shall proceed with the work involved. All such work shall be performed under the applicable conditions of the contract documents. If any change order causes an increase or decrease in the contract price or an extension or shortening of the contract time, an equitable adjustment will be made as provided in Section 10.
- c. Additional work performed by the CONTRACTOR without authorization of a change order will not entitle him to an increase in the contract price or an extension of the contract time, except in the case of an emergency as provided in Section 5.17.

9.05 FIELD ORDER

ENGINEER may authorize minor changes or alterations in the work not involving extra cost and not inconsistent with the overall intent of the contract documents. These may be accomplished by a field order. If CONTRACTOR believes that any minor change or alteration authorized by ENGINEER entitled him to an increase in the contract price, he may make a claim therefore as provided in Section 9.06. No claim will be considered unless made in accordance with Section 9.06.

9.06 CLAIMS FOR ADDITIONAL COMPENSATION

If the CONTRACTOR wishes to make a claim for an increase in the contract sum, he shall give the CLIENT and ENGINEER written notice thereof within 3 days after the occurrence of the event giving rise to such claim. This notice shall be given by the CONTRACTOR before proceeding to execute the work, except in an emergency endangering life or property in which case the CONTRACTOR shall proceed in accordance with Section 5.13. Except as specifically authorized in writing by a change order issued by the ENGINEER at the time additional work is done beyond the original scope of the contract documents, the CONTRACTOR shall have and make no claim for additional compensation. The CONTRACTOR'S pleas of ignorance of foreseeable conditions which

will create difficulties or hindrances in the execution of the work will not be acceptable to the CLIENT as an excuse for any failure of the CONTRACTOR to fulfill the requirements of the contract documents and shall not be a basis for the CONTRACTOR'S claim for additional compensation. If the CLIENT and the CONTRACTOR cannot agree on the amount of the adjustment in the contract sum, it shall be determined by the ENGINEER. Any change in the contract sum resulting from such claim shall be authorized by change order.

9.07 USE OF COMPLETED PORTIONS

The CLIENT shall have the right to take possession of and use any completed or partially completed portions of the work, notwithstanding that the time for completing the entire work or such portions may not have expired. The CLIENT will seek to minimize the delay to the CONTRACTOR occasioned by the CLIENT occupancy before acceptance.

9.08 FAILURE TO MAINTAIN SATISFACTORY PROGRESS

Should the CONTRACTOR fail to maintain satisfactory progress, the ENGINEER will require that additional forces, materials, or equipment be provided as he determines to be necessary for bringing the project up to schedule and maintaining that level for the balance of the work. Any failure to adhere to the approved progress schedule will be considered prima facie evidence that the CONTRACTOR has failed to provide sufficient workers, equipment, or materials, to assure completion of the project within the specified time. If the CONTRACTOR fails to adhere to the approved progress schedule or fails to take action as ordered to remedy unsatisfactory progress, a notice of default may be issued as provided for in Section 5.

9.09 DETERMINATION AND EXTENSION OF CONTRACT TIME, DELAYS

- a. The time allowed for completion of all work required by the contract will be stated in the special provisions and that time allotment shall be known as the contract time. It is essential that the work be prosecuted continuously and effectively, with the least possible delay, to the end that all work will be completed within the time period allowed.
- b. The contract time allowance is the amount established for completion of the proposed quantities. The CONTRACTOR will proceed with the work at such rate of progress to insure full completion within the contract time. It is expressly understood and agreed, by and between the CONTRACTOR and the CLIENT, that the contract time for the completion of the work described herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the work. Any plea by the CONTRACTOR that insufficient time was allowed shall not be considered a valid reason for either an extension of the Contract time or revision of the working day charges. Should any extension of time be granted, the extended time for completion shall then be in full force and affect the same as though it were originally allowed.
- c. The working day will be the unit of measure for determination of contract time. The ENGINEER will furnish the CONTRACTOR a weekly statement that will show the daily expenditure of working days. The statement will include an accounting of all delays affecting prosecution of the progress controlling operations. The delay time will be classified as either avoidable or unavoidable. Assessment of working day charges will begin on the date given in the notice to proceed and cease when all work has been completed except for maintenance.
- d. Avoidable delays are those that the CONTRACTOR could foresee or had within his power to control or prevent. Working day charges will not be waived or reduced for any reasons of avoidable delay. The following circumstances or conditions shall be considered avoidable delays.
 1. Delays caused by conditions on the project, including traffic conditions, that could be foreseen or

anticipated prior to time of bid opening. These conditions shall include foreseeable construction-sequencing delays.

2. Delays due to the CONTRACTOR'S failure to provide sufficient forces and equipment to maintain satisfactory progress in completing the progress-controlling items of work.
3. Delays due to slow delivery of materials from the supplier or fabricator when the material was available in warehouse stock, or when delivery was delayed for reasons of priority, late ordering, financial considerations, or other causes within the power of the CONTRACTOR to avoid.
4. Delays caused by plant and equipment failure of less than four hours duration, or at any time when the delay is due to the CONTRACTOR'S failure to provide and maintain the equipment in good mechanical condition, or to provide for immediate emergency repairs.

e. Unavoidable delays are those that were beyond the power of the CONTRACTOR to control, with no fault or negligence on his part. In addition to inclement weather conditions, the following circumstances or conditions will be considered unavoidable delays:

1. Delays caused by an earthquake, flood, cloudbursts, cyclone, tornado, or other cataclysmic phenomenon of a nature beyond the power of the CONTRACTOR to foresee and defend against.
2. Delays caused by acts of the government or a political subdivision, or by acts of the public enemy, including fires, epidemics, and strikes not caused by improper acts or omissions of the CONTRACTOR.
3. Delays caused by the CLIENT or other parties such as commercial manufacturers and fabricators, the actions or non-actions of which are not within the power of the CONTRACTOR to control or overcome, unless another manufacturer or fabricator of a similar product is available.
4. Delays caused by noncompletion of work being done by other CONTRACTORs or utility owners, or due to other unforeseeable interferences not the fault of the CONTRACTOR.
5. Delays directly attributable to the performance of extra work as outlined in a change order or increased quantities of work, in which case the maximum delay shall equate to the percentage increase in quantities.
6. Extraordinary delays in the delivery of materials, resulting from strikes, lockouts, freight embargoes, governmental acts, or sudden disaster, of a nature beyond the power of the CONTRACTOR or his supplier to foresee and forestall, unless another supplier is available.

f. Working day charges will be determined on the basis of the CONTRACTOR'S ability to effectively prosecute the progress-controlling operations, in consideration of the avoidable and unavoidable delay provisions hereof. Working day assessments will be as follows:

1. One whole day will be assessed for each working day during which work on the progress-controlling operations can be effectively prosecuted during 8 or more hours of the CONTRACTOR'S daily work schedule.
2. A fractional day will be assessed: a) when work on the progress-controlling operations can be effective prosecuted for at least 4 hours but less than 8 hours of the daily work schedule; b) when conditions beyond the control of the CONTRACTOR and unknown to him at the time of bidding make it impossible to prosecute work on the progress controlling operations with full efficiency for at least 8

hours of the daily work schedule; or c) when work can be prosecuted on one or more but not all of the progress-controlled operations.

3. No charge will be made: a) when work on the progress-controlling operations cannot be effectively prosecuted for at least 4 hours of the daily work schedule; b) on Sundays, and legal holidays; d) during periods of authorized work suspension, except when suspension is ordered for reasons of fault or negligence on the part of the CONTRACTOR.

- g. The granting of additional time for completion of the work will be limited to the performance of extra work or increased quantities of work. Any additional time allowed will be limited to a period of time which is proportional to the increased dollar volume of work, unless it can be shown that the added work was a controlling factor in the rate of progress, or unless an extension of contract time was otherwise allowed in the change order authorizing the additional work, in which case the value of that work will be excluded from further consideration in determining the additional time to be allowed.
- h. Any contention by the CONTRACTOR as to improper or excessive assessment of work day charges shall be in the form of a written protest to the ENGINEER setting forth the specific dates and reasons for justifying reduced charges. Corrected weekly statement will be issued whenever the CONTRACTOR'S contentions are found to be valid or at any time the ENGINEER detects an error. The ENGINEER's ruling will be final.

9.10 FAILURE TO COMPLETE THE WORK ON TIME

- a. Time being an essential element of the Contract, it is hereby agreed that the CLIENT will be entitled to damages for failure on the part of the CONTRACTOR to complete the work within the prescribed time. In view of the difficulty in making a precise determination of actual damages incurred, the CONTRACTOR will be assessed a daily charge in the amount stipulated, not as a penalty but as liquidated damages to compensate for the additional costs incurred.
- b. In any suit involving assessment or recovery of liquidated damages, the reasonableness of daily charges shall be presumed and the amount assessed will be in addition to every other remedy now or hereinafter enforceable at law, in equity, by statute, or under the CONTRACT.
- c. The CONTRACTOR will be assessed a daily charge, on a calendar day basis, for each day that any work remains uncompleted after expiration of the Contract time as determined and extended in accordance with 9.09. The daily charge will be based on the final Contract value, and will be in the amount shown in the Schedule of Liquidated Damages for that value.

Schedule of Liquidated Damages

Original Contract Amount From More Than	To and Including	Charge Per Calendar Day
\$0	\$50,000	\$300
\$50,000	\$100,000	\$400
\$100,000	\$500,000	\$600
\$500,000	\$1,000,000	\$1,000
\$1,000,000	\$2,000,000	\$1,500
\$2,000,000	\$5,000,000	\$2,000
\$5,000,000	-	\$3,000

- d. The CLIENT may waive all or any portion of the liquidated damage assessment after the date of the work is substantially completed and is: a) in condition for safe and convenient use by the traveling public; or b) available for next-stage construction without restriction. No liquidated damages will accrue during period of authorized suspension.
- e. Permitting the CONTRACTOR to continue and finish the work or any part of it after the time fixed for its completion shall not in any way operate as a waiver on the part of the CLIENT of any of its rights under the contract. Neither by the act of taking over the work nor by annulment of the contract shall the CLIENT forfeit the right to recover liquidated damages from the CONTRACTOR or his sureties.

9.11 FINAL INSPECTION

- a. Upon written notice from the CONTRACTOR that the project is completed, the ENGINEER together with the CLIENT, and other appropriate parties, will make a preliminary inspection with the CONTRACTOR present. Upon completion of this preliminary inspection, the ENGINEER will notify the CONTRACTOR, in writing, of any particulars in which this inspection reveals that the work is defective or incomplete. This list shall be referred to as a "punch list".
- b. Upon receiving the punch list from the ENGINEER, the CONTRACTOR shall immediately undertake the work required to remedy defects and complete the project to satisfaction of the ENGINEER.
- c. When the CONTRACTOR has corrected or completed the items as listed in the ENGINEER'S written notice, he shall inform the ENGINEER, in writing, that the required work has been completed. Upon receipt of this notice, the ENGINEER, in the presence of the CONTRACTOR, CLIENT, and other appropriate parties shall make his final inspection of the project.
- d. Should the ENGINEER find all work satisfactory at the time of this second inspection, the CONTRACTOR will be allowed to make application for final payment in accordance with the provision of the contract documents. Should the ENGINEER still find dissatisfaction with the same work, the ENGINEER shall inform the CONTRACTOR of the deficiencies and will deny the CONTRACTOR'S request for final payment, until such time and the CONTRACTOR has satisfactorily completed the required work. The cost of the third or subsequent inspections shall be borne by the CONTRACTOR.

10.00 MEASUREMENT AND PAYMENT

10.01 DETAILED BREAKDOWN OF CONTRACT AMOUNT

Except in cases where unit prices form the basis for payment under the contract documents, the CONTRACTOR shall, within ten (10) days of receipt of the contract documents, submit an itemized breakdown of the contract amount having the value, including an allowance for profit and overhead, assigned to each part of the work. Unless the breakdown of the contract amount is objected to by the CLIENT, it shall be used as the basis for all requests for payment.

10.02 REQUEST FOR PAYMENT

- a. The CONTRACTOR may submit periodically, but not more than once each month, at the end of the calendar month, a request for payment for work done and materials delivered and stored on the site. Payment for materials stored on the site will be conditioned on the following: The CONTRACTOR shall submit evidence to establish the CLIENT'S title to such materials; acceptable provisions have been made for storage; the CONTRACTOR is

responsible for all loss, theft, vandalism, storage and similar peril for the full value of the stored material.

- b. Each request for payment shall be itemized and computed as to work completed on all items listed in the detailed breakdown of contract amount less 5% to be retained until final completion and acceptance of the work, and less previous payments. Where unit prices are specified, the request for payment shall be based on the quantities completed. On completion and acceptance of a part of the work on which the price is stated separately in the contract documents, payment may be made in full, including retained percentages, less authorized deductions.
- c. All work covered by partial payment made shall thereupon become the sole property of the CLIENT, but this provision shall not be construed as relieving the CONTRACTOR of the sole responsibility for the care and protection of the work upon which payments have been made or the restoration of any damaged work or as a waiver of the right of the CLIENT to required the fulfillment of all terms of the contract documents.

10.03 ENGINEER'S ACTION ON A REQUEST FOR PAYMENT

Within 10 days of submission of any request for payment by the CONTRACTOR, the ENGINEER shall: Approve the request for payment as submitted and forward it to the CLIENT; or approve such other amount as he shall consider is due the CONTRACTOR informing the CONTRACTOR in writing of his reasons for approving the modified amount; or withhold the request for payment, informing the CONTRACTOR in writing of his reasons for withholding it.

10.04 CLIENT'S ACTION ON AN APPROVED REQUEST FOR PAYMENT

Within 30 days from the date of approval of a request for payment by the ENGINEER, the CLIENT shall:

Pay the request for payment as approved by the ENGINEER or; pay such other amount in accordance with Section 10.05 as he shall decide is due the CONTRACTOR, informing the CONTRACTOR and the ENGINEER in writing of its reasons for paying the modified amount or; withhold payment in accordance with Section 10.05 informing the CONTRACTOR and the ENGINEER in writing of its reasons for withholding payment.

10.05 CLIENT'S RIGHT TO WITHHOLD PAYMENT

- a. The CLIENT may withhold payment in whole or in part to the extent necessary to protect itself from loss on account of any of the following causes; violation of any of the terms of the contract documents or; defective work not remedied or; reasonable evidence indicating potential filing of claims by other parties against the CONTRACTOR or CLIENT; or failure of the CONTRACTOR to make payments to subcontractors, material suppliers or; damage to the owner of any other party.
- b. When any of the above grounds for which payment is being withheld is removed, payment shall be made for the amount withheld.

10.06 INTEREST ON UNPAID REQUESTS FOR PAYMENT

Should the CLIENT fail to pay an approved request for payment within 30 days from the date of approval by the ENGINEER, and should it fail to inform the ENGINEER and the CONTRACTOR in writing of its reasons for withholding payment, the CLIENT shall pay the CONTRACTOR interest on the unpaid amount of the request for payment pursuant to M.S.429.041, Subdivision 6.

10.07 PAYMENT FOR UNCORRECTED WORK

Should the CLIENT direct the CONTRACTOR to not correct work that has been damaged or that has not been

performed in accordance with the contract documents, an equitable deduction from the contract amount shall be made by means of a change order to compensate the CLIENT for the uncorrected work.

10.08 PAYMENT FOR REJECTED WORK AND MATERIALS

- a. The removal of work and materials rejected under Section 7.04 and the re-execution of acceptable work by the CONTRACTOR shall be at the expense of the CONTRACTOR, and he shall pay the cost of replacing the work of other CONTRACTOR'S destroyed or damaged by the removal of the rejected work or materials and the subsequent replacement of acceptable work.
- b. Removal of rejected work or materials and storage of materials by the CLIENT in accordance with Section 7.04 shall be paid by the CONTRACTOR within 30 days after written notice to pay is given by the CLIENT. If the CONTRACTOR does not pay the expense of such removal the CLIENT may, after ten (10) days from the giving of written notice to the CONTRACTOR of the CLIENT'S intent to sell the materials at auction or at private sale and shall pay to the CONTRACTOR the net proceeds therefrom after deducting all the costs and expenses that should have been borne by the CONTRACTOR.

10.09 PAYMENT FOR INCREASED OR DECREASED QUANTITIES

Whenever the quantity of any item of work as given in the proposal shall be increased or decreased payment for such item will be made on the basis of actual quantity completed, at the contract unit price for such item. No payment will be made for quantities placed without the prior written approval of the CLIENT.

10.10 PAYMENTS FOR EXTRA WORK

Written notice of claims for payments for extra work shall be given by the CONTRACTOR within three (3) days after receipt of a field order from the ENGINEER to proceed with the work and also before any work is commenced by the CONTRACTOR, except in emergency situations endangering life or property. No claim shall be valid unless so made. In all cases, the CONTRACTOR'S itemized estimate sheets showing all labor and material shall be submitted to the CLIENT. If approved by the CLIENT, a change order for extra work shall be issued which specifies any extension of the contract time and one of the following methods of payments; unit prices or combinations of unit prices which formed the basis of the original Contract or; a lump sum based on the CONTRACTOR'S estimate, approved by the ENGINEER and accepted by the CLIENT or; actual cost plus overhead and profit as follows described below for force account work.

10.11 FORCE ACCOUNT WORK

- a. The "actual cost" of force account work shall include labor, materials, and equipment necessary to complete the work as ordered by the ENGINEER.
- b. The CONTRACTOR shall be paid for all labor, and the foreman in direct charge, for every hour they are actually engaged in the force account work. An amount equal to 45% of the sum of the above labor wage items will be paid the CONTRACTOR as full compensation for workmen's compensation, social security, pension and retirement allowances, and insurance, or other regular payroll deductions.
- c. Equipment used, which has been authorization by the ENGINEER, shall be paid based on the equipment rental rates provided by the CONTRACTOR with his original proposal or the rental rates established by the MN/DOT Commissioner in the equipment rental schedule, as last issued and currently in effect on the date the charge order is issued, whichever is less. The rates shall be paid for the actual time the equipment is in operation on the extra work items. Travel time to and from the job site will be allowed at rental rates when the equipment is moved under its own power. Where transportation is accomplished by other than its own power, the cost of the transport

shall be paid for as approved by the ENGINEER. Equipment rates will have no percentages added to them for overhead or profit.

- d. Materials accepted by the ENGINEER and incorporated into the work, including transportation costs for delivery but exclusive of machinery rentals as set forth above, will be reimbursed to the CONTRACTOR for actual cost plus 15%.

10.12 RESPONSIBILITY OF THE CONTRACTOR

Unless specifically noted otherwise, the CONTRACTOR shall furnish all materials and services and perform all the work described by the contract documents or shall have all materials and services furnished on all the work performed at his expense. It shall be the CONTRACTOR'S responsibility to pay for:

1. Replacement of survey benchmarks, reference and stakes provided by the CLIENT under paragraph 6.04.
2. Lands by CONTRACTOR provided in accordance with Paragraph 6.02.
3. Insurance obtained in accordance with Paragraphs 8.01 and 8.02.
4. Performance Bond obtained in accordance with 8.03.
5. Royalties required under Paragraph 8.04.
6. Permits and Licenses required of the CONTRACTOR and all subcontractors.
7. Taxes - The CONTRACTOR will pay all sales, consumer, use and other similar taxes required by the law of the place where the work is performed.

10.13 PAYMENT FOR WORK SUSPENDED BY THE CLIENT

If the work or any part thereof shall be suspended by the CLIENT as provided in Section 5.12 and abandoned by the CONTRACTOR, the CONTRACTOR will then be entitled to payment for all work done on the portions so abandoned. No payment will be made for work deleted from the project that has not been started by the CONTRACTOR.

10.14 PAYMENT FOR WORK BY THE CLIENT

The cost of the work performed by the CLIENT in taking possession of the work and equipment, tools and supplies in accordance with Section 5.12 and in correcting deficiencies as provided in Section 5.13 shall be paid by the CONTRACTOR.

10.15 PAYMENT FOR WORK BY THE CLIENT FOLLOWING CLIENT'S TERMINATION TO THE CONTRACT

Upon termination of the contract by the CLIENT pursuant to Section 5.12, no further payments shall be due the CONTRACTOR until the CLIENT completes the work. If the unpaid balance of the contract amount shall exceed the cost of completing the work including all overhead costs, the excess shall be paid to the CONTRACTOR. If the cost of completing the work, including additional professional services, shall exceed the unpaid balance, the CONTRACTOR shall pay the difference to the CLIENT. The cost incurred by the CLIENT, as herein provided, and the damage incurred through the CONTRACTOR'S default, shall be approved in writing

by the ENGINEER and certified in writing by the CLIENT.

10.16 PAYMENT TO ENGINEER FOR MONIES OWED BY CONTRACTOR

When the ENGINEER incurs cost as a result of the CONTRACTORS actions, as authorized in this contract, the ENGINEER will invoice the CLIENT who will in turn deduct it from the next payment to the CONTRACTOR.

10.17 PAYMENT FOR WORK TERMINATED BY THE CONTRACTOR

Upon suspension of the work or termination of the contract by the CONTRACTOR pursuant to Section 5.12 the CONTRACTOR shall recover payments from the CLIENT for the work performed, plus loss on plant and materials, plus a reasonable profit on work performed.

10.18 PAYMENT FOR SAMPLES, TESTING OF MATERIALS, AND COMPACTION TESTING

Samples furnished in accordance with Section 4.09 shall be furnished by the CONTRACTOR at his expense. Testing of samples and materials furnished in accordance with Section 4.09 shall be arranged and paid for by the CLIENT, unless said tests fail, in which case they shall be paid for by the CONTRACTOR. Compaction testing will be conducted and paid for by the CLIENT, unless said tests fail, in which case the CONTRACTOR shall pay them for.

10.19 REMOVAL OF CONSTRUCTION EQUIPMENT, TOOLS AND SUPPLIES

At the termination of this contract, but before acceptance of the work by the CLIENT, the CONTRACTOR shall remove all of his equipment, tools and supplies from the work site. Should the CONTRACTOR fail to remove such equipment, tools, and supplies, the CLIENT shall have the right to remove them with the cost of such removal to be charged to the CONTRACTOR.

10.20 CLEANING UP

The CONTRACTOR shall keep the work site free from accumulations of waste materials, rubbish and other debris resulting from the work, and at the completion of the work he shall remove all waste materials, rubbish and debris from and about the work site as well as all tools, construction equipment and machinery, and surplus materials, and shall leave the site clean and ready for the use of the CLIENT. The CONTRACTOR shall restore to their original condition those portions of the site which are inadvertently disturbed but not designated for alteration by the contract documents.

10.21 EXAMINATION OF COMPLETED WORK

If the owner requests it, the CONTRACTOR at any time before acceptance of the work shall remove or uncover such portions of the finished work as may be directed. After examination, the CONTRACTOR shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering or removing, and the replacing of the covering or making good of the parts removed shall be paid for as extra work, but should the work so exposed or examined prove unacceptable, the uncovering, removing and replacing shall be at the CONTRACTOR'S expense.

10.22 RELEASE OF LIENS

Before any retained amounts are released or final payment is made, the CONTRACTOR shall submit with his application for payment to the CLIENT 1) an affidavit stating all payables, bills for materials and equipment and other indebtedness connected with the work for which the CLIENT or his property might in any way be

responsible, have been paid or satisfied; and 2) consent of surety, if any, to final payment. If any subcontractor or material supplier refuses to furnish releases or receipts in full, CONTRACTOR may furnish a bond satisfactory to the CLIENT to indemnify him against such lien or claim.

10.23 ACCEPTANCE AND FINAL PAYMENT

- a. After final inspection and acceptance of the work by the ENGINEER and CLIENT, the CONTRACTOR shall prepare a requisition for final payment and submit it to the ENGINEER. The final payment shall consist of the total cost of work performed as adjusted in accordance with approved change orders, deducting therefrom all previous progress payments, deducting failed testing costs and additional inspection and staking costs, all liquidated damages not previously deducted from progress payments, the agreed contract price of any work remaining unfinished, the actual cost of any of the work completed by the CLIENT either through its own forces or by engaging other CONTRACTORS, and any other valid deduction required by the terms of this contract.
- b. The CLIENT shall accept the project within 60 days after receipt of the CONTRACTOR'S request in writing or in the alternative notify the CONTRACTOR in writing the reasons why the project has not been accepted. The CLIENT'S failure to respond within said 60-day period will be deemed to be acceptance of the project. Acceptance by the CLIENT for the purpose of beginning the warranty period will be deemed to be when the project is finally accepted by the CLIENT and any required government agency; however, in the case of a project which includes both utility improvements and street improvements, the CLIENT will accept the utility portion of the project upon written request by the CONTRACTOR and recommendation of the ENGINEER after the utility portion has been completed and is capable of being put into service by the CLIENT.
- c. The CONTRACTOR shall furnish evidence that he has fully paid all debts for labor, materials and equipment incurred in connection with the work, following which the CLIENT shall accept the work and release the CONTRACTOR except as to the conditions of the Performance Bond, any legal rights of the CLIENT, required guarantees, and correction of faulty work after final payment under Section 10.24 and shall authorize payment of the CONTRACTOR'S final request for payment.
- d. The CONTRACTOR must allow sufficient time between the time of completion of the work and approval of the final request for payment to allow the ENGINEER to assemble and check the necessary data.
- e. Before final payment is made, the CONTRACTOR shall make a satisfactory showing that he has paid the state and federal income tax withheld from wages paid to the CONTRACTOR'S employees for work performed under the contract.
- f. Final payment shall not act as a waiver of the right of the CLIENT to require fulfillment of all terms of the contract.

10.24 CORRECTION OF FAULTY WORK AFTER FINAL PAYMENT

The approval of the final request for payment by the ENGINEER and the making of the final payment by the CLIENT to the CONTRACTOR shall not relieve the CONTRACTOR of responsibility for faulty materials or workmanship. The CLIENT shall promptly give written notice to the CONTRACTOR of faulty materials or workmanship and the CONTRACTOR shall promptly replace any such defects discovered within such time as may be prescribed by law or by the terms of special warranties required by the contract documents. The ENGINEER shall decide all questions arising under this paragraph and all such decisions shall be subject to arbitration under section 5.08.

10.25 WAIVER OF CLAIMS

- a. The making of final payment shall constitute a waiver of all claims by the CLIENT except those arising from; unsettled liens or claims; or Faulty or defective work; or Failure of the work to comply with the requirements of the contract documents or the terms of any warranties specified therein.
- b. The acceptance of final payment shall constitute a waiver of all claims by the CONTRACTOR except those previously made in writing and identified by the CONTRACTOR as unsettled at the time of the final application for payment.

**SPECIAL PROVISIONS
TO THE
GENERAL CONDITIONS**

1. TIME OF COMPLETION

It is the intent that the work shall begin as soon as possible after award of the contract and shall be prosecuted to completion on a continuous basis. The completion date shall be as specified in the Bid Proposal Form of these Specifications or as specified in the "Notice to Proceed."

2. PERMITS

Before work is started the Contractor shall obtain necessary locations of all underground utilities from the following:

Gopher State 651-454-0002 or 1-800-252-1166

The Contractor shall obtain and pay for all construction permits and licenses.

3. PROJECT STORAGE AREA OR "BONE YARD"

The Contractor may select an area within the confines of the project area for equipment and material storage. This area shall be selected on the basis of the minimum degree of disruption to the site and shall be approved by the Owner. The Contractor shall be responsible for securing all legal rights to utilize the property at the Contractor's own expense.

The bone yard shall be maintained in a condition acceptable to the Engineer and/or Owner throughout the duration of its use. Security and maintenance of the site shall be the responsibility of the Contractor. The Contractor shall make a special effort to keep the yard consolidated and orderly at all times. Equipment shall be parked in a uniform pattern and materials shall be stacked in a neat and functional manner. Rock shall be used to stabilize the soil and the adjacent street shall be kept clean by the Contractor with no compensation therefore. The Contractor shall be responsible for cleaning up the site and returning it to the same general condition that existed prior to its use.

4. OUT-OF-STATE CONTRACTOR SURETY DEPOSIT

When an Out-of-State Contractor enters into a contract that exceeds \$100,000.00, the CONTRACTOR must file Form SD-E, Exemption from Surety Deposits for Out-of-State Contractor's, with the MN Department of Revenue. If the Contractor is exempt from the surety deposit requirements, they shall provide the Owner with a copy of the form showing the Revenue Department certification. If the Contractor is not exempt, the Owner will withhold an additional eight (8) percent of each payment made to the Contractor and forward those funds to the MN Department of Revenue. Forms and information can be obtained by calling 651-296-6181 or toll free 1-800-657-3777.

5. CERTIFICATE OF COMPLIANCE WITH MINNESOTA STATUTES 290.92 AND 290.97

Upon completion of the project and prior to final payment, the Contractor and all Subcontractors shall complete MN Department of Revenue Form IC-134, revised April 2015. This form, Withholding Affidavit for Contractor's, must be stamped and dated by the Department of Revenue and forwarded to the Owner. Contractor's can obtain copies of this form from the MN Department of Revenue, Mail Station 4450, St. Paul, MN 55146 or by calling 651-296-6181 or toll free 1-800-657-3777.

6. PROMPT PAYMENT TO SUBCONTRACTORS - MINNESOTA STATUTE 471.425

The Prime Contractor must pay any Subcontractor within ten (10) days of the Prime Contractor's receipt of payment from the Owner for undisputed services provided by the Subcontractor. The Prime Contractor must pay interest of one and a half (1 1/2) percent per month on any part of a month to the Subcontractor on any disputed amount not paid on time to the Subcontractor. The minimum monthly interest penalty payment for an unpaid balance of \$100 or more is \$10. For an unpaid balance of less than \$100, the Prime Contractor shall pay the actual penalty due to the Subcontractor.

7. CONTRACT SECURITY & GUARANTY

The Owner reserves the right, as per Minnesota Statute 574.26, to increase the amount of the Contractor's Performance and Payment Bonds equal to the amount of any Owner approved increase in the Contract price.

SPECIAL PROVISIONS
TO THE
MnDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION

1. GENERAL

It is the intent of these specifications to provide the requirements for roads and restoration construction. The work is specified in the Special Provisions and/or plans.

The Contractor shall, unless otherwise specified, furnish all materials, equipment, tools, and labor necessary to do the work required under this contract, including but not limited to erosion control, subgrade preparation, aggregate base, bituminous construction and traffic control. The Contractor shall insure adequate drainage and provide erosion control measures; provide barricades, guards, and warning lights; maintain traffic or provide detours and maintain a clean work site.

The Contractor shall be responsible for the satisfactory coordination of the construction of the street with other construction and activities in the area affected. Delays in work resulting from lack of such harmony shall not in any way be a cause for extra compensation by any of the parties.

The work shall be carried out during normal daylight working hours in accordance with local ordinance and so as not to cause any unreasonable nuisance to affected residents. Under emergency condition, this limitation may be waived by the consent of the Township.

2. SITE AND SOIL CONDITIONS

The Contractor shall familiarize itself with the nature and extent of the work and site and local conditions that in any manner may affect the cost, progress and performance of the work. The Contractor shall be responsible for obtaining or performing all such examinations, investigations, explorations and tests to determine the surface or physical conditions at the site that affect the cost, progress and performance of the work.

Soil boring logs, if available, are included in the back of this specification. The Contractor shall supplement this report with additional investigation as described above.

3. REFERENCE TO SPECIFICATIONS

The performance of the work, the material requirements, the basis of measurement and the basis of payment for the various portions of the work, shall be performed in accordance with the appropriate section of the MnDOT Standard Specifications, 2018 Edition, including revisions thereof, except as modified by these Special Provisions. The General Conditions in the Specification shall be considered special Provisions for the purpose of section 1504 of the MnDOT specification. In addition, whenever reference is made to the MnDOT Standard Specification, the word "CLIENT" or "TOWNSHIP" shall be substituted for "State" where appropriate and the word "ENGINEER" is understood to refer to the Engineer for the Client. Payment for items will be paid in accordance to each referenced section and not in accordance to MnDOT standard specifications unless specified otherwise.

4. EROSION CONTROL (1717)

Prior to construction, the Owner, Engineer and Contractor shall observe the existing storm water outfall system and discharge area and shall document the existing conditions. The Contractor shall install erosion control prior to beginning grading operations as required. During construction, the Contractor shall install, maintain and remove the erosion control measures as necessary or as directed by the Engineer or Owner.

Erosion control shall be paid for at the contract unit price bid per lineal foot installed for silt fence, bio-rolls and bale checks and shall include all maintenance and removal. Rip rap ditch checks shall be paid for at the contract unit price bid per each actually placed and shall include all maintenance and removal.

5. MISCELLANEOUS REMOVALS AND REPLACEMENT

The temporary removal, storage and replacement of street signs, traffic control signs, mailboxes, fences, landscaping and miscellaneous items is not anticipated. However, if necessary, all removals and replacements shall be performed by the Contractor and they shall be considered incidental to the project unless specifically shown on the Bid Proposal form.

6. ROAD AND DRIVEWAY CULVERTS

All culverts and culvert apron installation shall be performed in accordance with MnDOT Sections 2501, 3226 and 3236. Culvert aprons shall be installed at locations directed by the Engineer in the field. Culvert aprons shall be installed so that the invert of the aprons match the existing or newly graded ditch bottom. Culvert aprons shall be attached to the existing culvert pipe with matching diameter. The Contractor shall excavate or fill the area around the culvert apron as necessary for acceptable installation. Excess material may be spread within the adjacent ditch without blocking flow areas. All disturbed areas shall be graded, restored and seeded.

Payment for culverts aprons and appurtenances shall be at the contract unit price bid as shown on the Proposal Form and shall be payment in full for all labor and materials installed including any excavation, embankment, compaction, disposal of excess material, restoration and seeding.

The Contractor shall notify the Engineer immediately if the existing culvert pipe needs to be extended. If it is determined that the existing culvert pipe needs to be extended, the Contractor shall furnish and install the appropriate size and type of pipe – matching the existing pipe. Payment for additional pipe and installation, including any excavation, embankment, backfill and restoration shall be paid for as shown on the Bid Proposal form.

7. CONSTRUCTION REQUIREMENTS

A. Shoulder Reconstruction

The Contractor shall remove existing vegetation along the outside edge of the road and replace with class 5 aggregate to maintain a minimum gravel width of 24 feet as shown on the detail. The removed material shall be replaced with class 5 aggregate to obtain the 24 foot width. Excavated topsoil shall be evenly spread along the inslope. Windrowed piles of topsoil are not allowed within the boulevard area. Piles and clumps of topsoil shall be spread along the inslope to the

satisfaction of the Township. Payment for shoulder reconstruction shall be on a lineal foot basis as shown on the Bid Proposal Form and shall include the excavation and spreading of the topsoil. Payment for the class 5 gravel is included in the contract unit price bid for class 5 aggregate as shown on the Bid Proposal form.

B. Subgrade Excavation

The north 700 +/- feet of 82nd Avenue includes unsuitable subgrade material which must be removed. See soil borings. A 2.4 foot (29 inches) subcut shall be excavated below the existing road. The new road section shall be:

- 3.5 inch bituminous section
- 8 inch Cl 5 aggregate section
- 24 inch granular borrow section

The excavated material shall be removed off site and shall be the responsibility of the Contractor.

The Contractor shall notify the Engineer when these areas are encountered so that measurement of the excavation area can be made prior to backfilling the area.

Payment for subgrade excavation and removal of unsuitable soils off-site shall be included in the unit bid price for Subgrade Excavation as shown on the proposal form with no additional compensation.

C. Granular Borrow (3149)

The Contractor shall furnish and install 24 inches of granular borrow or other acceptable borrow into the excavated subgrade areas over a placed geotextile fabric. The materials used below the watertable level shall contain a maximum of 10% passing a Number 200 Sieve and the materials used above watertable shall contain a maximum of 15% passing a Number 200 Sieve. All granular borrow shall have a maximum particle size of 3 inches. Samples of all borrow materials shall be furnished for analysis prior to acceptance by the Engineer. Compaction shall be by the Quality Compaction Method. The granular borrow material shall be paid for based upon compacted volume in place as determined by the typical cross-section using the measured depth and bottom width of excavation and the finished grade. Material placed in excess of the typical sections shall not be measured for payment.

D. Geotextile Fabric

Geotextile fabric shall be placed on the bottom of the subgrade excavation areas. Woven Geotextile shall be type V per MnDOT section 3733 and shall be Geotex Woven 200-ST as manufactured by Propex Geosynthetics, or approved equal. The fabric shall be overlapped a minimum of two feet (2'). Soil conditions may require the Geotextile fabric to be sewn together as directed by the Engineer.

Geotextile fabric will be measured by the square yard over the corrected area. Overlaps or excess fabric beyond the required corrected area will not be considered for payment. Payment will be based on the Engineers approved measurement at the unit price bid.

E. Road Paving

The Contractor shall furnish and install 3 inches of class 5 aggregate on the existing gravel roadway and over the newly widened shoulder area. The gravel shall be spread to a uniform 3 inch thickness, bladed to shape a crown along the centerline of the road and compacted. 5 inches of additional class 5 (a total of 8 inches) shall be added to the northern section of 82nd Ave. within the subgrade excavation area to complete the road section.

A 22 foot wide bituminous mat shall be installed over the gravel base. The bituminous mat shall consist of a compacted thickness of non-wear course and a compacted thickness of wear course in the depth specified in the proposal form.

The new bituminous shall match the existing bituminous on the west end at Co. Rd. 4 and both the north and south ends of 82nd Ave. The existing bituminous mat shall be sawcut, as necessary, to provide a butt joint. The south end of 82nd Ave. includes approximately 300' of existing bituminous. This bituminous shall be saved. The Contractor shall match the existing pavement with the 2 inch bituminous non-wear course then overlay it with the final 2" bituminous wear course.

Shouldering material shall be installed against the new bituminous edge. The Contractor shall immediately notify the Engineer if a change is anticipated or proposed to the scope of the work.

F. Intersections

The Contractor shall reconstruct the shoulders; prepare the subgrade; add 3 inches of CI 5 gravel and pave around the radii and apron area of the intersections. The radii shall include a paved bump out – as detailed. The Contractor shall match the existing bituminous pavement on Co Rd 4, Balsam Ln. and 82nd Avenue. The existing pavement shall be straight-line cut or saw cut to provide a butt joint. Saw-cutting pavement and any removal of existing pavement shall be considered incidental to the contract with no additional compensation.

Payment for subsequent work shall be paid based upon the appropriate items as listed in the proposal form. The Contractor shall notify the Engineer if conditions warrant additional work. The conditions will be field inspected and any additional work approved prior to construction.

G. Site Grading – 33rd Street Turn-Around

The Contractor shall clear & grub, strip and stockpile topsoil for re-spreading and grade the area for the turn-around as shown on the detail. The Contractor shall grade ditches to drain the turn-around as shown. Excess material shall be spread in adjacent areas as directed by the Township. The grading shall incorporate 11.5 inches of hold-down for the turn-around section: (3.5 inches of bituminous and 8 inches of CI 4 aggregate).

Payment for clear & grub and grading the turn-around shall be per the lump sum price bids as shown on the proposal form. All work associated with the grading of the turn-around up to a prepared subgrade including all topsoil stripping, stockpiling and respreading, ditch grading, excavation and embankment of onsite material, compaction of fill material or any other work necessary to grade the turn-

around to conform to the elevations and grades shown on the detail shall be included in the lump sum price bid with no additional compensation.

H. Turf Establishment (2575)

All turf establishment shall be in accordance with Section 2575 of the current MnDOT Specification, except as modified or altered below:

A. Seeding

1. The Contractor shall furnish and install seed and 4 inches of topsoil (if necessary) to all the areas designated by the Engineer.
2. Seed mixture Number 22-112 at a rate of 40 pounds per acre shall be used for seeding operations.
3. The seeding shall not be done until the Engineer has inspected the area and approved the subgrade preparation and topsoil materials.
4. If so directed by the Engineer, the Contractor shall reseed at his cost any area on which the original seed has failed to grow, using the type of seed directed by the Engineer.
5. Fertilizer, Type 1, analysis 20-10-10, NPK, shall be applied to all seed areas at the rate of 400 pounds per acre.
6. Type I mulch shall be in accordance with Section 3882 of the current MnDOT Specifications and shall be applied in accordance with Section 2575.3 of the current MnDOT Specifications to all seeded areas at a rate of 2 tons per acre except areas receiving a wood fiber blanket. Type 1 mulch shall be disk anchored.
7. Areas which require wood fiber blanket shall be shown on the plans or as directed by the Engineer in the field. Areas requiring wood fiber blanket shall generally include all slopes 3:1 or steeper. Wood fiber blanket shall be category 3P, straw or wood fiber with netting on two sides, 2S, in accordance with Section 3885 of the current MnDOT Specifications. Payment shall be at the contract unit price per square yard furnished and installed.
8. Payment for seeding shall be at the contract unit price bid on the Proposal Form and shall include the seed, topsoil, mulch, fertilizer and all installation.
9. All seeding and mulching shall be done within 5 days after rough grading has been completed or as directed by regulatory agencies having jurisdiction.

8. SUBGRADE PREPARATION (2112)

Subgrade preparation shall be performed in accordance with Section 2112 of the current MnDOT Specification. The Contractor shall spread the class 5 aggregate, blade to shape a crown along the centerline of the road and compact to obtain a uniform thickness of 3 inches. Payment shall be based upon the contract unit price bid for Subgrade Preparation as shown on the Bid Proposal Form.

9. TEST ROLLING (2111)

Test rolling shall be conducted in accordance with MnDOT Section 2111 except as modified below:

- a. The Engineer and Township shall be on site during the test rolling and shall determine if portions of the roadbed are unstable. The Engineer and Township shall be notified 24 hours prior to the test roll.
- b. Test rolling will be considered incidental to the project with no additional compensation unless a specific pay item is shown on the Bid Proposal Form.

10. AGGREGATE BASE (3138)

Gravel shall be aggregate base, Class 5 with a gradation as specified in MnDOT 3138. The Contractor shall furnish the Engineer and Township a minimum of one (1) test result of the gradation and percent crushed of the aggregate.

Compaction shall be by the Quality Compaction Method.

Payment for gravel shall be at the contract quoted price per ton delivered based upon weight slips furnished at the end of each working day. Late weight slips will not be accepted.

11. AGGREGATE SHOULDERING (2221)

Aggregate shouldering shall be constructed in accordance with MnDOT Section 2221 except as modified below:

Shouldering material shall be Crushed Concrete. Payment shall include placement, shaping, compaction and sweeping of excess material off of the new bituminous and shall be made at the contract unit price bid per ton of Crushed Concrete shouldering as shown on the bid proposal form.

12. BITUMINOUS PAVEMENT MATERIALS AND CONSTRUCTION (2360)

Plant mixed bituminous shall be in accordance with Section 2360 of the current MnDOT Standard Specification, except as modified or altered below:

a. Bituminous Non Wear Course (SPNWB230B)

The Contractor shall submit a copy of the job mix formula (JMF) to the Engineer of the mixture used.

b. Bituminous Wear Course (SPWEB240B)

The Contractor shall submit a copy of the job mix formula (JMF) to the Engineer of the mixture used.

c. Compaction shall be by the Ordinary Compaction Method.

d. Weight tickets shall be required to check yield. Adjustment will be required if overall bituminous mixture yield is less than theoretical quantity.

Payment for bituminous shall include bituminous material for mixture and shall be made for material delivered to the job based upon weight slips received each day. Late weight slips will not be accepted.

13. PAVEMENT SURFACE SMOOTHNESS

Pavement smoothness shall be waived for this project.

14. BITUMINOUS TACK COAT

The bituminous material for tack coat shall be applied in accordance with MnDOT Section 2357 and shall be CSS-1H, emulsified asphalt. Tack coat shall be incidental to the bituminous wearing surface and shall be placed upon the new bituminous non-wear course prior to placement of the wear course. Payment for tack coat placed upon any existing pavement prior to wear course construction shall be as shown on the proposal form. Cleaning of street prior to paving of wearing surface shall be incidental to

bituminous wearing surface unless specified otherwise. Bituminous tack coat used for shoulder stabilization shall be paid for at the contract price bid per gallon as shown on the Proposal Form.

15. TRAFFIC CONTROL DURING CONSTRUCTION

The Contractor shall furnish and maintain all construction signs, barricades, barricade weights, traffic marking tape, and warning lights which are needed for the guidance, warning and control of traffic through this project. The Contractor shall also furnish flagmen to direct traffic, if so ordered by the Engineer. All traffic control devices shall conform to the "Minnesota Manual on Uniform Traffic Control Devices" and Standard Signs Manual Part I and II.

The Contractor shall provide continuous emergency vehicle access to all properties. Resident access shall be provided at the end of each day's work and on weekends. However, continuous access during the working hours is not mandatory. The Contractor shall make a reasonable attempt to notify the homeowner before access is blocked to facilitate getting vehicles out of driveways.

No measurement will be made of the individual items required for traffic control. If the Engineer orders additional barricades, barrels or flashers, or flagmen, it shall be considered incidental to the traffic control lump sum and be paid at the contract lump sum bid price.

16. EXISTING DRIVEWAYS AND FIELD ENTRANCES

The Contractor shall match existing driveways with bituminous on existing bituminous or existing concrete driveways. The existing paved driveway shall be saw cut to provide a straight line joint. On existing gravel driveways, field entrances and in front of mailboxes, the Contractor shall wing out 2 feet with bituminous and then match with Class 5 to the existing entrance. Matching existing driveways and field entrances shall be considered incidental to the project. Class 5 aggregate used to match existing driveways shall be included in the payment for class 5 aggregate as shown on the bid proposal form.

17. TOWNSHIP/COUNTY ROAD INTERSECTIONS

The Contractor shall match the existing bituminous on existing Township, State and County roads with the new bituminous. Any damage to the existing road pavement, shoulder or turf shall be repaired to original or better conditions and the cost for the repairs shall be considered incidental to the project.

18. METHOD OF PAYMENT

Payment shall be at the contract price bid for each item shown on the Bid Proposal Form. The bid price shall include furnishing, installing and removal as specified. All bid items shall include labor equipment and materials for a complete job. Principal components are listed in each description and do not necessarily include all component parts required. All component parts required shall be considered to be included in the contract price bid in accordance with the plans, specifications and detail plates. Payment for the items shown on the Bid Proposal Form shall be considered payment in full for a complete job as specified.

APPENDIX A

Contract Documents

Soil Borings

Vicinity / Location Map

Road Plan and Details

NOTICE OF AWARD

To: _____

Project Description: _____.

The Owner has considered the bid submitted by you for the above described project in response to its Advertisement for Bids.

You are hereby notified that your bid has been accepted in the amount of \$_____.

You are required by the General Conditions to execute the Agreement and furnish the required Performance Bond, Materials Payment Bond, and Certificate of Insurance within ten calendar days from the date of receipt of this notice to you.

If you fail to execute said Agreement and to furnish said Bonds and Certificate within ten days from the date of receipt of this notice the Owner will be entitled to consider all your rights arising out of the Owner's acceptance of your bid as abandoned and as a forfeiture of your Bid Bond. The Owner will be entitled to such other rights as may be granted by law.

You are required to return and acknowledge copy of this Notice of Award to the Owner. Dated this

_____ day of _____, 20_____.

(Owner)

By: _____ Title: _____

ACCEPTANCE OF NOTICE: Receipt of the above Notice of Award is hereby acknowledged.

By _____ this the _____ day of _____, 20_____.
(Contractor)

By _____ Title _____

AGREEMENT

This Agreement, made this _____ day of _____, 20_____,
by and between _____, hereinafter called
"Owner" and _____, hereinafter called "Contractor",

Witnesseth: That for and in consideration of the payments and agreements hereinafter mentioned:

1. The Contractor will commence and complete the construction of _____.
2. The Contractor will furnish all material, supplies, tools, equipment, labor, and other services necessary for the construction and completion of the project described herein.
3. The Contractor will complete the work required by the Contract Documents by the date specified on the Bid Proposal.
4. The Contractor agrees to perform all of the work described in the Contract Documents for the sum of \$_____. The final amount of the contract shall be determined by summing the resulting product of the final measured quantities of the various items actually constructed and installed by the unit prices stated therefore, in the manner prescribed in the specifications.
5. The term "Contract Documents" means and includes the following:
 - (A) Advertisement for Bids
 - (B) Information for Bidders
 - (C) Proposal Form
 - (D) Bid Bond
 - (E) Agreement
 - (F) Contract Bonds
 - (G) Notice of Award
 - (H) Notice to Proceed
 - (I) General Conditions
 - (J) Special Provisions
 - (K) Drawings prepared by _____ numbered _____ through _____, dated _____, 20_____.
 - (L) Specifications prepared or issued by _____ dated _____, 20_____.
 - (M) Addenda:
 - No. _____, dated _____, 20_____.
 - No. _____, dated _____, 20_____.
 - No. _____, dated _____, 20_____.
 - (N) Contract Amendments and Change Orders

- 6. The Owner will pay to the Contractor in the manner and at such time as set for in the General Conditions such amounts as required by the Contract Documents.
- 7. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

In Witness Whereof, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in 3 copies, each of which shall be deemed as original on the date first above written.

(Seal)
Attest:

OWNER: _____

By: _____
(Signature)

Name: _____

(Print/Type)

Title: _____

Title: _____

(Seal)
Attest:

CONTRACTOR:

By: _____
(Signature)

Name: _____

(Print/Type)

Title: _____

Title: _____

(Seal)
Attest:

By: _____
(Signature)

Name: _____

(Print/Type)

Title: _____

Title: _____

License Number (if applicable)

Note: Two (2) corporate officers are to sign if applicable.

State of Minnesota
County of _____

The foregoing instrument was acknowledged before me this ____ day of _____, 20__.
Notary Public _____ County, Minnesota
My Commission Expires _____

CONTRACTOR'S PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that _____
_____ as Principal, hereinafter called CONTRACTOR, and _____
_____ as Surety, hereinafter called Surety, are held and firmly bound onto _____
_____ as Obligee, hereinafter called OWNER, in the
amount of _____
_____ Dollars (written) (\$ _____), for the payment whereof CONTRACTOR
and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally
firmly by these presents.

WHEREAS,

CONTRACTOR has by written Agreement dated _____, 20_____, entered into a Contract
with OWNER for _____
_____ in accordance with Contract Documents prepared by _____
_____ which Contract is by reference made a part hereof, and is hereinafter referred to as the Agreement.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if CONTRACTOR shall promptly and faithfully perform said Agreement, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time by OWNER.

Whenever CONTRACTOR shall be, and declared by OWNER to be, in default under the Agreement, the OWNER having performed OWNER'S obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

1. Complete the Contract in accordance with its terms and conditions, or
2. Obtain a Bid or Bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible Bidder, or if OWNER elects, upon determination by OWNER and the Surety jointly of the lowest responsible Bidder, arrange for a Contract between such Bidder and OWNER, and make available as Work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract Price, but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the Contract Price," as used in this paragraph, shall mean the total amount payable by OWNER to CONTRACTOR under the Contract and any amendments thereto, less the amount properly paid by the OWNER to CONTRACTOR.

No right of action shall accrue on this bond to or for the use of any person or corporation other than OWNER named herein or the heirs, executors, administrators or successors of OWNER.

IN WITNESS WHEREFORE, the above-bounded parties have executed this instrument in _____ original counterparts, under their several seals this day of _____, 20_____, the names 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.

(Affix Corporate Seal)

(CONTRACTOR)

Attest:

(Business Address)

(Title)

By: _____
(Title)

(Affix Corporate Seal)

(Surety)

Attest:

(Business Address)

(Attorney in Fact)

Approved by OWNER:

By: _____
(Title) (Date)

Note: The Bond must be approved and the approval dated in every case. The title of the person signing must be indicated. Certified copy of Power-of-Attorney of signatory agent for corporate Surety must be attached in every case where corporate Surety is procured. Date of Bond must not be prior to date of Contract.

**CONTRACTOR'S PAYMENT BOND
(PUBLIC IMPROVEMENT)**

KNOW ALL MEN BY THESE PRESENTS, that _____

as Principal, hereinafter called CONTRACTOR, and _____

_____ as Surety, hereinafter called Surety, are held and firmly bound onto _____

_____ as Obligee, hereinafter called OWNER, for the use and benefit of claimants as hereinafter provided in the amount of _____

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

WHEREAS,

CONTRACTOR has by written Agreement dated _____, 20____, entered into a Contract with OWNER for _____

_____ in accordance with Contract Documents prepared by _____

_____ which Contract is by reference made a part hereof, and is to contain in substance the following provisions.

CONTRACTOR shall pay all claims for labor performed and materials furnished, used or consumed in making the public improvement or performing the public Work, including, without limitation because of specific enumeration, fuel, lumber, building materials, machinery, vehicles, tractors, equipment, fixtures, apparatus, tools, appliances, supplies, electric energy, gasoline, motor oil, lubricating oil, greases, premiums for worker's compensation insurance, and contributions for unemployment compensation.

The said written agreement, drawings, specifications, and amendments are hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if CONTRACTOR shall faithfully perform the said Contract and pay every person entitled thereto for all the claims for labor performed and materials furnished under the Contract to be used or consumed in making the public improvement or performing the public Work as provided in the Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. No assignment, modification or change of the Agreement, or change in the Work covered thereby, or any extension of time for completion of the Contract shall release the Sureties on the bond.
2. Not later than one year after the completion of Work under this Contract or such longer period of time as may be prescribed by law, or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any party in interest may maintain an action in his own name against CONTRACTOR and the Surety upon this bond for the recovery of any damages he may have sustained by reason of the failure of CONTRACTOR to comply with the Contract or with the Contract between CONTRACTOR and his Subcontractors. If the amount realized on this bond is insufficient to satisfy all claims of the parties in full, it shall be

distributed among the parties pro rata.

IN WITNESS WHEREFORE, the above-bounded parties have executed this instrument in original _____ counterparts, under their several seals this day of _____, 20 _____, the names 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.

(Affix Corporate Seal)

(CONTRACTOR)

Attest:

(Business Address)

(Title)

By: _____
(Title)

(Affix Corporate Seal)

(Surety)

Attest:

(Business Address)

(Attorney in Fact)

Approved by OWNER:

By: _____
(Title) _____ (Date)

Note: The Bond must be approved in the case of the State by the State Official authorized to enter into such Contract, of a County by its District Attorney, of a City by its Mayor, of a Village by its President, of a Town by its Chairman, of a School District by the Director or President, and of any other Public Board or body by the presiding officer thereof.

NOTICE TO PROCEED

To: _____ Date: _____

_____ Project: _____

You are hereby notified to commence work in accordance with the Agreement dated _____, 20____, on or before _____, 20____, and you are to complete the work by _____.

(Owner)

By _____

Title _____

Acceptance of Notice:

Receipt of the above Notice to Proceed is hereby

acknowledged by _____

this the _____ day of

_____, 20_____.

By _____

Title _____

Form IC134 Instructions

Contractor Affidavit

No state agency or local unit of government can make final payment to a contractor until the Department of Revenue has certified that the contractor and any subcontractor have fulfilled the requirements of Minnesota withholding tax laws.

If you are a prime contractor, a contractor or a subcontractor who did work on a project for the state of Minnesota or any of its local government subdivisions — such as a county, city or school district — you must submit a Contractor Affidavit to the Department of Revenue to receive a certificate of compliance.

Use of Information

The Department of Revenue needs **all** the requested information to determine if you have met the state income tax withholding requirements. If all required information is not provided, Form IC134 will be returned to you for completion.

All information on this Contractor Affidavit is private by state law. It cannot be given to others without your permission, except to the Internal Revenue Service, other states that guarantee the same privacy and certain government agencies as provided by law.

Minnesota Tax ID Number

You must have a Minnesota tax ID number if you have employees who work in Minnesota. You must enter your Minnesota tax ID number on Form IC134.

If you don't have a Minnesota tax ID number, apply online at www.revenue.state.mn.us or by calling our Business Registration Office at 651-282-5225 or 1-800-657-3605.

If you have no employees and did all the work yourself, you do not need a Minnesota tax ID number. Instead, enter your Social Security number in the space for Minnesota tax ID number and explain who did the work.

Submit Contractor Affidavit

Form IC134 cannot be processed by the Department of Revenue until you finish the work. If you submit the form before the project is completed, it will be returned to you unprocessed.

If any withholding payments are due to the state, Minnesota law requires certified payments before we approve your Form IC134.

If you are a subcontractor or sole contractor, submit the form when you have completed your part of the project.

If you are a prime contractor, submit the form when the entire project is completed and you have received certified Contractor Affidavits from all of your subcontractors.

If you're a prime contractor and a subcontractor on the same project

If you were hired as a subcontractor to do work on a project, and you subcontracted all or a part of your portion of the project to another contractor, you are a prime contractor as well. Complete both the subcontractor and prime contractor areas on a single Form IC134.

You may submit your Contractor Affidavit either electronically **or** by mail. This affidavit must be certified and returned before the state or any of its subdivisions can make final payment for your work.

For an immediate response: Complete and submit your Contractor Affidavit electronically. Go to www.revenue.state.mn.us and choose **Withholding Tax**. Under the File and Pay tab, click on Contractor Affidavit Information for Government Projects.

You may complete and mail Form IC134 to: Minnesota Revenue, Mail Station 6610, St. Paul, MN, 55146-6610. If you have fulfilled the requirements of Minnesota withholding tax laws, the department will sign your Form IC134 and return it to you. To receive your final payment, submit the certified Contractor Affidavit to the government unit for which the work was done. If you are a subcontractor, submit the certified Contractor Affidavit to your prime contractor to receive your final payment.

Information and Assistance

Additional forms and information, including fact sheets and frequently asked questions, are available on our website.

Website: www.revenue.state.mn.us

Email: withholding.tax@state.mn.us

Phone: 651-282-9999 or 1-800-657-3594

This information is available in alternate formats.



Independent Testing Technologies, Inc.

JANUARY 7, 2020

**PROJECT 19-424
REPORT OF GEOTECHNICAL EXPLORATIONS**

For

**33rd STREET & 82nd AVENUE IMPROVEMENTS
PRINCETON TOWNSHIP, MINNESOTA**

Prepared For:

PRINCETON TOWNSHIP



Independent Testing Technologies, Inc.

January 7, 2020

Mr. Bill Whitcomb
Princeton Township
10039 55th Street
Princeton, MN 55371

RE: 19-424 Report of Geotechnical Exploration
 33rd Street and 82nd Avenue Improvements
 Princeton Township, Minnesota

Dear Mr. Whitcomb:

Independent Testing Technologies, Inc. is pleased to submit the results of our subsurface investigation program for this project in Princeton Township, Minnesota. This report represents our work for this project as authorized by you. It includes our recommendations regarding earthwork, fill and compaction, subgrade preparation, and pavement design. An electronic copy is enclosed.

The soils encountered were mostly fine grained, silty sand (SM), poorly graded sand (SP) with highly plastic clays (CH), silty lean clays (CL-ML) on the north end of 82nd Avenue. Some sandy (SM) fill was observed near the surface in a few borings. Groundwater was only observed in boring SB-7 at a depth of 9.5 feet during our investigation.

Mr. Whitcomb, it has been our pleasure to work with you on this project. Independent Testing appreciated the opportunity to perform this geotechnical evaluation and look forward to continuing our participation during the construction phase of this project. Please contact Patrick Johnson if you have any questions regarding this report. Please contact Tyler Burkes if you would like a proposal for the materials testing services that may be needed.

Sincerely,

A handwritten signature in blue ink that reads "Tyler T. Burkes".

Tyler Burkes, EIT

A handwritten signature in blue ink that reads "Patrick Johnson".

Patrick A. Johnson, P.E.
Minnesota License #22037

CERTIFICATION

**I hereby certify that this report was prepared
by me or under my direct supervision and that I am a
duly Licensed Engineer under the laws
of the State of Minnesota.**



Patrick A. Johnson

Date: January 7, 2020 License No.: 22037

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**GEOTECHNICAL EXPLORATIONS
PRINCETON TOWNSHIP
33RD STREET & 82ND AVENUE IMPROVEMENTS
PRINCETON TOWNSHIP, MINNESOTA
PROJECT 19-424**

A. Introduction

This report is being prepared for use by our client on this specific project. We intend to present this report and our findings in the same logical manner that led us to arrive at our recommendations. This report is based on some general assumptions regarding the anticipated construction based on experience with similar projects. These assumptions and the entire report should be reviewed immediately upon receipt.

Purpose:

The purpose of our investigation was to evaluate the existing soil and water conditions on this site for the purpose of constructing and paving the existing roadways northeast of the City of Princeton. The existing gravel surfaced roads will be paved with bituminous. Very little widening is planned. In accordance with your written authorization, we have conducted a subsurface exploration program for the proposed project.

Scope of Services:

Our authorized scope of services included the following:

1. To investigate the subsurface soil and water conditions encountered at nine (9) split-spoon soil boring locations. The boring depths were planned to be ten (10) feet at each location. Boring SB-4 was not conducted.
2. To provide a report of our findings including a summary of our findings with recommendations regarding earthwork, soil correction, fill and compaction, subgrade preparation and pavement design with an estimated design R-value.

General Site Conditions:

The project is located in a rural area just northeast of the City of Princeton. Both roadways are straight approaching the intersection, with 33rd street heading east- west and 82nd Avenue heading north- south. The site is relatively flat, with slopes of 2-6 percent.

Available Subsurface Information:

According to the Geologic Map of Minnesota, Quaternary Geology, prepared by Howard C. Hobbs and Joseph E. Goebel (1982, Minnesota Geological Survey), this site lies within an outwash unit not associated with a particular moraine. It is associated with the Des Moines glaciation of Pleistocene, Late Wisconsinan age. The drift is derived from parent material in North Dakota and Manitoba.

According to the Soil Survey of Mille Lacs County prepared by the Soil Conservation Service, the site lies mostly within Zimmerman fine sands and Cantlin loamy fine sands. However, the north ¼ mile of 82nd Avenue lies within Grasston silts and Foglake silt loams. The fine sands and loamy fine sands mapped on this site are sandy and have slight limitations for development of local roads and streets. However the silt and silt loam soils have severe limitations for development of local roads and streets due to severe frost heave and shrink swell potential.

B. Exploration Program

Nine (9) split-spoon soil borings were planned on this project. One boring location could not be performed because of utility locating difficulty. The borings were advanced to depths of 10 feet using a 3 ¼ inch I.D. hollow stem auger. Samples were obtained every 2 ½ feet using a 2-inch O.D. split-spoon sampler in accordance with the American Society for Testing and Materials (ASTM D1586). Standard penetration values (N-values) were obtained at each sample interval by driving the sampler into the soil using a 140-pound hammer falling 30 inches. After an initial set of 6 inches, the number of blows required to drive the sampler 12 inches is known as the standard penetration resistance or N-value. Where the sampler cannot be driven at least 6 inches by 50 blows of the hammer, the total number of blows as well as the distance driven is reported on the boring logs.

Groundwater levels were noted during drilling and immediately after completion. The holes were backfilled with the auger cuttings. Some settlement of the bore holes may be expected. All of the borings were conducted with a truck mounted rig.

Exploration Results:

The borings were conducted in the existing gravel surfaced roadways and encountered 4.0 to 9.0 inches of aggregate surfacing material.

Below the aggregate, borings SB-1 and SB-2 encountered fine grained, silty sand (SM) fill to 2.0 feet, followed by poorly graded sand (SP) to termination at 11.5 feet. Below the aggregate, boring SB-3 encountered fine grained, silty sand (SM) fill to 3.5 feet, followed by native, fine grained, silty sand (SM) to termination at 11.5 feet. Below the pavement, boring SB-5 encountered highly plastic clay (CH) to 5.0 feet, followed by silty lean clay (CL-ML) to termination at 11.5 feet.

Below the aggregate, boring SB-6 encountered native, silty lean clay (CL-ML) to 10.0 feet, followed by highly plastic clay (CH) to termination at 11.5 feet. Below the aggregate, boring SB-7 encountered fine grained, silty sand (SM) to 5.0 feet, followed by highly plastic clay (CH) to 7.5 feet and silty lean clay (CL-ML) to termination at 11.5 feet. Below the aggregate, boring SB-8 encountered fine grained, poorly graded sand (SP) to 7.0 feet, followed by fine, grained, silty sand (SM) to termination at 11.5 feet. Below the aggregate, boring SB-9 encountered fine grained, poorly graded sand (SP) to 3.5 feet, followed by silty sand (SM) to 5.0 feet and then poorly graded sand (SP) to termination at 11.5 feet.

Penetration Test Results:

The blow counts in the sandy fill (SM) soils were 16 which are moderate, indicating they are in a medium dense condition. The blow counts in the native sandy soils (SM, SP) ranged from 1 to 16, which are very low to moderate, indicating they are in a very loose to medium dense condition. The blow counts in the native clay soils (CH, CL-ML) ranged from 3 to 9, which are low to moderate, indicating they are in a soft to rather stiff condition. Refusal of the spoon or auger did not occur. Drilling was relatively easy in all of the locations.

Water Level Observations:

Observations of the subsurface water conditions were made during drilling operations. Groundwater was only encountered in boring SB7 at a depth of 9' 6" feet during our investigation.

The moisture contents of the native sand soils indicates they are not saturated. It should be noted that the water levels were observed over a very short period of time. However, we feel that the water levels are a fairly accurate representation of the actual water levels on this project because of the high permeability of the sand soils on the site. The water level in the clay soils may not be an accurate representation of the true water levels due to the low permeability of the clay soils.

Mottled soils were observed. Mottled native soils are a historical indication of a temporarily or seasonally saturated soil condition. Grey soils were not observed. Grey native soils are an indication of a permanently saturated soil condition.

Laboratory Testing

Moisture Content Tests- Moisture content tests were performed on every split spoon sample in accordance with ASTM method D2216; *Standard Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass*. Individual test results are shown on the boring logs adjacent to the sample that was tested.

C. Engineering Review

Discussion:

The soils encountered near the surface on most of this site are predominantly fine grained, sands consisting of silty sands (SM), poorly graded sands (SP) and poorly graded sands with silt (SP-SM). They appear to mostly be outwash type material. The fine grained, sandy outwash soils are considered excellent material for use as roadway subgrade material and for bituminous pavement support.

Clay soils (CH, CL-ML) were encountered on the north quarter mile of 82nd Avenue. These soils are not well suited for roadway subgrade material and pavement support. They are weak and highly frost susceptible. Highly plastic clays (CH) are also very susceptible to shrink swell with changes in moisture content. We recommend a 2 foot layer of select granular borrow be used in the pavement section over the clay soils on this project.

D. Recommendations

The following recommendations are based on our understanding of the proposed project. If our understanding of the project is not accurate or if changes are made to the project scope, please inform us so that our recommendations can be amended, if necessary. We have included recommendations regarding earthwork and construction that may help in cost estimates and aid in design. We should be allowed to review the proposed construction plans to provide further detailed recommendations, if necessary. Without the opportunity to review the final construction plans, the recommendations made in this report may no longer be valid.

Embankment/ Road Fill:

The on-site soils consisting of fine grained, silty sands (SM), poorly graded sands (SP) and poorly graded sands with silt (SP-SM) are considered good to excellent material for use as structural fill. These soils are easy to work with and are easily compacted using vibratory compaction equipment when near their optimum moisture contents.

The on-site soils consisting of silty lean clay (CL-ML) and highly plastic clays are considered very poor for use as structural fill. These soils are very susceptible to moisture changes and are very weak. We recommend a minimum of a two foot subcut and placement of at least 2 feet of select granular borrow for pavements built over these soils. In addition, we recommend a geotextile fabric or geogrid to allow construction over the weak soils.

We recommend that any imported fill and utility trench backfill material consist of mineral soils meeting the requirements specified below. No organic soils, roots, stumps, logs, brush, etc. should be used as structural fill below any utility structure or pavement section. We recommend that all fill and utility trench backfill material be free of soft, wet or frozen soils, highly expansive soils, rubble, debris and rocks in excess of 6 inches in diameter. The fill material should be as uniform as possible both in composition and moisture content.

No organic soils with organic content in excess of 3.0% by weight should be used as roadway embankment fill or as subgrade material. Some of the fill was dark brown to black. However, none appeared to be organic. It is our opinion that most of the dark silty sand fill will be suitable for use as pavement subgrade.

We recommend that all embankment fill material be placed in 12-inch loose lifts and compacted to a minimum of 95% of standard proctor maximum density (ASTM D698). Any fill placed in the top 3 feet of the road subgrade should be compacted to at least 100% of standard proctor maximum density. All fill material should be compacted at a moisture content within plus or minus 2% of the optimum moisture as determined by a standard proctor. We recommend compaction tests be taken at a minimum rate of one test per two feet of fill per 200 linear feet of roadway subgrade, and aggregate base material.

E. Pavement Recommendations

The expected subgrade soils will likely consist of fine grained silty sand (SM), poorly graded sands (SP) and poorly graded sands with silt (SP-SM) outwash soils. The sandy outwash soils on this site are classified as A-3 soils in accordance with the American Association of State Highway Transportation Officials (AASHTO) classification system. A-3 soils are rated as excellent material for use as roadway subgrade material. Without benefit of a laboratory R-value determination and based on MnDot guidelines and our experience with similar soils, we recommend an R-value of 70 be assumed for the onsite soils.

Based on an assumed R-value of 70, we recommend the following bituminous pavement section for a 9-ton roadway with less than 150 HCADT for the sandy subgrade soils:

<u>Thickness</u>	<u>Course/Description</u>	<u>G.E.</u>
3.5"	MnDot 2360 SPWEB240 Bituminous	7.9"
6.0"	MnDot 3138 Class 5 or 6 Aggregate Base	6.0"
9.5"	TOTAL	13.9"

The expected subgrade soils on the north end of 82nd Avenue will likely consist of silty lean clay and highly plastic clay. The clayey soils on this site are classified as A-7 soils in accordance with the American Association of State Highway Transportation Officials (AASHTO) classification system. A-7 soils are rated as poor material for use as roadway subgrade material. Without benefit of a laboratory R-value determination and based on MnDot guidelines and our experience with similar soils, we recommend an R-value of 12 be assumed for the onsite soils.

Based on an assumed R-value of 12, we recommend the following bituminous pavement section for a 9-ton roadway with less than 150 HCADT for the north ¼ mile of 82nd Avenue:

<u>Thickness</u>	<u>Course/Description</u>	<u>G.E.</u>
3.5"	MnDot 2360 SPWEB240 Bituminous	7.9"
6.0"	MnDot 3138 Class 5 or 6 Aggregate Base	6.0"
24.0"	MnDot 3147 Select Granular Borrow	12.0"***
33.5"	TOTAL	25.9"

*** Placed on geofabric Type 5 or geogrid

In using the above R-value for bituminous pavement design, it is essential that the subgrade be constructed of uniform soils at a moisture content and density in accordance with MnDot specification 2105 and capable of passing a test roll in accordance with MnDot specification 2111. The native, undisturbed soils may need preparation (drying and compacting) to pass a proof roll. If the subgrade is not compacted, uniform and capable of passing a test roll, then we recommend the subgrade be scarified and recompacted or subcut and geotextile fabric placed along with select granular material meeting MnDot specification 3149. The top of subgrade should be compacted to a minimum of 100% of standard proctor maximum density. The subgrade should be sloped towards the edges to provide drainage.

F. Closing

Our work was performed for geotechnical purposes only and not to document the presence or extent of any contamination on the site. We can note that our crew did not detect any obvious contamination by sight or smell during drilling operations. However, human senses are limited in terms of contamination detection and, therefore, the lack of detection through human sensing does not preclude the possibility of the presence of contamination of the site.

This report represents the result of our subsurface investigation and is based on information gathered at specific locations. Subsurface conditions can change a great deal over short horizontal distances. Also, the actual interface between strata will likely be a gradual transition rather than an abrupt change as represented on the boring logs.

Geotechnical engineering is based extensively on opinion. Therefore, the data contained in this report should be used as a guide, and we recommend that construction monitoring be performed by a qualified geotechnical engineer or technician. Any changes in the subsurface conditions from those found during this geotechnical exploration should be brought to the attention of a soils engineer.

c:19424rpt

APPENDIX 1

BORING LOCATION PLAN

19-424
82nd Avenue & 33rd Street
Princeton Township, MN



APPENDIX 2

SOIL BORING LOGS

INDEPENDENT TESTING TECHNOLOGIES, INC. LOG OF SOIL BORING

PROJECT: 19-424 PRINCETON TOWNSHIP
33RD STREET & 82 AVENUE IMPROV.
PRINCETON TOWNSHIP, MINNESOTA

DATE: 11/18/19 BORING #: SB-1
START TIME: 10:30 END TIME: 10:50

METHOD: 3 1/4" I.D. Hollow Stem Auger
CREW: BH/ AR

LOCATION: See Boring Location Plan

ELEVATION:

Page 1 of 1

Depth (Feet)	ASTM Symbol	Soil Description	Sample #	N Value	W _n	Notes
6.0"	GP	GRAVEL, brown.				
	SM	SILTY SAND, fine grained, brown, FILL				
2.0						
	SP	POORLY GRADED SAND, fine grained, brown.				
			1	4	6.3	
5.0						
			2	2	5.4	
			3	1	5.8	
10.0						
			4	3	7.2	
11.5						
		Boring complete to 11.5 feet. No water encountered during drilling. No water measured at 4' 11" after completion.				

INDEPENDENT TESTING TECHNOLOGIES, INC. LOG OF SOIL BORING

PROJECT: 19-424 PRINCETON TOWNSHIP
33RD STREET & 82 AVENUE IMPROV.
PRINCETON TOWNSHIP, MINNESOTA

DATE: 11/18/19 BORING #: SB-2
START TIME: 10:55 END TIME: 11:20

METHOD: 3 1/4" I.D. Hollow Stem Auger
CREW: BH/ AR

LOCATION: See Boring Location Plan

ELEVATION:

Depth (Feet)	ASTM Symbol	Soil Description	Sample #	N Value	W _n	Notes
5.0"	GP	GRAVEL, brown.				
	SM	SILTY SAND, fine grained, brown, FILL				
2.0						
	SP	POORLY GRADED SAND, fine grained, brown.				
			1	6	8.1	
5.0			2	6	14.0	
			3	8	19.7	
10.0			4	8	8.7	
11.5						
		Boring complete to 11.5 feet. No water encountered during drilling. No water measured at 5' 4" after completion.				

INDEPENDENT TESTING TECHNOLOGIES, INC. LOG OF SOIL BORING

PROJECT: 19-424 PRINCETON TOWNSHIP
33RD STREET & 82 AVENUE IMPROV.
PRINCETON TOWNSHIP, MINNESOTA

DATE: 11/18/19 BORING #: SB-3
START TIME: 11:25 END TIME: 11:50

METHOD: 3 1/4" I.D. Hollow Stem Auger
CREW: BH/ AR

LOCATION: See Boring Location Plan

ELEVATION:

Depth (Feet)	ASTM Symbol	Soil Description	Sample #	N Value	W _n	Notes
9.0"	GP	GRAVEL, brown.				
	SM	SILTY SAND, fine grained, dark brown. FILL				
3.5			1	4	24.6	
5.0	SM	SILTY SAND, fine grained, brown.				
			2	5	12.6	
			3	9	22.5	
10.0						
11.5		very fine grained	4	10	14.4	
		Boring complete to 11.5 feet. No water encountered during drilling. No water measured at 5' 7" after completion.				

INDEPENDENT TESTING TECHNOLOGIES, INC. LOG OF SOIL BORING

PROJECT: 19-424 PRINCETON TOWNSHIP
33RD STREET & 82 AVENUE IMPROV.
PRINCETON TOWNSHIP, MINNESOTA

DATE: 11/18/19 BORING #: SB-5
START TIME: 12:40 END TIME: 1:10

METHOD: 3 1/4" I.D. Hollow Stem Auger
CREW: BH/ AR

LOCATION: See Boring Location Plan

ELEVATION:

Depth (Feet)	ASTM Symbol	Soil Description	Sample #	N Value	W _n	Notes
6.0"	GP CH	GRAVEL, brown. HIGHLY PLASTIC CLAY, brown, mottled.	1	9	28.9	
5.0	CL-ML	SILTY LEAN CLAY, reddish brown, mottled. brown, mottled.	2	4	32.9	
10.0			3	6	32.1	
11.5			4	9	34.4	
		Boring complete to 11.5 feet. No water encountered during drilling. No water measured at 3' after completion.				

INDEPENDENT TESTING TECHNOLOGIES, INC. LOG OF SOIL BORING

PROJECT: 19-424 PRINCETON TOWNSHIP
33RD STREET & 82 AVENUE IMPROV.
PRINCETON TOWNSHIP, MINNESOTA

DATE: 11/18/19 BORING #: SB-6
START TIME: 1:05 END TIME: 1:30

METHOD: 3 1/4" I.D. Hollow Stem Auger
CREW: BH/ AR

LOCATION: See Boring Location Plan

ELEVATION:

Depth (Feet)	ASTM Symbol	Soil Description	Sample #	N Value	W _n	Notes
6.0"	GP	GRAVEL, brown.				
	CL-ML	SILTY LEAN CLAY, brown, mottled.				
5.0			1	7	27.6	
			2	3	36.8	
			3	7	32.5	
10.0						
	CH	HIGHLY PLASTIC CLAY, brown.	4	6	38.4	
11.5						
		Boring complete to 11.5 feet. No water encountered during drilling. No water measured at 3' 9" after completion.				

INDEPENDENT TESTING TECHNOLOGIES, INC. LOG OF SOIL BORING

PROJECT: 19-424 PRINCETON TOWNSHIP
33RD STREET & 82 AVENUE IMPROV.
PRINCETON TOWNSHIP, MINNESOTA

DATE: 11/18/19 BORING #: SB-7
START TIME: 1:35 END TIME: 2:05

METHOD: 3 1/4" I.D. Hollow Stem Auger
CREW: BH/ AR

LOCATION: See Boring Location Plan

ELEVATION:

Page 1 of 1

Depth (Feet)	ASTM Symbol	Soil Description	Sample #	N Value	W _n	Notes
6.0"	GP SM	GRAVEL, brown. SILTY SAND, fine grained, brown.	1	3	17.3	
5.0	CH	HIGHLY PLASTIC CLAY, brown, mottled.	2	3	34.2	
7.5	CL-ML	SILTY LEAN CLAY, brown, mottled.	3	4	30.8	V water encountered at 9.5' during drilling.
10.0			4	6	32.2	
11.5		Boring complete to 11.5 feet. Water encountered at 9.5' during drilling. No water measured at 4' 7" after completion.				

INDEPENDENT TESTING TECHNOLOGIES, INC. LOG OF SOIL BORING

PROJECT: 19-424 PRINCETON TOWNSHIP
33RD STREET & 82 AVENUE IMPROV.
PRINCETON TOWNSHIP, MINNESOTA

DATE: 11/18/19 BORING #: SB-8
START TIME: 2:10 END TIME: 2:40

METHOD: 3 1/4" I.D. Hollow Stem Auger
CREW: BH/ AR

LOCATION: See Boring Location Plan

ELEVATION:

Depth (Feet)	ASTM Symbol	Soil Description	Sample #	N Value	W _n	Notes
4.0"	GP SP	GRAVEL, brown. POORLY GRADED SAND, fine grained, brown.				
5.0			1	8	11.0	
7.0			2	8	6.1	
10.0	SM	SILTY SAND, very fine grained, tan.	3	2	14.5	
11.5			4	12	7.9	
		Boring complete to 11.5 feet. No water encountered during drilling. No water measured at 5' 4" after completion.				

INDEPENDENT TESTING TECHNOLOGIES, INC. LOG OF SOIL BORING

PROJECT: 19-424 PRINCETON TOWNSHIP
33RD STREET & 82 AVENUE IMPROV.
PRINCETON TOWNSHIP, MINNESOTA

DATE: 11/18/19 BORING #: SB-9
START TIME: 2:50 END TIME: 3:15

METHOD: 3 1/4" I.D. Hollow Stem Auger
CREW: BH/ AR

LOCATION: See Boring Location Plan

ELEVATION:

Depth (Feet)	ASTM Symbol	Soil Description	Sample #	N Value	W _n	Notes
6.0"	GP SP	GRAVEL, brown. SILTY SAND, fine grained, dark brown. FILL			6.6	
3.5			1	16	12.8	
5.0	SM	SILTY SAND, fine grained, dark brown.				
5.0	SP	POORLY GRADED SAND, fine grained, brown.				
10.0			2	4	6.1	
10.0			3	11	4.7	
11.5			4	16	5.5	
		Boring complete to 11.5 feet. No water encountered during drilling. No water measured at 4' 11" after completion.				

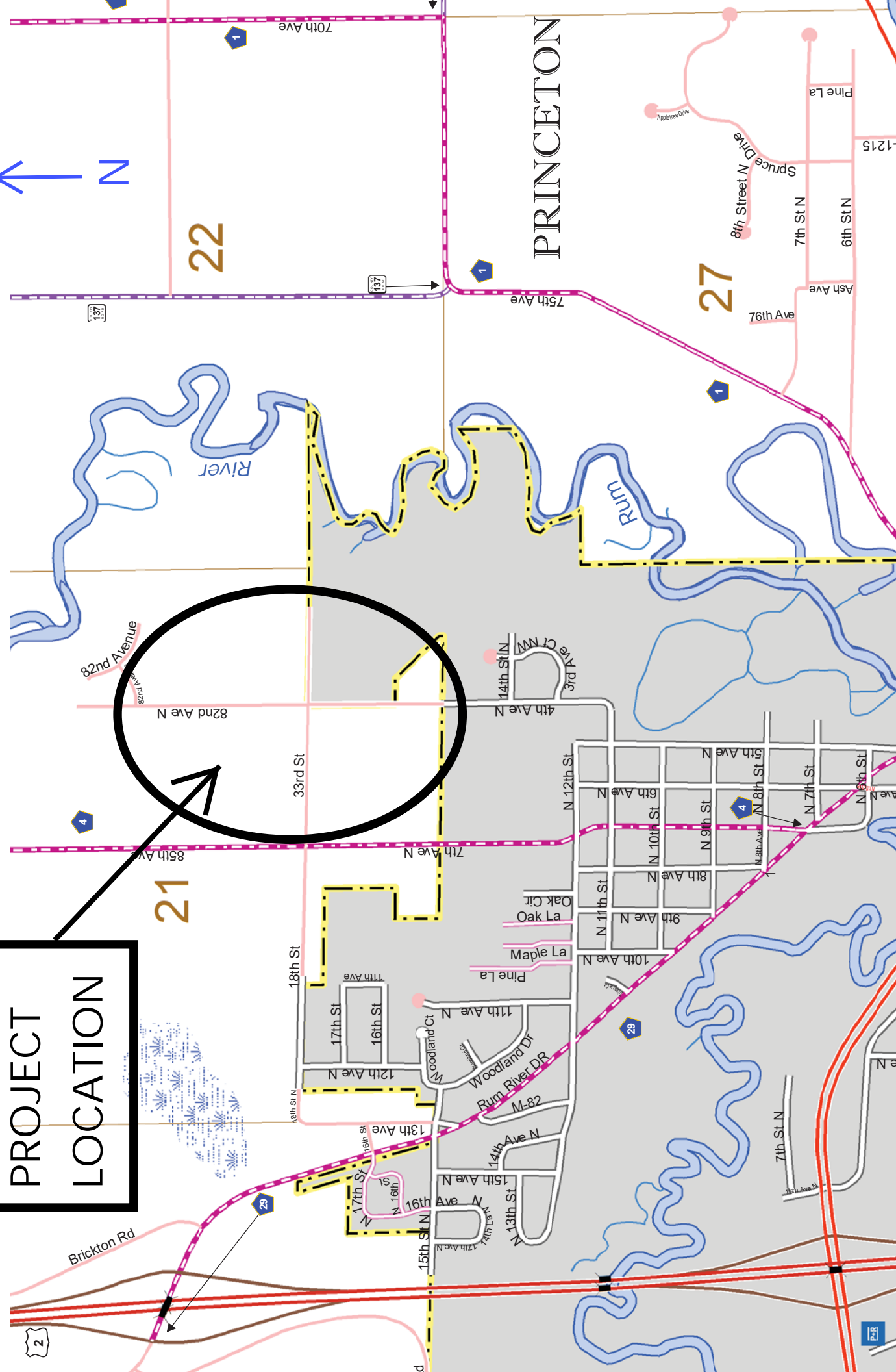
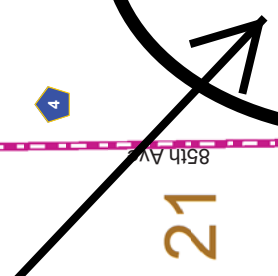
Unified Soil Classification (USC) System (from ASTM D 2487)

Major Divisions		Group Symbol	Typical Names
Course-Grained Soils More than 50% retained on the 0.075 mm (No. 200) sieve	Gravels 50% or more of course fraction retained on the 4.75 mm (No. 4) sieve	Clean Gravels	GW Well-graded gravels and gravel-sand mixtures, little or no fines
		Gravels with Fines	GP Poorly graded gravels and gravel-sand mixtures, little or no fines
		Gravels with Fines	GM Silty gravels, gravel-sand-silt mixtures
		Gravels with Fines	GC Clayey gravels, gravel-sand-clay mixtures
	Sands 50% or more of course fraction passes the 4.75 mm (No. 4) sieve	Clean Sands	SW Well-graded sands and gravelly sands, little or no fines
		Clean Sands	SP Poorly graded sands and gravelly sands, little or no fines
		Sands with Fines	SM Silty sands, sand-silt mixtures
		Sands with Fines	SC Clayey sands, sand-clay mixtures
Fine-Grained Soils More than 50% passes the 0.075 mm (No. 200) sieve	Silts and Clays Liquid Limit 50% or less	ML Inorganic silts, very fine sands, rock four, silty or clayey fine sands	
		CL Inorganic clays of low to medium plasticity, gravelly/sandy/silty/lean clays	
		OL Organic silts and organic silty clays of low plasticity	
	Silts and Clays Liquid Limit greater than 50%	MH Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts	
		CH Inorganic clays or high plasticity, fat clays	
		OH Organic clays of medium to high plasticity	
Highly Organic Soils		PT Peat, muck, and other highly organic soils	

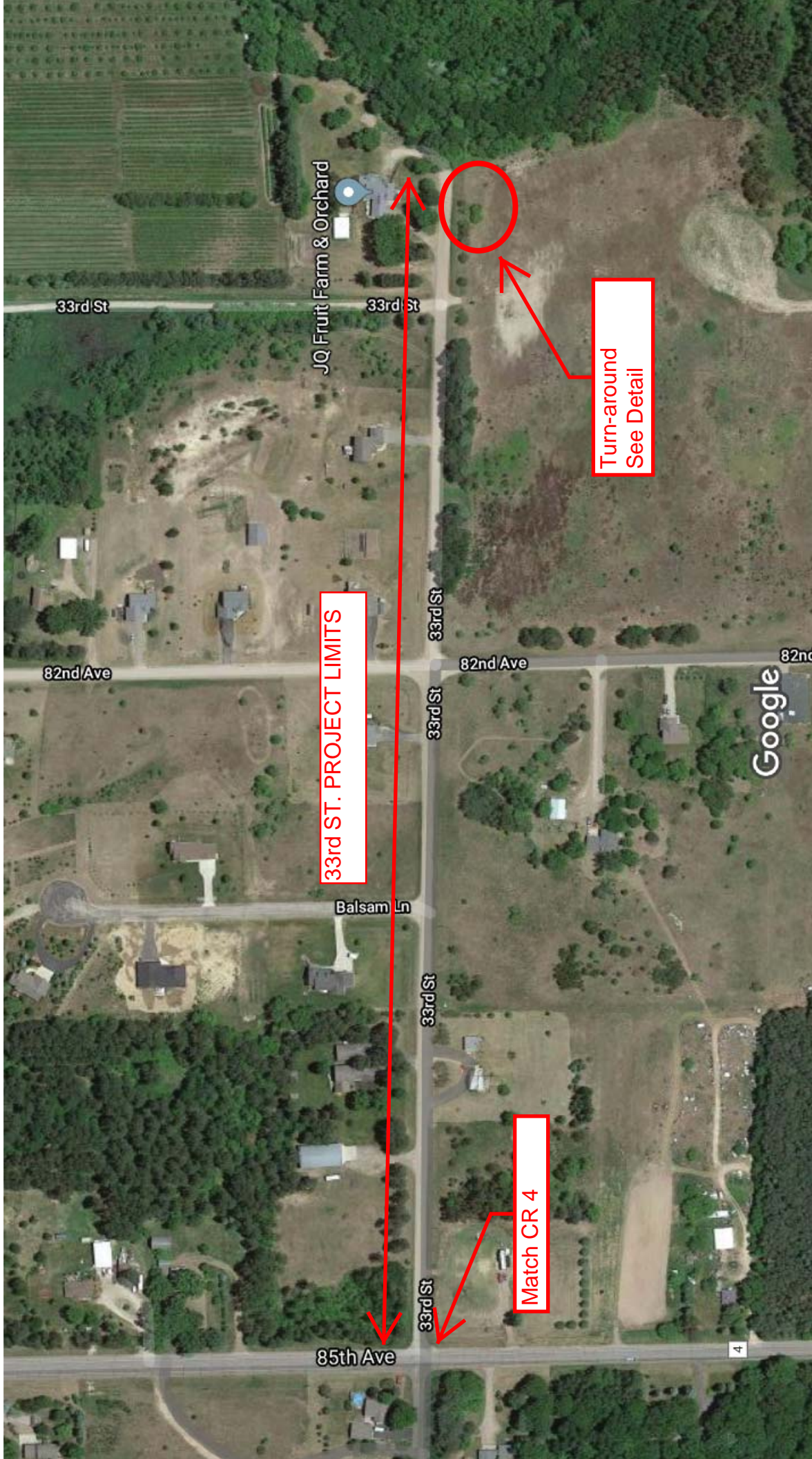
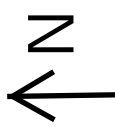
Prefix: G = Gravel, S = Sand, M = Silt, C = Clay, O = Organic

Suffix: W = Well Graded, P = Poorly Graded, M = Silty, L = Clay, LL < 50%, H = Clay, LL > 50%

**PROJECT
LOCATION**



VICINITY MAP

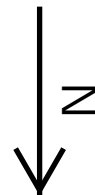


33rd ST. PROJECT LIMITS

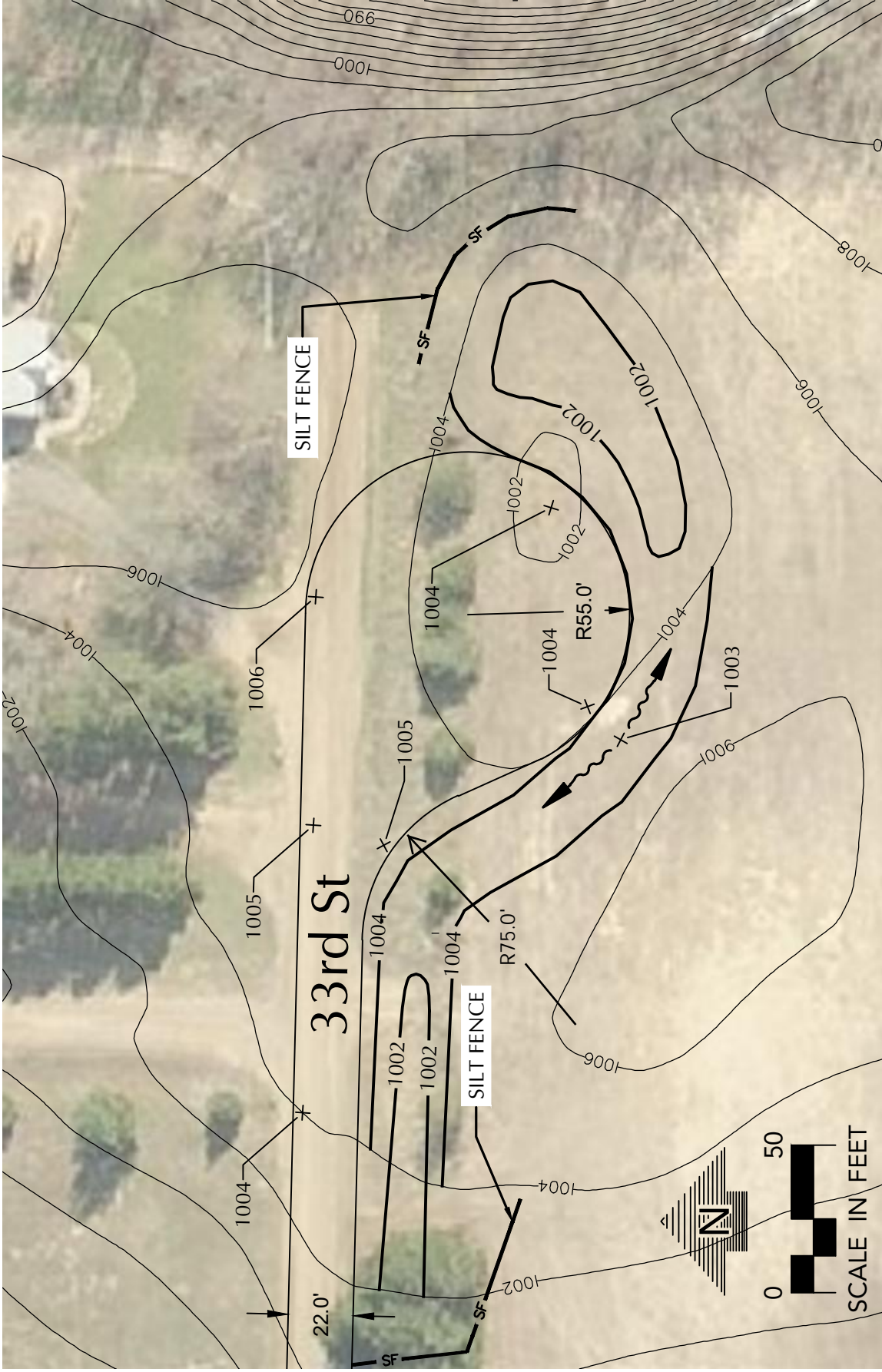
Turn-around
See Detail

Match CR 4

33rd STREET

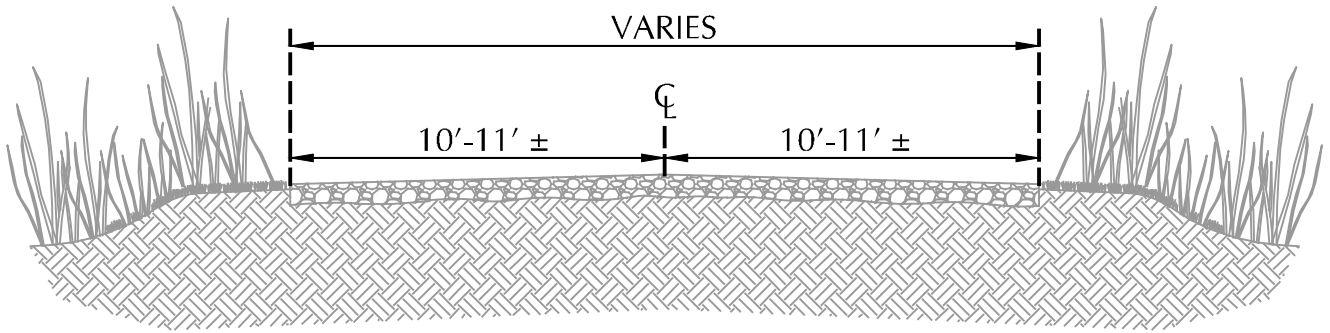


82nd AVENUE

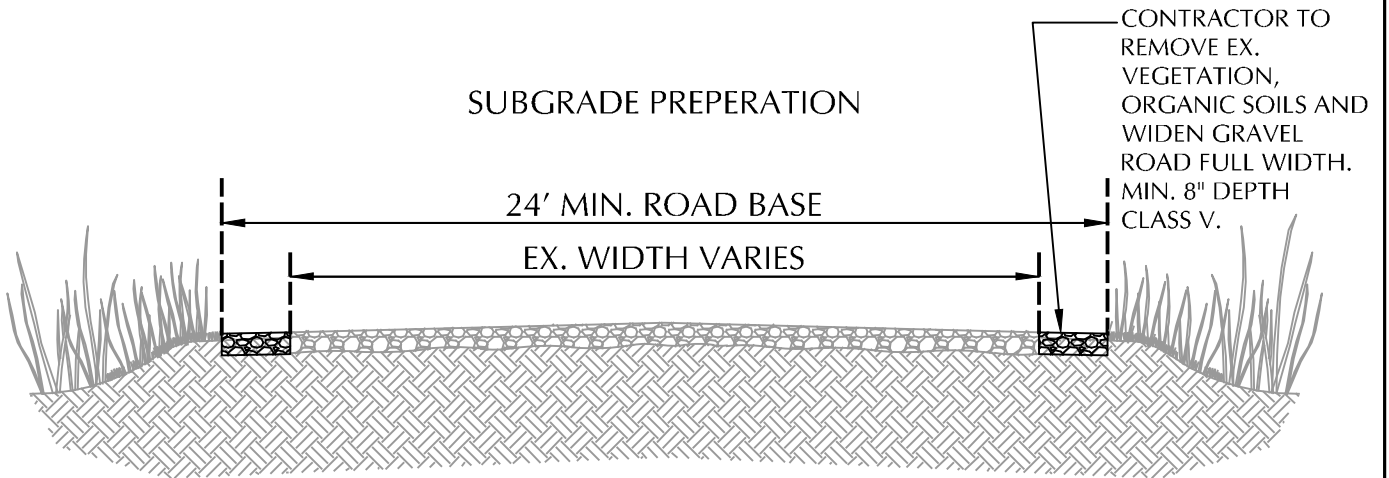


33rd Street Turn-Around
GRADING DETAIL

EXISTING GRAVEL SURFACE ROAD

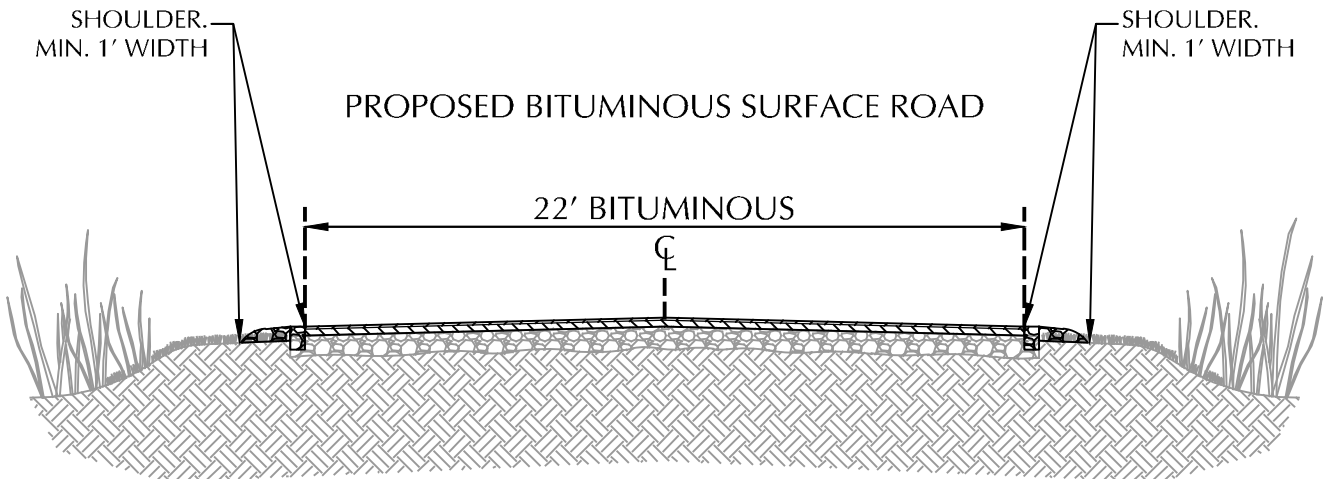


SUBGRADE PREPERATION

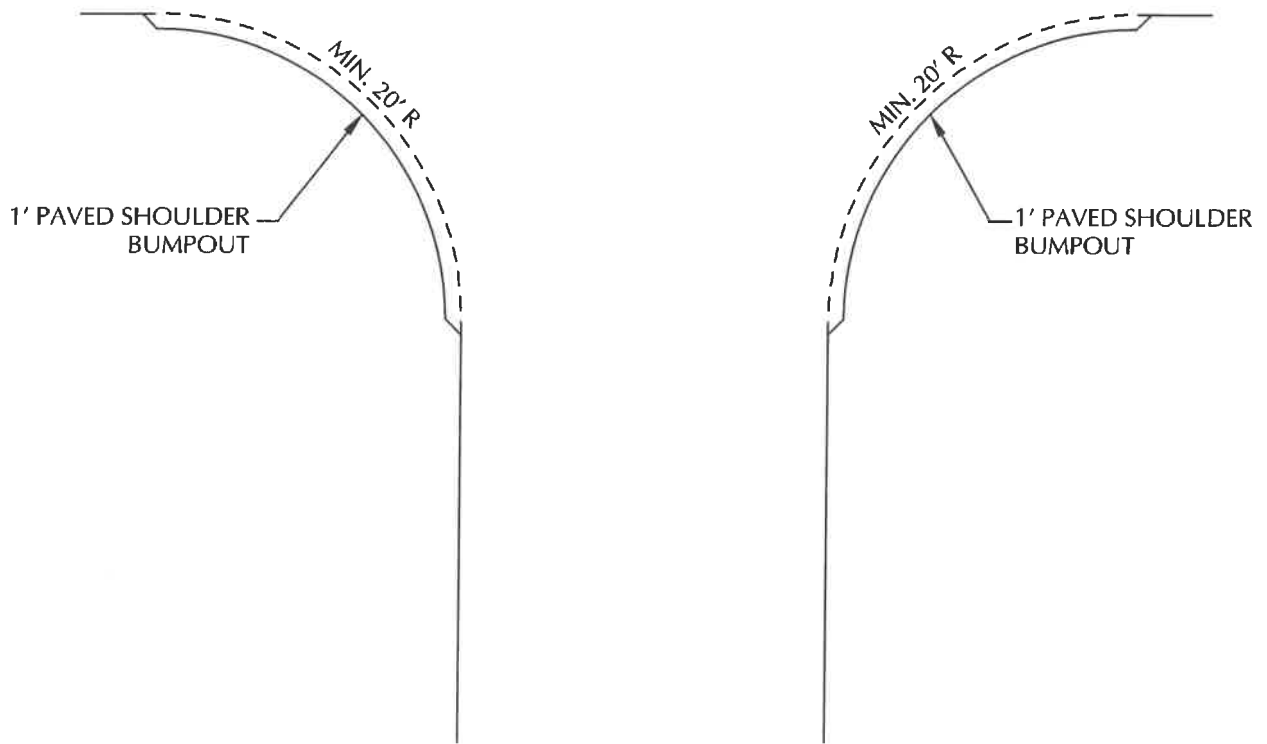


SHOULDER.
MIN. 1' WIDTH

PROPOSED BITUMINOUS SURFACE ROAD

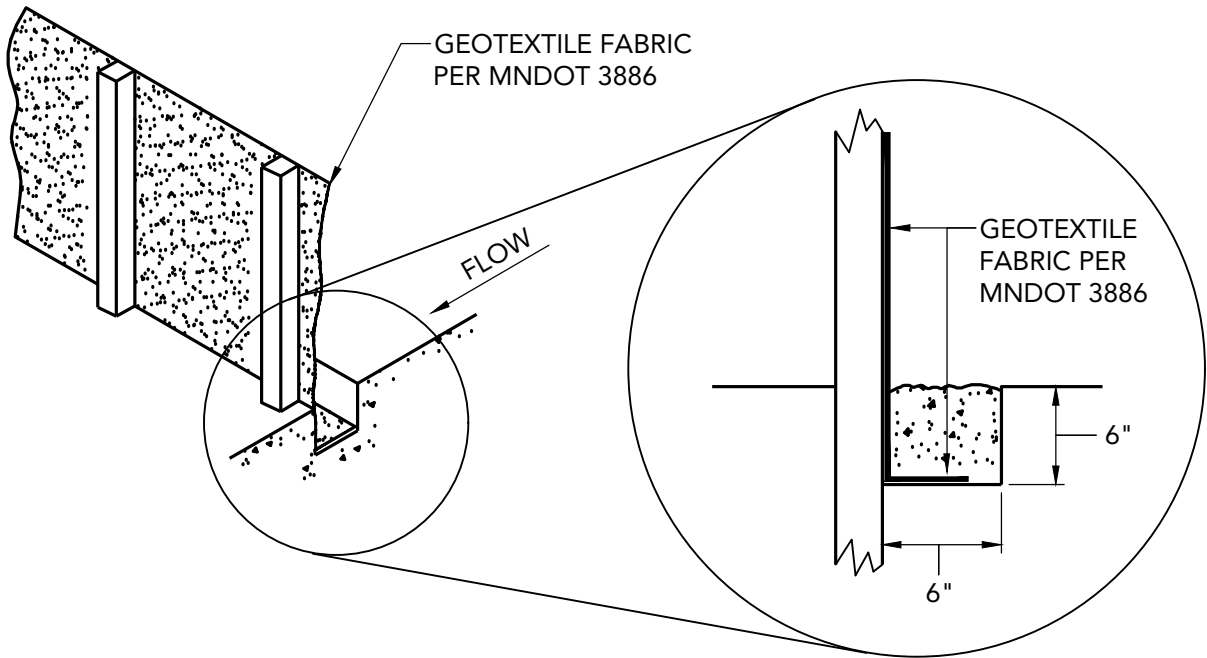


TYPICAL SHOULDER
RECONSTRUCTION DETAIL
33rd St. & 82nd Ave. - Road Improvements



NOTES:

1. PLACE BOTTOM EDGE OF FENCE INTO 6 IN DEEP TRENCH AND BACKFILL IMMEDIATELY.
2. POSTS SHALL BE:
 - 6 FT MAX. SPACING.
 - 2 IN X 2IN HARDWOOD, OR STANDARD STEEL T-TYPE FENCE POSTS.
 - 5' MIN. LENGTH POSTS, DRIVEN 2 FT INTO THE GROUND.
3. ATTACH FABRIC TO WOOD POST WITH A MIN. OF 5, 1 INCH LONG STAPLES.
4. ATTACH FABRIC TO STEEL POST WITH A MIN. OF 3 ZIP TIES IN TOP 8 INCHES OF FABRIC.



Princeton Township, Mille Lacs County

SILT FENCE



Date: 4/16/19 E-01