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SPECIAL PROVISIONS
DIVISION "S"
SPECIAL REQUIREMENTS

S-1 **CONTACT INFORMATION**

Questions regarding this project prior to bidding shall be directed to Jerry Mortenson at 612-596-0371 or email at jerry.mortenson@co.hennepin.mn.us.

S-2 **PRE-LETTING CONFERENCE**

Bidders are advised that a Pre-Letting Conference will be held prior to submission of either the technical and price proposals. The pre-letting meeting will be held on **July 19, 2011 at 10:00 a.m.**, at the Hennepin County Transportation Department – 1600 Prairie Drive, Medina, MN 55340. The technical proposal requirements and the bidding process will be discussed in detail at this meeting. All interested parties are encouraged to attend

S-3 **INSURANCE**

S-3.1 In order to protect itself and those listed in the indemnification provision in 1714 Responsibility for Damage Claims hereof, the Contractor hereby agrees that before commencing said work, it shall present, in a form acceptable to the County as fully evidenced by a fully executed Certification (and at the option of the County at any time, a certified copy of the insurance policies and all endorsements) evidencing the maintenance of the following minimum insurance coverages, requirements and endorsements during the performance of any work including Extra Work, Change Orders and Supplemental Agreements:

S-3.2 Commercial General Liability on an occurrence basis with Contractual Liability and Explosion, Collapse, and Underground Property Damage (XCU) Liability coverage:

General Aggregate:	\$2,000,000
Products – Completed Operations Aggregate	\$2,000,000
Personal and Advertising Injury	\$1,000,000
Each Occurrence – Combined Bodily Injury and Property Damage	\$1,000,000

S-3.3 Commercial Automobile Liability:

Combined single limit each occurrence coverage or the equivalent covering owned, non-owned, and hired automobiles.	\$1,000,000
--	-------------

- S-3.4 Workers' Compensation and Employer's Liability:
- | | | |
|----|---|-------------|
| A. | Workers' Compensation | Statutory |
| | Employer's Liability
(Including stop gap coverage in monopolistic states) | \$1,000,000 |
| | If the Contractor is based outside the State of Minnesota, coverage must apply to Minnesota laws. | |
| B. | Employer's Liability. Bodily injury by: | |
| | Each Accident | \$1,000,000 |
| | Disease – Policy Limit | \$1,000,000 |
| | Disease – Each Employee | \$1,000,000 |
- S-3.5 Watercraft
- | | |
|------------------------------------|-------------|
| Protection and Indemnity Liability | \$1,000,000 |
|------------------------------------|-------------|
- This insurance may be provided by either a separate Protection and Indemnity Liability policy or by a Protection and Indemnity endorsement to the Commercial General Liability policy.
- S-3.6 Professional Errors and Omissions Liability
- Both the Contractor and subcontractor(s) providing professional services shall procure and maintain the insurance continuously from the start of design work and for a period of six (6) years after completion of the project. There shall be no exclusions for delay, products manufactured, designed or provided and pollution plus coverage shall include liquidated or other contract imposed damages.
- | | |
|--|-------------|
| Professional Liability – Each Occurrence and Aggregate | \$2,000,000 |
|--|-------------|
- S-3.7 Pollution Legal Liability
- | | |
|------------------------------|-------------|
| Per Occurrence and Aggregate | \$1,000,000 |
|------------------------------|-------------|
- The Contractor shall provide insurance coverage when exposure exists and Professional Errors and Omissions does not cover.
- S-3.8 An Umbrella Liability policy over primary liability insurance coverages is an acceptable method to provide the required insurance limits. In addition, the following umbrella liability coverage is required.
- | | |
|--|-------------|
| Policy Limits – Per Occurrence and Aggregate | \$5,000,000 |
|--|-------------|
- S-3.9 An "All Risk" Builders' Risk Policy (including the perils of boiler and machinery, hot testing, earthquake and flood) for physical loss or damage to the project while performing work under the Contract including materials and equipment on and off site and in transit if intended to

become a part of the work. The policy shall cover at a minimum “ensuing loss” from any design defect.

Policy Limits: (Amount of Project)

S-3.10

The above subparagraphs establish minimum insurance requirements. It is the sole responsibility of the Contractor to determine the need for and to procure additional insurance which may be needed in connection with this Contract. Copies of insurance policies shall be submitted to the County upon written request. County reserves the right to require Contractor to obtain additional insurance coverage and endorsements at County’s sole discretion and expense, according to the nature and location of work to be performed by Contractor.

In the event any work to be performed under this Contract is further sublet, Contractor will require the same insurance coverage, additional insured endorsements (ISO CG 20 10 07 04 and ISO CG 20 37 07 04, or equivalents) and limits from its subcontractors, and will require said subcontractors to certify insurance coverage to the County (including at any time certified copies of all insurance policies and endorsements), prior to the commencement of any work.

Notwithstanding any other provision of this Agreement to the contrary, no officer, employee or agent of the County is authorized to cause, suffer, or permit the Contractor or any of its employees, guests, agents, subcontractors, or suppliers to commence or perform any work or otherwise enter upon the project site unless and until all of the conditions of this Article have been conformed to and performed.

If Contractor shall fail to certify required insurance coverage to the County as set forth above, before commencing work hereunder, the County may, at its option and without waiving any rights under this Contract, place insurance of the character, nature and limits described above to cover the operations of the Contractor, paying the premiums for the same and charging same to the Contractor.

The County by requiring the foregoing minimum insurance coverages will not be deemed to limit any of the other obligations or liabilities of the Contractor. Contractor shall be responsible to pay the full amount of any deductibles or self insured portions of any coverage.

Contractor shall submit to County, within three (3) days, copies of all reports arising out of any injuries to its employees or those of any firm or individual to whom it may have sublet work, or any property damages arising or alleged to have arisen on account of any work done by Contractor under the Contract Documents.

S-3.11

The Contractor shall maintain insurance with these provisions:

1. Except as to Workers’ Compensation, Employers’ Liability and Professional Errors & Omissions insurance, County shall be named

as additional insured under ISO form CG 20 10 07 04 and CG 20 37 07 04, or the equivalents as approved by County. The County as an additional insured shall have all the rights, coverages, and limits afforded the Contractor under the policies. In the event that any insurer issues a reservation of rights for County as an additional insured, County shall be entitled to employ independent counsel at Contractor's expense.

2. For all insurance policies required or referenced in this agreement, Contractor agrees to waive and shall require all Contractors of every tier to waive all subrogation rights on behalf of itself and its insurers (or in the alternative to secure the waiver of subrogation from its insurers) against County and all of County's employees and agents.
3. That Contractor's insurance is primary and any insurance maintained by County is considered excess and non-contributory.
4. Cross liability or severability of interest clause (liability policies only).
5. Liability insurance policies (except for professional errors and omissions) must be an occurrence policy form, and not a claims-made type of policy.
6. County must approve the insurance companies and all insurance companies shall maintain at all times a rating of A- or higher by A.M. Best. It shall be considered a material breach of this contract if at any time before, during or after completion of the project as required in this agreement for Contractor or any of its subcontractor's insurance to be cancelled, non-renewed, reduced in coverage below that required in this agreement, or an insurance carrier rating is reduced below an A- as rated by A.M. Best (and Contractor has not obtained qualifying alternative insurance from an approved carrier).

S-3.12

The Contractor shall not commence work until it has obtained required insurance and filed with the County a properly executed Certificate of Insurance which clearly evidences the required insurance coverages. The certificate shall name Hennepin County as the certificate holder, and shall also name Hennepin County and the City of Minneapolis and the State of Minnesota as additional insureds for the Commercial General Liability coverage with respect to operations covered under the Contract. The certificate should also show that Hennepin County will receive 30 days prior written notice in the event of cancellation, non-renewal, or material change in any described policies.

The Contractor shall furnish to the County updated certificates during the term of the Contract as insurance policies expire. If the Contractor fails to furnish proof of insurance coverage, the County may withhold payments and/or pursue any other right or remedy allowed under the Contract, law, equity, and/or statute.

S-3.13 REMOVAL OF LIENS

Any liens filed on a project which are not promptly removed constitute a default. To remove a lien the Contractor is required to post a bond, deposit money, or meet any other statutory requirement.

S-3.14 PARTIAL OCCUPATION BY OWNER

Whenever it may be useful or necessary, Contractor or County shall be permitted to occupy and use any portion of the work which has been either partially or fully completed by Contractor before final inspection and acceptance there by County, but such use or occupation shall not relieve Contractor of its guarantee of said work and materials nor of its obligation to make good at its own expense any defect in materials and workmanship which may occur or develop prior to Contractor's release from responsibility to the County.

S-3.15 RIGHT TO AUDIT

As to all work which the Contractor may perform on a reimbursable basis or for which Contractor makes a claim for additional compensation or for which a claim is asserted by any third party or injured person County will have the right at all reasonable times and places, to inspect, copy and audit any of Contractor's books, accounts, time cards, records of transactions, estimates, schedules, correspondence or any other records or documents which may have a possible bearing on the performance of such work of claim.

Further right of examination for all of Contractor's work will include inspection at all reasonable times of the Contractor's plant, or such parts thereof as may be engaged in the performance of the contract. All accounts, documents and records relevant to this contract will be retained by the Contractor for three years after completion of the work, unless a longer period is required by law.

S-3.16 PRESERVATION OF EVIDENCE

Contractor should be required to give County notice as soon as any type of accident, incident, or claim is asserted against Contractor or Owner and to preserve all evidence and to allow County the opportunity to fully investigate all incidents prior to any evidence being moved, altered, covered up or destroyed in any manner.

S-3.17 CONTRACT OBLICATIONS TO SURVIVE PERFORMANCE

Obligations, including but not limited to, construction defect claims, personal injury claims, warranty claims and maintaining insurance, of the Contractor shall continue in place and shall survive as long as any contractual obligation exists.

S-4 USE OF ADHESIVE ANCHORS

The use of adhesive anchors in sustained tension is prohibited. Other applications utilizing adhesive anchors, such as metal rail attachment, in a non direct tensile application is permitted.

S-5 EMERALD ASH BORER COMPLIANCE

This project is located, all or in part, in a county that the Minnesota Department of Agriculture has placed under an Emerald Ash Borer Quarantine. Any work for this Contract is subject to the following:

S-5.1 No part of Ash (*Fraxinus* spp) tree from a quarantined area can be marketed to wood-using industries or individuals without an Emerald Ash Borer compliance agreement with the Minnesota Department of Agriculture.

The Contractor shall not make ash or any non-coniferous (hardwood) species with bark attached available to the public for use as firewood from the quarantined area. The Contractor shall not transport entire ash trees, limbs, branches, logs, chips, ash lumber with bark, stumps and roots outside of a quarantined county without fulfilling the requirements of an Emerald Ash Borer Compliance Agreement with the Minnesota Department of Agriculture. Contact the Minnesota Department of Agriculture at (651) 201-6684 or 1-888-545-6684 or visit the Emerald Ash Borer website at <http://www.mda.state.mn.us/plants/pestmanagement/eab.htm> to find out which counties are quarantined.

S-5.2 If the ash material is going to be shipped out of Minnesota, the Contractor shall contact john.o.haanstad@aphis.usda.gov for United States Department of Agriculture joint Emerald Ash Borer Compliance Agreement approval with the Minnesota Department of Agriculture.

S-5.3 The Contractor shall dispose of ash trees:

- (1) In accordance with the Emerald Ash Borer Compliance Agreement, and;
- (2) By utilizing the ash wood chips within the construction limits for erosion control, construction exit pads or landscaping purposes.

S-5.4 No direct compensation will be made for compliance with these requirements.

S-6 PROJECT WARRANTY, HISTORIC STONE MASONRY RESTORATION

This project requires a ONE (1) year warranty against defects in materials and workmanship from the Prime Contractor. This warranty shall cover all work related to the following pay items:

Item Number Description

2104.618	SALVAGE MASONRY STONE RETAINING WALL
2540.618	MASONRY STONE WALL RESTORATION 1
2540.618	MASONRY STONE WALL RESTORATION 2
2541.618	INSTALL SALVAGED STONE MASONRY STONE WALL

The warranty shall begin when the Project is substantially complete (100% of the pay items above) as determined by the Engineer. The warranty shall cover 100% the cost of new materials, the removal and disposal of failed materials, equipment, mobilization, traffic control and labor necessary to repair the failed portions of the work. All historic masonry reviews will be conducted by a Historic Architect in accordance with the technical specifications and the Secretary of the Interior's Standards for the Treatment of Historic Properties as indicated in the special provisions.

S-6.1 DEFINITIONS AND TERMS

Initial Warranty Date (IWD). The date when the work covered by the four pay items indicated above is 100% complete as determined by the Engineer. This date constitutes the start of the warranty period. This date will be documented by a letter from the Engineer to the Contractor.

Final Warranty Acceptance (FWA). The date on which final acceptance occurs is termed Final Warranty Acceptance (FWA). This date constitutes the end of the warranty period.

Warranty Bond. A surety that guarantees that the warranty requirements are met.

Warranty Limits. The warranty shall include all work related *to* historic stone masonry restoration.

Warranty Period. The Warranty Period shall be as described in his special provision, starting at the Initial Warranty Date.

Warranty Work. Corrective actions taken to bring the warranted work into Contract compliance for release of the warranty bond.

S-6.2 WARRANTY BOND

Amount and Term. The Contractor must furnish a single-term warranty bond in cover the full value of all historic wall restoration and associated work. The bond shall be furnished to the Department at the same time as the other Contract Bonds specified in 1305. The effective starting date of the warranty bond must be the INITIAL WARRANTY DATE. The warranty bond will be released at the end of the Warranty Period or after all warranty work has been completed, whichever is last. The surety and form of the warranty bond shall be acceptable to the Contracting Authority.

If corrective work is required at the One Year Review, Mn/DOT may at its discretion release a portion of the Warranty Bond, when that work is completed by the Contractor, and prior to the Extended Warranty Review. The release of the full Warranty Bond will take place following the end of the complete Warranty Period provided the Contractor has executed the warranty work in good faith.

S-6.3 WARRANTY MONITORING

First Year Review. The Contractor shall schedule and review the historic masonry in detail with the Historic Architect and Engineer no later than July 1 after the first full winter following substantial completion. Review results will be issued in writing to the Contractor within 15 calendar days after completion of the inspection and will determine the remedial steps necessary.

If the work does not meet the Contract requirements, the Contractor must make all necessary corrections, at its own expense.

Any corrective work required as a result of the first year review will be completed by September 15 of the same year and will be in accordance with the plans and specifications. All other work shall be inspected no later than 1 year following the date of Project substantial completion. If the project is acceptable at that time closeout procedures shall ensue.

Project Engineer will provide the Contractor with 7 days notice of any inspections in addition to those initiated by the Contractor so that he/she may attend.

Extended Warranty Review. If corrective work is required as a result of the First Year Review inspection, the warranty shall be extended an additional year to allow for inspection of warranty repairs after the second winter season. The Contractor shall schedule and review the historic masonry in detail with a Historic Architect and Project Engineer by July 1 of the second year after substantial completion to allow for any additional repairs. Review results will be issued in writing to the Contractor within 15 calendar days after completion of the inspection. Any repairs during the Extended Warranty period must be completed by September 15 of that year in accordance with the plans and specifications. Final inspection and closeout will occur two years following substantial completion.

Project Engineer will provide the Contractor with 7 days notice of any inspections in addition to those initiated by the Contractor so that he/she may attend.

S-6.4 ACCEPTANCE

Warranty Acceptance. Acceptance will occur as soon as the Engineer determines that the Contract requirements have been met for the warranted work.

Disclaimer. Neither the IWD nor any prior inspection, acceptance, or approval by the County diminishes the Contractor's responsibility under this warranty.

Documentation. Both the IWD and FWA will be documented in writing and executed jointly by the County and the Contractor. The County will send a copy of these documents to the Contractor's warranty bond surety agent upon completion of the Warranty Period.

S-6.5 PERFORMANCE INDICATORS

The warranty will be based on lack of failure as defined below over the duration of the warranty period specified herein. The condition parameters used to determine acceptable performance of historic stone masonry restoration are as follows:

Definition of Failure: Failure shall be determined on a joint-by-joint basis for areas of installing, reconstructing and repointing as:

- Hairline cracking within the mortar
- Mortar separation at edge of a joint, either at the surface or deep within the joint
- Mortar spalling or flaking, either at the surface or deep within the joint
- Delaminating of joint, discovered visually or by tapping joint
- Differential settlement over 1/2" as measured from one stone to adjacent stone

If at any time during the warranty period these failures occur, the Contractor shall correct all such failures, coordinating work with the project manager to ensure timely work in acceptable weather conditions.

Non-warranted Conditions. During the warranty period, the Contractor will not be held responsible for distresses that are caused by identifiable factors unrelated to *events beyond the contractor's control*. Upon written request from the Contractor and on a case-by-case basis, the Engineer will consider other factors that appear to be beyond the control of the Contractor.

Costs. All costs associated with failures requiring corrective action as described in this Special Provision, shall be the responsibility of the Contractor, with no compensation from the County. These costs will include, but are not limited to, Mobilization, Labor, Materials, Traffic control, Pavement striping, miscellaneous cleanup, turf establishment of disturbed areas, etc.

S-6.6 FAILURE TO COMPLY WITH WARRANTY

Failure to comply with the warranty described will result in forfeiture of the Warranty Bond.

S-6.7 MEASUREMENT AND PAYMENT

No direct payment will be made for the Project Warranty.

S-7 **(1103) DEFINITIONS**

The provisions of Mn/DOT 1103 are supplemented and/or modified with the following:

S-7.1 The definition for SPECIMEN TREE, is revised to read as follows:

S-7.2 A notable and valued tree in consideration of species, size condition, age, longevity, durability, crown development, function, visual quality, and public or private prominence or benefit as indicated in the contract documents or as determined by the Engineer.

S-7.3 INCIDENTAL COST OR EXPENSE

The cost of work included in the awarded contract price and for which no direct compensation shall be made. When such term is stated in any part of the Contract documents it shall be deemed to mean: at no additional cost to the County.

S-7.4 Historic Architect:

A historic architect is as defined by the Secretary of the Interior as follows:

The minimum professional qualifications in historic architecture are a professional degree in architecture or a State license to practice architecture, plus one of the following:

1. At least one year of graduate study in architectural preservation, American architectural history, preservation planning, or closely related field; or
2. At least one year of full-time professional experience on historic preservation projects.
3. Such graduate study or experience shall include detailed investigations of historic structures, preparation of historic structures research reports, and preparation of plans and specifications for preservation projects.

S-7.5 Historic Stone Masonry

Historic Stone Masonry consists of stone masonry construction which by virtue of its age and historical significance is listed on or eligible for the National Register of Historic Places. It utilizes natural, usually indigenous, stone that is shaped and laid with mortar. Typically built without steel reinforcement on rubble or poured footings, it is a durable building material but that is very susceptible to damage by improper maintenance or repair techniques and harsh or abrasive cleaning methods.

S-7.6 Qualifying Historic Stone Masonry Project:

A qualifying historic stone masonry project meets the following criteria:

1. The project is listed on or eligible for the National Register of Historic Places.
2. The historic stone masonry portion of the project must have a contract amount of \$60,000 or more.
3. One qualifying project must have an area of historic stone masonry restoration of
4. 2,000 face square feet.
5. Project includes the following:
 - a. Use of custom mortar mix to match historic mortar in color, texture and material; and
 - b. Provision of new stone to match historic material in color, variety, texture, grain, veining, finishes, size and shape to match historic stone.

S-8 **(1205) EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE OF WORK**

The provisions of Mn/DOT 1205 are hereby supplemented by the following:

- S-8.1 No subsurface exploration on the Project shall be performed by prospective bidders until permits therefore have been obtained from the City of Minneapolis. Two separate permits will be required. They may be obtained in accordance with the following:

STREET USE PERMIT

From City Transportation Division
300 Border Avenue North
Minneapolis, MN 55405-1528
Telephone # (612) 673-5750

EXCAVATION PERMIT

From City Water Works Division
Public Health Center, Room 222
250 South 4th Street
Minneapolis, MN 55415-1351
Telephone # (612) 673-2451

- S-8.2 Bidders shall be responsible for all costs involved in obtaining these permits.

S-9 **(1206) PREPARATION OF PROPOSAL**

The provisions of Mn/DOT 1206 are supplemented and/or modified with the following:

- S-9.1 The first paragraph of Mn/DOT 1206.2 is hereby changed to read:
The bidder's attention is directed to MN Statute § 161.32 subd. 1c, which provides among other things, that a bid will be rejected if it contains any alterations or erasures that are not corrected as follows:
- S-10 **(1208) PROPOSAL GUARANTY**
The last sentence of Mn/DOT1208 is hereby revised to read as follows:
Bonds shall be conditioned on the execution of the Contract, Performance Bond, Payment Bond, and prescribed Non-collusion Affidavit and on the submittal and approval of an Affirmative Action Plan; when the submittal of one is required. The penal sum of a bid bond shall be expressed either as a lump sum or as a percentage of the total amount of the base bid.
- S-11 **(1210) WITHDRAWAL OR REVISION OF PROPOSALS**
The provisions of Mn/DOT 1210 are hereby deleted and replaced with the following:
Any bidder may withdraw or revise its Proposal after it has been deposited with the Contracting Authority, provided the request for withdrawal or revision is received in writing before the time set for opening proposals.
The County reserves the right to revise the Plans, Specifications, Special Provisions, and Proposal form for any Project at any time prior to the date set for opening the Proposals. Revisions will be made by Addendum, duly numbered and dated, subject to the following provisions:
(1) Each Addendum will be delivered by certified mail, courier service, fax, or other electronic transmission to each prospective bidder who has received a Proposal form prior to the date of Addendum. The Addendum will be included with all Proposal forms issued to bidders after the date of the Addendum.
(2) If revisions made by an Addendum require considerable change or reconsideration on the part of the bidder, the date set for opening the Proposals may be postponed, in which case the Addendum will include an announcement of the new date set for opening Proposals.
(3) Each bidder shall acknowledge receipt of each Addendum, either in the space provided on the Proposal form or by submitting a letter prior to the time set for opening Proposals.
- S-12 **(1212) PUBLIC OPENING OF PROPOSALS**
The provisions of Mn/DOT 1210 are hereby deleted and replaced with the following:
Proposals will be opened at the time indicated in the Advertisement for Bids.

S-13 **(1301) CONSIDERATION OF PROPOSALS (BEST VALUE METHOD)**

The Provisions of Mn/DOT 1301 are hereby supplemented as follows:

GENERAL

The process for consideration of proposals for the award of this Project will take into account the result of the Technical Proposal and total Price submitted by the Bidder.

S-13.1 DEFINITION OF TERMS

For this Project the following definitions apply:

- Two Phase Bidding Process – A two phase process consisting of a first phase in which bidders submit technical proposals to be evaluated by Hennepin County, and a second phase in which those bidders whose technical proposals are deemed responsive during the first phase have their sealed cost proposals considered.
- Evaluation Committee – A panel of at least three individuals selected by the County to review the contents of the Technical Proposal.
- Fail – Finding by the Evaluation Committee that a Technical Proposal does not include the required information or that the information supplied does not meet the requirements.
- Key Personnel – The individuals listed in the Technical Proposal to meet the proposal requirements.
- Non-Responsive Bidder – A bidder who fails to meet the proposal requirements, fails to submit the required elements of the technical proposal, or whose submittal fails to prove they meet the requirements of Section (1206) Preparation of Proposal. The County, however, reserves the right to waive minor deficiencies or informalities in bids. A deficiency or informality is minor if, in the judgment of the department, it does not provide a material advantage to a bidder or prejudice the rights of other bidders.
- Pass – Finding by the Evaluation Committee that a Technical Proposal includes the required information and that the information supplied meets or exceeds the requirements.
- Responsive Bidder – A bidder who meets the proposal requirements, submits the required elements of the technical proposal and meets the pass/fail criteria for the work described.
- Price Proposal – The bidder's response to the cost component of the contract which contains the requirements of Mn/DOT 1206 (excluding Technical Proposal) and Mn/DOT 1208.
- Technical Proposal – A bidder's response to the qualification component of the Special Provisions.

S-13.2 TECHNICAL PROPOSAL

Technical Proposals shall be submitted by the Prime Contractor and received by Hennepin County Transportation Department, 1600 Prairie Drive, Medina, MN 55340, **no later than 4:00 a.m. on July 26, 2011.**

The Technical Proposal shall be delivered to the County as set forth below:

- 1) shall be submitted as a single package
- 2) the cover page shall identify:
 - The County project number
 - The words "Technical Proposal"
 - The date and time of the submittal deadline
 - Proposer's name, contact information, and address
 - Number of pages (including cover) in proposal

The Technical Proposal must be e-mailed to jerry.mortenson@co.hennepin.mn.us; place the County Project number in the subject line. Mailed or hand delivered Technical Proposals will not be accepted.

The Technical Proposal shall contain a short cover letter and the form(s) identified below. The Technical Proposal must not contain any appendices or price information of any kind.

The cover letter must contain sufficient information to familiarize reviewers with the Proposer's ability to satisfy the technical requirements of this Project. The cover letter shall also contain the name, address, phone number (office and cell), e-mail address and fax number of the Proposer's sole point of contact for the Project.

This point of contact must be available to answer questions regarding the contents of the Technical Proposal and be responsible for transmitting and receiving information if necessary.

The Technical Proposal shall also include the following forms. These forms are attached to the Architectural Special Provisions.

FORM B: EXPERIENCE OF PERSONNEL

This Project requires that a minimum of one (1) approved historic masonry technicians be assigned to the Project to perform the historic stone masonry work as described in the Plans and Specifications. Technicians may supervise crews of experienced masons. At least one (1) approved historic masonry technician must be on site at all times that masonry work is being conducted. The Contractor shall provide a sufficient number of approved historic masonry technicians to complete the work of this Project in accordance with the Plans and Specifications.

Technicians may be employees of prime or subcontractor. The attached Form " B" Experience of Personnel contains more information of the experience required.

FORM C: EXPERIENCE OF BIDDER

Bidders are required to document their experience as indicated on the attached Form "C".

Construction of qualifying historic masonry projects must be in accordance with the Secretary of the Interior's Standards according to plans and specifications signed by a project Historic Architect as defined in Special Provision (1103) Definitions. The attached Form " C" Experience of Bidder contains more information of the requirements.

Do Not Submit elaborate binders, graphics, brochures, and/or illustrations. If submitted, these supplementary materials will be discarded prior to review of the bid forms. Legibility, completeness, and adherence to the prescribed format are essential. Failure to complete any of the required forms will be grounds for rejection of the technical proposal.

S-13.3

CONSIDERATION OF PROPOSALS

Upon receipt of the Technical Proposals, The County will conduct an initial review of the Technical Proposals for responsiveness to the requirements set forth above. Technical Proposals that are deemed not responsive at this initial review will be excluded from further consideration and the bidder will be so advised.

The County will exclude from consideration any Technical Proposal that contains a material misrepresentation, as determined in the County's sole discretion. The County reserves the right to request clarification or supplemental information from bidders at any time during the review and evaluation process. These requests may be used to determine if a bidder is responsive or meets the qualifications for the project. The County has no duty to request clarification or supplemental information. If a bidder fails to provide information sufficient to allow the County to determine a "pass" rating, then the County may assign a rating of "fail".

An Evaluation Committee will evaluate the contents of the Technical Proposals before the Price Proposals are submitted. The contents of the Technical Proposals will be evaluated on a Pass/Fail basis in response to the criteria shown above and contractor qualifications as indicated in attachments to the ARCHITECTURAL SPECIAL PROVISIONS. If a bidder receives a Fail rating, the bidder will be excluded from any further consideration.

Upon completion of the Technical Proposal evaluation process, The County will notify each bidder via e-mail no later than August 3, 2011, if they received a Pass or Fail score on the Technical Proposal. **Hennepin**

County will only accept Price Proposals from bidders that receive a Pass score.

S-13.4 Protests Concerning Contents of this Request for Bids and Determinations of Responsiveness

Exclusive Remedy. This section sets forth the exclusive protest remedies available with respect to evaluation of technical proposals and determinations of responsiveness of such proposals. Each responder, by submitting its technical proposal, expressly agrees (1) to accept the limitation on its rights of protest as contained herein, (2) to accept the department's decision on any protest as final and conclusive, unless wholly arbitrary, (3) to waive all other rights and remedies, and (4) to be responsible for any costs it incurs in preparing and prosecuting such protest .

Protests Regarding the Terms of this Request for Bids. A prospective responder may protest the terms of this Request for Bids (RFB) only on the grounds that (1) a material term of this RFB is ambiguous and that ambiguity has not been resolved through an addenda, or (2) the procurement process described herein is contrary to law, or (3) this procurement, or the process described herein, wholly or partially exceeds Hennepin County's legal authority. Such protests must be submitted in writing, and received by the Protest Official no later than five (5) business days before the technical proposal submission deadline. No protest will be considered unless it is set forth in writing and delivered within the time limits specified.

Protests Regarding Responsiveness Determination. A responder who wishes to challenge a determination that a particular technical proposal was responsive or non-responsive may protest that determination on the grounds that such determination was (1) arbitrary, capricious, or unreasonable, or (2) violated state or federal law, or (3) the evaluation process did not conform to the specifications of this RFB. Such protests must be submitted in writing, and received by the Protest Official no later than five (5) business days after the responder is notified of the selection results. No protest will be considered unless it is set forth in writing and delivered within the time limits specified.

Protest Official. The Protest Official for this RFB is Craig Twinem, Division Manager, Hennepin County Transportation Department. Mr. Twinem can be contacted at:

Mr. Craig Twinem, Division Manager
Hennepin County Transportation Department
1600 Prairie Drive
Medina, MN 55340-5421

Protest Process. Protests must be submitted in writing. Only written protests will be considered. Written protests will only be considered if

they are received by the deadlines established. The written protest must set forth the detailed basis of the protest and include any supporting documentation. The Hennepin County Project Engineer may submit a written response. The Protest Official will make a decision based on the written submissions. The Protest Official will consider whether the County's position is (1) reasonable, and (2) complies with applicable laws and the terms of this RFB. The Protest Official will, within 5 business days, make a determination in writing regarding the validity of the protest, what remedial action (if any) is required, and whether or not any submission deadlines

The award of the Contract will be made in accordance with Mn/DOT 1302 to the lowest and responsible bidder that receives a Pass score on the Technical Proposal.

S-13.5 KEY PERSONNEL

Unless otherwise Approved, the Contractor will be assessed a monetary deduction for Key Personnel who cannot meet the defined commitments to the Project, except for extenuating circumstances, such as the disability, death, retirement, or resignation of the employee.

The Contractor may be assessed a monetary deduction up to \$20,000 for each proposed person who does not remain on the Project for the completion of his or her particular function. Contractor may be in breach under the Contract if proposed personnel are removed from the Project and satisfactory replacements are not provided. Insufficient provision of proposed personnel may cause the Contractor to be considered in default as described in 1808 (Default and Termination of Contract) For any changes in personnel, the Contractor shall submit the qualification summaries and resumes of the individual and obtain written Approval of the person's participation in the Project before his or her start of work.

The Contractor shall notify the County in writing of any proposed changes to Key Personnel and shall include a detailed resume summarizing the items set forth above and elsewhere in the Contract Documents. No Key Personnel shall be replaced without the prior written Approval of the Project Engineer. The changes will only be Approved if the replacement Key Personnel are equally qualified or more qualified than the original Key Personnel.

S-14 **(1302) AWARD OF CONTRACT**

The award of this Contract will be in accordance with the provisions of Mn/DOT 1302, and the following modifications:

The first sentence of the first paragraph is hereby deleted and the following substituted therefor:

The Award of Contract, if it is to be awarded, will be made within 60 calendar days after the opening of proposals to the lowest responsible bidder who complies with all prescribed requirements.

S-15 **(1305) REQUIREMENT OF CONTRACT BOND**

The provisions of Mn/DOT 1305 are hereby deleted and replaced with the following:

At the time of the execution of the Contract, the successful bidder shall furnish both a performance bond and a payment bond. Each bond shall list the address of the successful bidder and of the surety, shall be written for the full amount of the contract price as required by Minnesota Statutes, Section 574.26, and shall be written on a form prepared and required by Hennepin County. The sureties on the bonds shall be acceptable to Hennepin County.

The contracting authority shall require for all contracts less than or equal to five million dollars (\$5,000,000.00), that the aggregate liability of the payment and performance bonds shall be twice the amount of the contract. All contracts in excess of five million dollars (\$5,000,000.00), shall have an aggregate liability equal to the amount of the contract.

S-16 **(1404) MAINTENANCE OF TRAFFIC**

Traffic shall be maintained in accordance with the provisions of Mn/DOT 1404, as directed by the Engineer and the following:

S-16.1 All traffic control devices shall conform to and be installed in accordance with the “Minnesota Manual On Uniform Traffic Control Devices” (MN MUTCD) and Part 6, “Field Manual for Temporary Traffic Control Zone Layouts”, the Minnesota Flagging Handbook, the Minnesota Standard Signs Manuals, the Traffic Engineering Manual, the Traffic Control and Detour Signing Layouts in the Plans, and the provisions of Mn/DOT 1404 and Mn/DOT 1710 and the Traffic Control Layouts/Typical Traffic Control Layouts in the Plans, and the modifications thereto contained in these Special Provisions.

The Contractor shall furnish, install, maintain and remove all traffic control devices required to provide safe movement of vehicular and pedestrian traffic through and around the Project for the life of the Contract from the start of Contract operations to the final completion thereof, including any times of suspension, or until approved by the Engineer, whichever is longer. The Engineer shall have the right to modify the requirements for traffic control as deemed necessary due to existing field conditions. The highways shall be kept open to traffic at all times, except as modified below.

Traffic control devices include, but are not limited to, barricades, warning signs, trailers, flashers, cones, drums, pavement markings and flaggers as required and sufficient barricade weights to maintain barricade stability.

The Contractor is advised of the changes to the Prevailing Wage Coverage as noted in the Notice to Bidders – Traffic Control Prevailing Wage Coverage contained in the front of this Proposal.

S-16.2 Special Project Requirements

1. The Contractor shall detour all traffic (including pedestrians and bicycle) on Lyndale Avenue (CSAH 22) between WB and EB Minnehaha Parkway by using the detour routes indicated in the plans.
2. Except for what is allowed in the traffic control plans, under no circumstances shall traffic be permitted to run on any portion of the in-place shoulders (including those on the detour route) without the approval of the Engineer. If the Contractor uses the shoulders for construction equipment, and said shoulder pavement subsequently becomes damaged, the Contractor shall repair the damaged in-place shoulder pavement to the satisfaction of the Engineer, at the Contractor's expense.
3. As a precautionary measure from a soils standpoint, traffic lanes to be used during construction must be delineated to keep vehicles a safe distance away from the adjacent excavation. The delineation should coincide with points established by projecting 1:2 (rise:run) or greater (flatter) slope between the edge of the traffic surface and the bottom of the excavation. In areas of muck excavation, use 1:30 or flatter. Where sheeting is in place 2:1 (rise:run) can be used.
4. Through traffic shall be excluded from the project from the time that construction operations within the roadbeds are started until all work within the roadbeds is completed. Upon completion of all work within the roadbeds, through traffic shall be maintained thereon until all work required by the Contract is completed.
5. Unless otherwise expressly permitted by the Engineer, all roads with the exception of Lyndale Ave (CSAH 22) between EB Minnehaha Pkwy and WB Minnehaha Pkwy shall remain open to local and emergency traffic at all times during the construction.
6. Advance notice signs for closing and detouring Lyndale Ave (CSAH 22) shall be installed no less than 7 calendar days prior to closing Lyndale Ave (CSAH 22). Upon closing of the road the date on the bottom of the signs shall be covered or removed and the signs left in-place for the duration of the Lyndale Ave (CSAH 22) closure.
7. All detour signing must be in-place and approved by the Engineer prior to the detour being put into effect.
8. All signs installed on roads open to traffic that are not consistent with traffic operations during construction shall be covered as directed by the Engineer. The cover shall be a plate of solid opaque material

covering the entire legend or all of that part of the legend that is inappropriate. This cover shall be bolted to the sign and plastic washers with a minimum thickness of 1/8 inch shall be installed between the sign face and the cover. See “Typical-Temporary Construction Sign Panel Overlay (Cover)” in Chapter 8 of the Mn/DOT Traffic Engineering Manual for applicable details.

9. Lyndale Avenue through the area of the project shall be open to traffic (on or before October 15, 2012). Opening to traffic shall include a minimum 12’ lane in each direction with temporary concrete barricades, if concrete parapets have not been completed; temporary striping, if permanent striping has not been completed; and a minimum 6’ width for pedestrians that is separate from vehicle traffic on one side of Lyndale Avenue.
10. Hennepin County recognizes that multiple crews, multiple shifts, overtime, and weekend work will be required to complete this Project within the durations and by the dates established in these Special Provisions. Bidders shall prepare the bids and unit prices taking into account all costs necessary to complete the work on this Project within the established time requirements.
11. Access to existing entrances shall be maintained at all times except as follows:

Where there is more than one entrance to a single property, one entrance may be temporarily closed for a period not exceeding five working days. It shall be the Contractor's responsibility to notify the affected property owner in advance of any such closure.

Where there is only one entrance to a property, the Contractor shall conduct his work to provide for vehicular ingress and egress to the property at all times.
12. The Contractor shall conduct all construction activities within parking lots, driveways, and entrance aprons, in a timely manner so as to minimally disrupt the daily operations of the affected adjacent property owners.
13. The Contractor is allowed shoulder, lane and/or trail closures for watermain work at the Lyndale Avenue/Minnehaha Parkway intersections north of and south of the bridge. The Contractor is not allowed traffic restrictions on Minnehaha Parkway during the following events:
 - a) Lifetime Fitness Triathlon - July 2012
 - b) Minneapolis Bike Tour – September 2012
 - c) Twin Cities Marathon - October 2012
 - d) Monster Dash – October 2012

14. Pedestrian traffic shall be maintained and guided through the Project at all times.
15. No access to or from any public road or at-grade crossing of any public road will be permitted for the contractor's equipment, material deliveries, the hauling of excavated materials of any kind, or employees' private vehicles, except at in-place public road intersections, or at locations and in such manner as approved by the Engineer.
16. At various locations and times within the project the new storm sewer work will not function properly without completing the storm sewer construction thru the existing roadways being used to carry traffic. In those locations where the completion of the underground construction through the open traffic lanes is essential to the project progress, and safety of the motoring public, the Contractor will be permitted to utilize the open trench method of construction thru the roadways in order to complete as much of the construction as is required for the drainage to function properly.

Any construction through the roadways open to traffic shall be accomplished in accordance with the time restrictions set forth in the Temporary Lane Closure Requirements later in this section of these Special Provisions.

One lane of traffic in each direction shall be maintained at all times during any construction activities through the roadways open to traffic unless otherwise approved by the Engineer. Bituminous patches will be required at all locations where the driving surface is disturbed and shall be installed prior to reopening the roadway to traffic. Furnishing and placing the bituminous patching mixture shall be an incidental expense for which no direct compensation will be made.

17. The Contractor shall install final signing and pavement markings as necessary and required to safely open Lyndale Ave (CSAH 22) to traffic. This work shall be completed on or before the date of opening as approved by the Engineer.
18. During construction of Bridge No. 27B81, the Contractor, at its expense, shall protect all traffic beneath the bridge from falling debris. Said protection, at the Contractors option, shall either consist of attaching devices to the bridge to prevent debris from falling into Minnehaha Creek and on recreational users or providing other means as approved by the Engineer.

Minnehaha Creek recreational traffic under the bridge shall remain open during construction unless otherwise requested by the Contractor and approved by the Engineer. If closure of Minnehaha Creek is approved by the Engineer, the Contractor shall provide 7

calendar day notice to affected users prior to closing Minnehaha Creek.

The Contractor shall provide such protective devices over the traveled waterway as may be necessary to protect recreational traffic from falling objects, spatter, or other hazards which may exist during construction operations.

Protecting recreational traffic, as specified above, will be considered to be an incidental expense for which no direct compensation will be made.

S-16.3 Traffic Control

(a) The Contractor shall furnish names, addresses, and phone numbers of at least three (3) individuals responsible for the placement and maintenance of traffic control devices. These individuals shall be “on call” 24 hours per day, seven days per week during the times any traffic control devices, furnished and installed by the Contractor, are in place. The required information shall be submitted to the Engineer at the Pre-construction Conference.

(b) The Contractor shall inspect, on a daily basis, all traffic control devices, which the Contractor has furnished and installed, and verify that the devices are placed in accordance with **the Traffic Control Layouts**, these Special Provisions, and/or the MN MUTCD. Any discrepancy between the placement and the required placement shall be immediately corrected.

The Contractor shall be required to respond immediately to any call from the Engineer or his designated representative concerning any request for improving or correcting traffic control devices. **If the Contractor is negligent in correcting the deficiency within one hour of notification the Contractor shall be subject to an hourly charge assessed at a rate of \$250.00 per hour for each hour or any portion thereof with which the Engineer determines that the Contractor has not complied.**

(c) The person performing the inspection in paragraph (b) above, shall be required to make a daily log. This log shall also include the date and time any changes in the stages, phases, or portions thereof go into effect. The log shall identify the location and verify that the devices are placed as directed or corrected in accordance with the Plan. All entries in the log shall include the date and time of the entry and be signed by the person making the inspection. The Engineer reserves the right to request copies of the logs as he deems necessary.

The Contractor shall provide copies of the inspection logs, within the time frame agreed upon, when requested by the Engineer. **If the**

Contractor is negligent in providing the inspection logs within the time frame agreed upon, the Contractor shall be subject to an hourly charge assessed at a rate of \$250.00 per hour for each hour or any portion thereof with which the Engineer determines that the Contractor has not complied.

- (d) The third sentence in paragraph 2 in Mn/DOT 1404.7 (Winter Suspension) is hereby revised as follows:
- “In the event that any Contractor-owned traffic control devices are damaged or destroyed making them ineffective for their intended use, the Contractor will receive payment in the amount of the value of the traffic control device as determined by the Engineer.”
- (e) If, at any time, the Contractor fails to, in a timely manner, properly furnish, install, maintain or remove any of the required traffic control devices, the County reserves the right to properly correct the deficiency. **Each time the County takes such corrective action, the costs thereof, including mobilization, plus \$5,000 will be deducted from monies due or coming due the Contractor.**

S-16.4

General Requirements

- A. The Contractor shall furnish, install and maintain "Road Work Ahead" and "End Construction" signs in advance of and beyond each end of the construction limits as directed by the Engineer. The Contractor shall also furnish, install and maintain "Road Work Ahead" signs in advance of the construction limits and on all intersecting roads and streets if so directed by the Engineer. The signs and posts shall conform to the standards shown in the MN MUTCD. No direct compensation will be made to the Contractor for furnishing and erecting these signs. The signs shall remain the property of the Contractor.
- B. The Contractor shall be responsible for the immediate repair or replacement of all traffic control devices that become damaged, moved or destroyed, of all lights that cease to function properly, and of all barricade weights that are damaged, destroyed, or otherwise fail to stabilize the barricades during the entire life of this contract including any times of suspension for any reason whatsoever. The Contractor shall further provide sufficient surveillance of all traffic control devices at least once every 24 hours.
- The Contractor shall keep all traffic control signs and devices in a legible condition. This shall include, but not be limited to, removing any grime deposited on any traffic control devices by traffic, natural causes, or by the nature of the work being performed.
- C. In addition to general maintenance requirements throughout the day, the Contractor shall relocate to proper location and realign all traffic

- control devices as necessary on a daily basis, including traffic control devices misplaced by subcontractor operations.
- D. Placement of all signs and barricades shall proceed in the direction of flow of traffic. Removal of all signs and barricades shall start at the end of the construction areas and proceed toward oncoming traffic whenever possible. The Contractor shall be required to cover or remove all traffic control devices which may be inconsistent with traffic patterns during all phase changes.
 - E. In the event of severe weather conditions the Contractor shall provide additional personnel and equipment to maintain all traffic control devices.
 - F. The Contractor shall have at least ten extra Type I barricades with flashers, five extra Type III barricades, and ten extra plastic drums stored at a convenient location within ½ mile of the project limits for use in an emergency. The storage and use of said extra barricades, barrels, and flashers shall be incidental to the lump sum traffic control pay items, not as Additional Traffic Control Devices.
 - G. The Contractor shall be required to respond immediately to any call from the Engineer or his designated representative concerning any request for improving or correcting traffic control devices. If the Contractor is negligent in correcting the deficiency within one (1) hour from the time of notification by the Engineer, the Contractor shall be subject to the hourly charge as set forth in 1807 (Failure to Complete the Work on Time) of these Special Provisions.
 - H. The Contractor shall furnish names, addresses, and phone numbers of at least three (3) individuals responsible for the placement and maintenance of traffic control devices. These individuals shall be "on call" 24 hours per day, seven days per week, during the times any traffic control devices, furnished and installed by the Contractor, are in place. The required information shall be submitted to the Engineer at the Pre-Construction Conference.

The Contractor shall also furnish the names, addresses and phone numbers of those individuals to the following:

1. Minneapolis Public Works Department (612) 673-2443
2. Minneapolis Police Department (612) 673-3559
3. Minneapolis Fire Department (612) 673-2536
4. Minneapolis City Clerk (612) 673-3765
5. The Contractor shall be required to respond immediately to any call from the Engineer or his designated representative concerning any request for improving or correcting traffic control devices. If the Contractor is negligent in correcting the deficiency within one (1) hour from the time of notification by

the Engineer, the Contractor shall be subject to the hourly charge as set forth in 1807 (Failure to Complete the Work on Time) of these Special Provisions.

- I. The Contractor shall furnish qualified flag persons as required to adequately control traffic and as may be directed by the Engineer. Qualified flag persons shall conform to the requirements set forth in the MN MUTCD. All costs incurred to provide flag persons as required or directed shall be incidental to the traffic control pay items included in the contract.
- J. If hauling operations create hazards for the traveling public, the Contractor will be required to provide additional flaggers, as directed by the Engineer. All costs incurred to provide the additional flaggers shall be incidental to the lump sum traffic control.
- K. Sandbags will be the only acceptable weight to stabilize traffic control devices. During freezing conditions the sand for bags and impact barrels shall be mixed with a de-icer to prevent the sand from freezing. The sandbags shall be placed and maintained at the base of the traffic control devices, to the satisfaction of the Engineer.
- L. The Contractor shall provide protective devices necessary to protect traffic from excavations, drop-offs, falling objects, splatter or other hazards that may exist during construction. This work shall be an incidental cost to the Contract.
- M. The Contractor will not be permitted to park vehicles or construction equipment so as to obstruct any traffic control device. The parking of workers' private vehicles will not be allowed within the Project limits unless so approved by the Engineer.
- N. During the time of any traffic restrictions, the Contractor's equipment shall "follow in line" and shall use the roadway in a manner similar to all other traffic, unless otherwise authorized by the Engineer.
- O. The Contractor will not be allowed to store materials or equipment within 30 feet of through traffic unless approved by the Engineer. If materials or equipment must be stored within 30 feet of through traffic, the Contractor shall provide barricades or barriers as an incidental traffic control expense, as directed by the Engineer, to warn and protect traffic.
- P. All personnel working on or near the traveled roadway shall wear reflectorized safety vests.
- Q. If traffic control layouts are not present in the Plan, or the Contractor modifies the layout or sequence from the Plan, the Contractor shall submit the proposed traffic control layout to the Engineer, for approval, at least fourteen (14) days prior to the start of construction.

At least 24 hours prior to placement, all traffic control devices shall be available on the Project for inspection by the Engineer. The Contractor shall modify his/her proposed traffic control layout and/or devices as deemed necessary by the Engineer.

- R. The Contractor shall notify the Engineer in writing at least 72 hours prior to the start of any construction operation that will necessitate lane closure or internal traffic control signing.
- S. Open excavation adjacent to the existing pavement will not be permitted on opposite sides of the roadway at the same time.
- T. Street identification signage shall be maintained at all times. This is necessary to maintain the '911' emergency system.
- U. All portable sign assemblies shall be perpendicular to the ground. No traffic control device (signs, channelizing devices, arrow boards, etc.) shall be weighted so they become hazardous to motorists and workers. The approved ballast system for devices mounted on temporary portable supports is sandbags, unless it is designed, crash tested, and approved for the specific device. During freezing conditions, the sand for bags shall be mixed with a de-icer to prevent the sand from freezing. The sandbags shall be placed and maintained at the base of the traffic control device to the satisfaction of the Engineer.

When signs will remain in the same location for more than 30 consecutive days the signs shall be post mounted. This would not include portable signs which are set up and taken down at the beginning and end of each work shift.

- V. When signs are installed, they shall be mounted on posts driven into the ground at the proper height and lateral offset as detailed in the MN MUTCD. **When signs are removed, the sign posts and stub posts shall also be removed from the Right of Way within two (2) weeks or the Contractor shall be subject to a daily charge assessed at a rate of \$100.00 per day for each day or portion thereof with which the Engineer determines that the Contractor has not complied.**
- W. All temporary rigid orange warning and rigid orange guide signs shall be fabricated with either Type HP FLO (High Performance Fluorescent Sign Sheeting for Rigid Temporary or Permanent Signs) or Sign Sheeting for Rigid Temporary Fluorescent Orange Signs, and Markers (Type IX FLO). All rigid signs installed, other than those with orange backgrounds, on a temporary basis shall be fabricated with Type HP (High Performance Sheeting for Rigid Permanent Signs) or Sign Sheeting for Rigid Permanent Signs, Delineators, and Markers (Type IX). Inplace signs that still apply during temporary operations may remain in place with no change in sign sheeting required.

The retro-reflective sheeting types and qualified products used for temporary signs and barricades can be found at <http://www.dot.state.mn.us/products/>.

S-16.5 Flagger Training

Any person acting as a flagger on this Project shall have attended a training session taught by a Contractor's qualified trainer. The Contractor's qualified trainer shall have completed a "Mn/DOT Flagger Train the Trainer Session" in the five years previous to the start date of this Contract and shall be on file as a qualified flagger trainer with Mn/DOT. The Flagger Trainer's name and Qualification Number shall be furnished by the Contractor at the pre-construction meeting. The Contractor shall provide all flaggers with the Mn/DOT Flagger Handbook and shall observe the rules and regulations contained therein. This handbook shall be in the possession of all flaggers while flagging on the Project. The Contractor shall obtain handbooks from Mn/DOT. Flaggers shall not be assigned other duties while working as authorized flaggers. The "Checklist for Flagger training" form shall be furnished to the Engineer any time a new flagger reports to work on the Project. The "Checklist for Flagger Training" form can be found at: <http://www.dot.state.mn.us/const/wzs/documents/flaggertrainingchecklist%20.pdf>.

The Engineer will have the right to waive the above requirements.

S-16.6 Temporary Lane Closure Requirements

- A. Unless otherwise approved by the Engineer, any temporary lane closure that is adjacent to traffic, and is extending to or beyond 300 m [**1000 feet**] shall have a minimum of one Type III barricade, or 3 drums, placed in the closed lane for every 300 m [**1000 feet**] of extension. Any lane closure that is adjacent to traffic and in place 3 days or more, shall use the Type III barricade only.
- B. All temporary lane closures shall have Type B Channelizers (drums, Type I or Type II barricades, vertical panel or Direction Indicator Barricades) in the lane closure taper and also in any shifts in traffic alignment.
- C. Short Term Duration lane closures will not be permitted during inclement weather, nor any other time when, in the opinion of the Engineer, the lane closure will be a greater than normal hazard to traffic.
- D. Temporary lane closures or other restrictions by the Contractor, during work hours and consistent with the time restrictions herein, will be permitted during those hours and at those locations approved by the Engineer. Requests for temporary lane closures and other traffic flow restrictions or modifications, including any affecting any

signal system, shall be made at least 24 hours prior to the anticipated time of such closures or modifications.

- E. When a temporary lane closure is used by the Contractor, the closure shall be incidental work and no direct compensation will be made therefor.
- F. The Contractor shall provide one vehicle or trailer mounted flashing arrow board for each lane of each work area where traffic is restricted. The board shall meet the requirements of the MN MUTCD and shall be equipped with a light that is visible to personnel in the work area to indicate that the unit is in operation. The flashing arrow board shall be an incidental cost for which no direct compensation will be made.

It is imperative that the Contractor continually operate each flashing arrow board at maximum legibility. Many factors, such as mechanical problems, insufficient charging, incorrect intensity settings or other factors can degrade performance.

Except as authorized by the Engineer, the flashing arrow board shall be stored off the shoulder when not in use. In the event the Engineer allows the arrow board to remain on the shoulder the arrow board shall be delineated with a minimum of three (3) retro-reflective drums or weighted channelizers at no expense to the County.

- G. Temporary lane restrictions will not be permitted between the hours of 6:00 A.M. and 9:00 A.M. and between the hours of 3:00 P.M. and 6:00 P.M. Work which will restrict or interfere with traffic shall not be performed between 12:00 noon on the day preceding and 9:00 a.m. on the day following any consecutive combination of a Saturday, Sunday and legal holiday. The Engineer will have the right to lengthen, shorten, or otherwise modify the foregoing periods of restrictions as actual traffic conditions may warrant. If the contractor is negligent in adhering to the established time schedules, he shall be subject to an hourly charge assessed at a rate of \$500.00 per hour or any portion thereof with which the Engineer determines that the Contractor has not complied.
- H. The Contractor shall furnish flag persons as required to adequately control traffic. Flag persons shall conform to the requirements set forth in the MN MUTCD. All costs incurred to provide such flag persons shall be incidental to the lump sum traffic control.

S-16.7 Paving and Milling Operations:

Milling operations shall be completed over the full width of the section under construction on each day's run prior to opening the roadway to traffic.

The Contractor shall schedule milling and bituminous paving operation such that milled areas will be covered with the first lift of the new bituminous surfacing course within 72 hours of completion of the milling, except for delays caused by inclement weather.

Any drop-offs where traffic will cross between the in-place surface and the milled surface shall be tapered and/or chamfered so as to provide for the safe passage of traffic.

The Contractor shall furnish and install "ROUGH ROAD AHEAD" and "BUMP" signs with "Advisory Speed" plates at locations determined by the Engineer. Payment for these signs shall be included in the lump sum payment for traffic control.

The Contractor shall maintain traffic with a minimum of delay during milling and paving operations at intersections controlled by signals or by all-way stop signs.

The Contractor shall schedule construction operations so as to minimize traffic exposure to uneven lanes, milled edges, and edge drop-offs. Only after every attempt has been made to avoid these conditions and one or more of them are deemed necessary, the Contractor shall provide and maintain the appropriate traffic control in accordance with the "Longitudinal Drop-offs" guidelines in the Field Manual.

The Contractor shall not mill any notches for surfacing tapers until immediately prior to paving, except that with the Engineer's permission, the Contractor may mill the notches and install and maintain temporary bituminous tapers to provide for the safe passage of traffic until the surfacing taper is installed.

S-16.8

Signal and Lighting Systems:

During the period when the Lyndale Avenue (CSAH 22)/WB Minnehaha Parkway signal system is de-energized and then energized, the Contractor shall furnish, erect, and maintain "Stop Ahead" signs and "Stop" signs. One high-intensity flashing red light shall be attached to each stop sign and one high-intensity flashing yellow light shall be attached to each advanced warning sign. The quantity and size of the temporary signs as well as their placement in the field shall be as shown on the plans. The Contractor shall furnish and install materials to keep these signs upright and stationary. No direct payment will be made for the use of these signs when required. The Contractor shall furnish, install, maintain, and remove them as an incidental traffic control expense. The signs shall remain the property of the Contractor.

Prior to opening Lyndale Avenue (CSAH 22) to traffic, the Contractor shall have completed the traffic signal work and have the signal operational at the Lyndale Avenue (CSAH 22)/Minnehaha Parkway intersection.

The Contractor shall not interfere with the operation of any traffic signal system, except as required by the Contract. The Contractor shall notify the Engineer at least 24 hours prior to beginning any work that will interfere with any traffic signal system or its detectors.

The Contractor shall maintain street lighting by means of the in-place lights, the newly constructed lights, or a combination thereof, except as otherwise authorized in writing by the Engineer.

S-16.9 Measurement and Payment

Traffic Control will be measured and paid for as follows:

Lump Sum Traffic Control under Item(s) 2563.601 (Traffic Control).

The lump sum payment(s) shall be compensation in full for all costs of furnishing, installing, maintaining, relocating, and removing the individual traffic control devices as shown on the Traffic Control Layouts in the Plans and/or specified in these Special Provisions. The lump sum shall also include any extra signing needed to facilitate traffic switches or for transitioning traffic from one stage to another.

If the Contractor requests changes in traffic control as shown on the Traffic Control Layout(s), and these changes are implemented, there will be no increase or decrease in the lump sum payment(s) for the stage(s) of traffic control.

Partial payments for lump sum Item 2563.601 (Traffic Control) will be made as follows:

- A. When all traffic control devices for an individual stage, as shown on the Traffic Control Layouts, have been installed, 75% of the Contract Unit Price for that stage will be paid.

When all work in an individual stage and all traffic control devices for that stage are removed, the remaining 25% of the Contract Unit Price for that stage will be paid.

- B. Traffic Control will be measured and paid for as follows:

The lump sum price and payments made therefor, shall be compensation in full for all costs of furnishing, installing, maintaining, relocating and removing the individual traffic control devices (including flaggers) as shown on the Traffic Control Detour Layouts in the Plans and/or as specified in these Special provisions which are not to be paid for under separate items. The lump sum unit price shall not include payment for any items identified in the following "Separate Traffic Control Devices" section. The lump sum shall also include traffic control devices used for daily lane closures, any extra signing needed to facilitate traffic switches, or for transitioning from one stage to another, and all signing required when signal systems are de-energized.

The lump sum Traffic Control item does not include payment for the any pavement marking removal. These items shall be compensated as Separate Traffic Control Devices.

- C. Partial payments for Item 2563.601 Traffic Control will be made as percentages of the Contract lump sum amount according to the following schedule based on the completion of the work on the Project as a whole:

	<u>Cumulative % of Lump Sum Traffic Control Item to be Paid</u>
Traffic Control installation completed	50
10% of Original Contract Amount Completed	60
25% of Original Contract Amount Completed	70
50% of Original Contract Amount Completed	80
75% of Original Contract Amount Completed	90
100% of Work Completed	100

S-16.10 Separate Traffic Control Devices

The following items, which are shown on the Traffic Control Layouts, shall be measured and paid for separately. These items include all work associated with temporary pavement markings, removing pavement markings, and portable concrete median barriers.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
2102.502	Pavement Marking Removal	Lin. Foot
2533.507	Portable Precast Concrete Barrier – Design 8337	Lin. Foot
2563.602	Raised Pavement Marker Temporary	Each
2563.602	Portable Concrete Barrier Delineator	Each
2581.603	Removable Preformed Plastic Mask (Black)	Lin. Foot

The provisions of Mn/DOT 1903 are modified such that no price adjustment will be made in the event of increased or decreased quantities of Separate Traffic Control Devices.

S-17 **(1407) FINAL CLEANUP**

The provisions of Mn/DOT 1407 are supplemented as follows:

During the progress of the work, the area affected shall be kept clean and free of all rubbish and surplus materials. All unneeded construction equipment shall be removed from the site and all damage repaired so that the public and adjacent property owners are inconvenienced as little as possible.

Where materials or debris have washed or flowed into or have been placed in water courses, ditches, gutters, drains, catch basins, or elsewhere as a

result of the Contractor's operations, such material or debris shall be removed and satisfactorily disposed of during progress of work. All ditches, channels, drains, etc., shall be kept in a clean and neat condition.

On or before the completion of work, the Contractor shall, unless otherwise directed in writing, remove all temporary works, tools and machinery or other construction equipment. All rubbish shall be removed from any grounds occupied by the Contractor. The Contractor shall leave all of the premises and adjacent property affected by the operation in a neat and restored condition satisfactory to the Engineer.

S-18 (1505) COOPERATION BY CONTRACTOR

Bidders are hereby advised that the following projects either have been recently let or will be let during the anticipated time this Contract will be in effect. The successful bidder shall coordinate its operations with those of the other Contractors on these projects:

County Project 9842 – CSAH 22 (Lyndale Avenue) from 56th Street West to east bound Minnehaha Parkway. This project is scheduled for a spring 2012 start.

S-18.1 The Contractor shall coordinate the construction activities and work required herein and cooperate with the holder(s) of the above listed contract(s), both present and future, and their forces in accordance with the provisions of Standard Specification Mn/DOT 1505 and as directed by the Engineer.

S-18.2 Utilities owned by the City of Minneapolis will be affected by the work on this Contract. The City will have utility division representatives on the project when utilities are affected by the construction activities. The Contractor shall cooperate with the municipal utility personnel, as required by the Engineer, when municipal utility facilities are being adjusted.

S-19 (1506) SUPERVISION BY CONTRACTOR

Supervision by the Contractor shall be in accordance with the provisions of Mn/DOT 1506 and the following:

S-19.1 At the Preconstruction Conference the Contractor shall designate in writing who the competent superintendent and competent individual (if different) will be for this Project. These persons can only be changed throughout the duration of the Project by submission of written authorization to the Engineer by the Contractor. The submittal of these persons shall be done before any work is performed on this Project.

The Contractor shall be subject to an hourly charge for failure to comply with the requirements of Mn/DOT 1506. Non-Compliance charges, for each incident, will be **assessed at a rate of \$100 per hour**, for each hour or portion thereof, during which the Engineer determines that the Contractor has not complied. No charge will be made if the deficiency is corrected within one (1) hour of notification.

An incident of Non-Compliance will be defined as the receipt of a written work order by the Contractor with instructions to correct a deficiency.

S-20 (1507) UTILITY PROPERTY SERVICE

Construction operations in the proximity of utility properties shall be performed in accordance with the provisions of Mn/DOT 1507 and the following:

S-20.1 All utilities that relate to this Project are classified as “Level D,” unless the Plans specifically state otherwise. This utility quality level was determined according to the guidelines of CI/ASCE 38-02, entitled “Standard Guidelines for the Collection and depiction of existing subsurface utility data.”

S-20.2 The following utility owners have existing facilities that may be affected by the work under this Contract.

CenterPoint Energy Resources Corp.
Metropolitan Council Environmental Services (MCES)
Qwest Corporation
Qwest Communications Corporation
Xcel Energy

The Contractor shall coordinate its work and cooperate with the aforelisted utility owners, their employees and contractors, in a manner consistent with the provisions of Mn/DOT 1507 and the applicable provisions of Mn/DOT 1505.

S-20.3 It will be the Contractor's responsibility to contact the owners of all utilities in any area prior to the construction in the area so that the Contractor can be informed of the exact locations of all the utilities in the area, including any that are not shown in the plans, prior to performing any excavations. It will also be the Contractor's responsibility to: (1) report any existing damage or faulty condition (i.e. sand in manholes, damaged valve boxes, etc.) to the owners prior to construction, as once excavation has commenced it will be assumed that all damage to underground installations has been caused by the Contractor's operations and it will be its responsibility to make the necessary repairs; and (2) upon completion of the project, contact all utility owners and make arrangements for a field inspection trip by a representative of the Contractor and representatives of the utility owners to confirm that all damages caused by the Contractor's operations have been repaired to the satisfaction of the owners.

S-20.4 The City of Minneapolis utilities that are affected such as storm sewer, sanitary sewer, and water supply have been included in the Plan for adjustment or relocation. The Contractor shall notify the persons with the City of Minneapolis who are identified on Sheet 24 of the Plans in advance of the date he intends to start work and he shall furnish that office

with such information as may be necessary to permit the responsible authorities to make suitable arrangements relative thereto.

S-20.5 The County's Contractor shall coordinate his/her work and cooperate with the foregoing utility owners and their forces in a manner consistent with the provisions of Mn/DOT 1507 and the applicable provisions of Mn/DOT 1505.

S-20.6 Existing water and sewer mains and other underground utilities are shown on the plans only by general location based on field surveys and available as built information. The County does not guarantee that the utilities are complete or that the locations are as shown on the plans and the Contractor shall be solely responsible for verifying the exact location of each of these utilities.

As part of all utility construction, the Contractor may be required to excavate and locate existing municipal and private utilities prior to installing new utilities. This work shall be accomplished where directed by the Engineer with the Engineer determining elevations of the existing utility.

Wherever existing utility structures or branch connections leading to mains or other conduits, ducts, pipe or structures present obstructions to the grade and alignment of the pipe which would require a change in plans or a revision to the existing utility, the Engineer will provide new grades for the new utility or a plan for revising the existing utility within 24 hours of the location of the existing utility. If the Contractor elects not to uncover existing utilities and a conflict between utilities occurs, the Contractor shall be required to relay pipe or revise the existing utility, as directed by the Engineer, with no additional compensation allowed therefore.

No deviation from the required line or grade for any utility work due to conflicts with existing utilities shall be made without the written consent of the Engineer.

S-20.7 The removal of portions of abandoned utility lines and pipes when required for the new construction will be considered incidental work and no direct compensation will be made therefor unless otherwise identified in the proposal.

S-20.8 In all areas where the lower limit of the subgrade excavation, as indicated in the plans or as directed by the Engineer, is below the top elevation of any utility, excepting City water and sanitary sewer, within the project limits, the excavation shall be performed in the following manner:

A. The Contractor shall excavate all possible material from above and adjacent to the existing utility conduit within the practical safe limits of its excavating equipment (approximately 2 foot from the utility) without damaging the utility.

- B. The utility owner will remove all remaining materials from around their respective utility and deposit the materials adjacent to the utility at such a distance that the Contractor can then safely complete the removal.
- C. Backfill material shall be placed by the Contractor adjacent to the utility and the utility companies will backfill and compact the material below and around the utilities to such an extent that the Contractor can complete the backfill operations with excavating and roadway compaction equipment.

Payment will be made to the Contractor for all material removed (including that removed by the utility companies) but no payment in addition to the appropriate Contract bid price per cubic yard will be made for performing the above described work.

S-21 (1508) CONSTRUCTION STAKES, LINES AND GRADES

The provisions of Mn/DOT 1508 are hereby modified and supplemented as follows:

- S-21.1 Bridge construction staking will be as described in 1508 except that the Contractor shall re-establish all working points needed during construction from offset points provided by the Engineer. A benchmark will be furnished in the vicinity of each substructure. The Contractor shall establish any required grade points from the benchmarks. The Contractor shall assume full responsibility for all measurements made by it from the stakes and marks so established.
- S-21.2 The following is hereby added to the first paragraph of Mn/DOT 1508:
At weekly intervals the Contractor shall provide a written priority list of project segments for construction staking by the Engineer. The Engineer will schedule staking in accordance with the priority list. If any changes in the priority list are requested by the Contractor, at least 24 hours prior notice (excluding non-work days) shall be given to the Engineer for re-mobilization of a survey crew to perform the revised priority staking.
- S-21.3 All alignment and elevation control points will be marked by the Engineer with lath furnished by the Engineer. All survey stakes and hubs will be furnished by the Engineer. However, the Contractor shall furnish guard lath for any construction stakes where precautionary visibility is desired. The Engineer will place the Contractor's lath at the time of construction staking.
- S-21.4 The following is added to the first paragraph of Mn/DOT 1508:
“At the Pre-construction Conference the Contractor shall provide a written priority list of Project staking segments ½ miles each for construction staking by the Engineer. As work progresses, the Engineer will schedule staking according to the priority list. If some change in priority is

requested by the Contractor, there shall be at least 36 hours prior notice given to the Engineer, excluding non-work day, for remobilization of a survey crew to the revised priority staking.”

All alignment and elevation control points will be marked by the County with lath furnished by the County. All survey stakes and hubs will be furnished by the County. However, the contractor shall furnish lath for any construction stakes where he/she wants such visibility. The Engineer will place the Contractor’s lath at the time of construction staking.”

S-21.5 The following is added to the third paragraph of Mn/DOT 1508:

“Necessary staking for construction and inspection purposes will be provided by the County to the following extent:

- (A) Centerline alignment, where needed for additional construction staking. Centerline alignment will not be replaced except as necessary for replacing of other construction stakes.
- (B) Reference hubs (blue tops) at approximate 100 foot intervals at a measured distance either side of centerline including cut of fill instructions for roadbed centerline and planned ditch grades.
- (C) Line and grade stakes for pipe culvert, storm drain, and tile drainage work will be placed at the pipe ends, at each structure, any break in flow line grade or alignment, and at intervals along the pipe no less than 50 feet apart.
- (D) One set of subgrade blue-tops, either on each subgrade shoulder or at centerline (Contractor’s option), at 100 foot intervals on tangent sections or curves flatter than 20 degrees, and at approximate 50 foot intervals on curves of 2 degrees or sharper.
- (E) Where gravel base and/or surfacing is a part of the work, one additional set of blue-top will be placed as in D above for either the top of the base or for the surfacing (Contractor’s option).

S-21.6 The following is added to the first paragraph of Mn/DOT 1508:

“The Engineer will set no construction stakes except for station stakes at 300 foot intervals. Levels may be run and locations and depths of leveling course provided as considered necessary by the Engineer. Subgrade repair sections will be located for planned corrections.”

S-21.7 “In all areas where shoulder grading and base construction may be referenced to the in place surfacing, the Engineer will set no stakes for such construction. Locations in which the entire roadbed will be reconstructed for a distance of 200 feet or more, the Engineer will set stakes as he/she deems necessary, and will also set blue-tops at either the grading shoulders or centerline (Contractor’s option). Construction staking will be provided for all culvert extensions and changed ditch grades on the Project in accordance with paragraph 3.”

S-21.8 “Bridge construction staking will be as described in Mn/DOT 1508 except that the contractor will be required to re-establish all working points needed during construction from offset points provided by the Engineer. A bench mark will be furnished in the vicinity of such substructure. The Contractor shall assume full responsibility for all measurements made by him/her from the stakes and marks so established.”

S-22 **(1513) RESTRICTIONS ON MOVEMENT AND STORAGE OF HEAVY LOADS AND EQUIPMENT**

The provisions of Mn/DOT 1513 are hereby deleted and replaced with the following:

The hauling or storage of materials and/or the movement and storage of equipment to and from the Project and over completed structures, base courses, and pavements within the Project that are open for use by traffic and are to remain a part of the permanent improvement, shall comply with the regulations governing the operation of vehicles on the highways of Minnesota, as prescribed in the Highway Traffic Regulation Act.

The Contractor shall comply with legal load restrictions, and with any special restrictions imposed by the Contract, in hauling or storing materials, moving or storing equipment on structures, completed subgrades, base courses, and pavements within the Project that are under construction, or have been completed but have not been accepted and opened for use by traffic.

The Contractor shall have a completed Weight Information Card in each vehicle used for hauling bituminous mixture, aggregate, batch concrete, and grading material (including borrow and excess) prior to starting work. This card shall identify the truck or tractor and trailer by Minnesota or prorated license number and shall contain the tare, maximum allowable legal gross mass, supporting information, and the signature of the owner. The card shall be available to the Engineer upon request. All Contractor-related costs in providing, verifying, and spot checking the cab card information (including weighing trucks on certified commercial scales, both empty and loaded) will be incidental, and no compensation other than for Plan pay items will be made.

Equipment mounted on crawler tracks or steel-tired wheels shall not be operated on or across concrete or bituminous surfaces without specific authorization from the Engineer. Special restrictions may be imposed by the Contract with respect to speed, load distribution, surface protection, and other precautions considered necessary.

Should construction operations necessitate the crossing of an existing pavement, bridges or completed portions of the pavement structure with equipment or loads that would otherwise be prohibited, approved methods of load distribution or bridging shall be provided by the Contractor at no expense to the Department.

Neither by issuance of a special permit, nor by adherence to any other restrictions imposed, shall the Contractor be relieved of liability for damages resulting from the operation and movement of construction equipment.

Unless specifically allowed in the design plans, or approved by the Engineer, the storage of construction materials on the bridge will be limited by this specification. These requirements are intended to limit construction loads to levels commensurate with the typical design live load. A stockpile shall be distributed over an area such that the average uniform loading does not exceed 976 kg/m² (**200 lbs./ft²**). Construction materials stored on the bridge deck will not exceed 31,702 kg/100 m² (**65,000 lbs./1000 ft²**) for any area. The Contractor may submit alternate loadings to the Project Engineer 30 Calendar days prior to placement. Any submittals will require the calculations be certified by a Professional Engineer.

S-23 (1514) MAINTENANCE DURING CONSTRUCTION

The provisions of Mn/DOT 1514 are hereby supplemented with the following:

- S-23.1 In addition to the Contractor's requirements for sweeping as required under Mn/DOT 2051 (Maintenance and Restoration of Haul Roads), the Engineer may require additional sweeping of roads adjacent to the construction site to provide safe conditions for the traveling public, environmental reasons, local regulatory requirements or as otherwise directed by the Engineer.

Payment for additional sweeping ordered by the Engineer will be made as specified below. (This price represents a shared cost.)

Pick up Broom w/Operator	\$55.00 per hour
Self Propelled Pavement Broom w/Operator	\$30.00 per hour

- S-23.2 The Contractor shall maintain drainage for all temporary roadways and work sites at all times. When existing drainage facilities are severed or otherwise rendered inoperable the Contractor shall construct as much of the designed drainage system as may be necessary to maintain adequate drainage. Temporary grading and/or ditching may also be required to maintain drainage. Payment will be made at the appropriate Contract unit price for all permanent drainage facilities constructed. Any temporary grading and ditching that is required shall be completed as an incidental expense unless it is part of the designed project earthwork and it is totally removed and permanently disposed of. All temporary drainage work shall be completed to the satisfaction of the Engineer.

- S-23.3 All side slopes adjacent to temporary bypasses shall be effectively maintained against erosion. In the event erosion occurs the Contractor

shall reshape the slope to its original elevations and cross-section as an incidental expense for which no direct compensation will be made. This side slope maintenance is required to ensure the integrity and traffic carrying ability of the adjacent temporary bypass.

S-24 (1517) CLAIMS FOR COMPENSATION ADJUSTMENT

Claims for compensation adjustments shall be submitted and processed in accordance with the provisions of Mn/DOT 1517 and the following:

In Item No. 18 of Section C Review of Claims, the word “be” is hereby corrected to “by”.

S-25 (1601) SOURCE OF SUPPLY AND QUALITY

The provisions of Mn/DOT 1601 are supplemented as follows:

S-25.1 The Contractor will furnish and use only steel and iron materials that have been melted and manufactured in the United States in executing the work under this Contract, in conformance with the provision of the U.S. Code of Federal Regulations 23CFR635.410. Domestic products taken out of the United States for any process (e.g. change of chemical content, permanent shape or size, or final finish of product) shall be considered foreign source materials.

All bids must be based on furnishing domestic iron and steel, which includes the application of the coating, except where the cost of iron and steel materials incorporated in the work does not exceed one-tenth of one percent of the total contract cost or \$2,500.00, whichever is greater. The state may provide the use of foreign iron and steel materials for particular Contract items, provided the bidder submits, a stipulation identifying the foreign source iron and/or steel product(s) and the estimated invoice cost of the product(s), for one or more of the Contract bid items. Each stipulation shall be made on the “Stipulation for Foreign Iron or Steel Materials” form which shall be submitted with the Contractor’s proposal. **If the Contractor chooses to use ANY non-domestic iron or steel, the Contractor must submit a stipulation.** The Contractor shall the following means to submit their stipulation:

(1) Submit the stipulation form within the proposal.

The “Stipulation for Foreign Iron or Steel Materials” form is attached or can be found on the Mn/DOT Web site: <http://www.dot.state.mn.us/pre-letting/prov/order/1601-form.pdf> .

Prior to completing work the Contractor shall submit to the Engineer a certification stating that all iron and steel items supplied are of domestic origin, except for non-domestic iron and steel specifically stipulated and permitted in accordance with the paragraph above.

- S-25.2 Source of Supply and Quality
- Mn/DOT 1604 is supplemented as follows: All costs of shop inspection at plants outside the United States shall be borne by the Contractor. Such costs shall be deducted from monies due or to become due the Contractor.
- S-25.3 Partial Payment
- All provisions for partial payments shall apply to domestic materials only. No payments shall be made to the Contractor for materials manufactured outside of the United States until such materials have been delivered to the job site.
- S-25.4 Alternate Bidding Process
- Unless an alternate bidding process is specified, use of foreign steel and iron products in quantities greater than provided above is not permitted. When the alternate bidding process is permitted the Contract may be awarded to the bidder who submits the lowest total bid based on furnishing domestic iron or steel unless such total bid exceeds the lowest total bid based on foreign materials by more than 25 percent.
- S-26 (1606) STORAGE OF MATERIALS**
- The storage of any construction materials shall comply with the provisions of Mn/DOT 1606 and the following:
- Any materials stored adjacent to a public roadway shall be securely fenced or barricaded to clearly delineate the construction zone from the adjacent roadway. The temporary fence/barricade will be considered to be incidental expense and no direct compensation will be made therefor.
- S-27 (1701) LAWS TO BE OBSERVED**
- The provisions of Mn/DOT 1701 are hereby supplemented with the following:
- S-27.1 Bidders are advised that all data created, collected, received, maintained, or disseminated by the Contractor and any subcontractors in performing the work contained in this Contract are subject to the requirements of MN Statute Chapter 13, the Minnesota Government Data Practices Act (MGDPA). The Contractor shall comply with the requirements of the MGDPA in the same manner as the Department. The Contractor does not have a duty to provide access to public data to the public if the public data is available from the Department, except as required by the terms of the Contract.
- S-27.2 Nothing in the Contract documents shall be construed to allow the Contractor to circumvent existing local ordinances that have an impact on its construction operations. The Contractor is hereby advised that it shall conduct its construction operations including, but not limited to, pile driving, excavation, and hauling in accordance with all local ordinances.

The Contractor shall become knowledgeable with all pertinent local ordinances and conduct its operations accordingly.

- S-27.3 The Contractor's attention is directed to the following Minneapolis City Ordinance which must be observed and complied with when working within the city limits of Minneapolis. The Noise Ordinance as contained in Chapter 389.70 of the City of Minneapolis Ordinance shall be enforced. All equipment shall have effective mufflers on engine exhaust systems. Hours of work shall be from 7:00 a.m. to 6:00 p.m. Monday through Friday. No work will be allowed outside of these hours except with permission of the Engineer and after the Contractor has procured the proper work permit from the City of Minneapolis.

Any delays bore by the Contractor due to his inability to obtain such a permit shall not extend the contract completion date. The Contractor is advised to apply for this permit in a timely manner. If the Contractor fails to obtain a noise permit and elects to work outside of these time limits, the Contractor may be subject to legal action for noncompliance. The provisions of Mn/DOT 1717.3 shall apply.

S-28 (1701) LAWS TO BE OBSERVED (BRIDGE)

The provisions of Mn/DOT 1701 are modified and/or supplemented with the following:

- S-28.1 The Contractor shall use Mn/DOT approved companies for testing, waste transport and disposal as provided and described in Mn/DOT's manual "Asbestos and Regulated Waste Manual for Structure Demolition or Relocations for Construction Projects" available on the following website: <http://www.dot.state.mn.us/environment/regulated-materials/index.html> Contact Mark Vogel, of Environmental Services, 651-366-3630 with any questions regarding the manual.

The Contractor shall only use Mn/DOT approved contractors for: building/bridge assessments, asbestos abatement and regulated waste oversight, asbestos removal, regulated waste removal, and regulated waste disposal and recycling (for a list of Mn/DOT Approved Contractors call 651-366-3630).

The Contractor shall use only MPCA permitted Combined Solid Waste Disposal Facilities to dispose of all solid waste including demolition debris. Demolition debris shall not be disposed of in a permit-by-rule landfill.

- S-28.2 The successful bidding Contractor shall:

- (A) Comply with the Environmental Protection Agency (EPA) Regulations, 40 CFR pt 61, subd.M – NATIONAL EMISSION STANDARD FOR ASBESTOS.
- (B) Provide the Minnesota Pollution Control Agency (MPCA) and the Project Engineer written notice of intention to demolish or move a

structure – see form “Notification of Intent to Perform a Bridge Demolition for Mn/DOT Operations” at http://www.dot.state.mn.us/environment/reg_mat/bldg_demo.html. Such notice shall be provided to the MPCA and the Project Engineer a minimum of 10 working days before any move or demolition.

- (C) And if the bridge contains any asbestos, the Contractor shall:
- 1) Use a Minnesota Department of Health (MDH) certified oversight contractor to oversee the MDH certified asbestos abatement contractor.
 - 2) Depending on the amounts and types of asbestos on the premises submit “Notification of Asbestos Related Work”, to the Minnesota Pollution Control Agency and the Mn. Department of Health 10 working days prior to commencement of abatement activities. The Contractor shall submit a copy of the completed notification/s to the Project Engineer at the same time.
 - 3) Submit all required documentation to the Minnesota Pollution Control Agency and the Mn. Department of Health to the respective regulatory agencies and copy the Project Engineer on all submittals. Information on the requirements of the MPCA can be found at:
http://www.pca.state.mn.us/programs/asbestos_p.html.
 - 4) Information on the requirements of the Department of Health can be found at:
<http://www.health.state.mn.us/divs/eh/asbestos/index.html>.
 - 5) Transport all asbestos containing waste in compliance with USDOT packaging and transportation requirements. The Contractor shall provide the Project Engineer with all Asbestos Containing Material Transportation shipping papers/manifests. A Shipping paper can be obtained in part 61.145 on the following website:
<http://www.epa.gov/opptintr/asbestos/pubs/2003pt61.pdf>.
 - 6) Dispose of all asbestos containing waste in a Minnesota Pollution Control Agency permitted mixed municipal solid waste or industrial landfill (not demolition debris landfills) permitted to accept asbestos containing wastes. Provide the Project Engineer all landfill disposal receipts.
 - 7) Comply with Mn/DOT’s manual “Asbestos and Regulated Waste Manual for Structure Demolition or Relocations for Construction Projects” available on the following website:
http://www.dot.state.mn.us/environment/pdf_files/Asbestos_Manual/AMmanual.pdf.

S-28.3 The successful Contractor shall comply with all Mn/DOT policy, laws, regulations and/or rules regarding the removal and recycling/disposal of any regulated wastes including, but not limited to: *see manual for procedures and approved contractors/end sites.*

- a) Treated Wood
- b) Lead Paint
- c) Lead Plates
- d) Polychlorinatedbiphenols (PCB's)
- e) Mercury

The transportation of all the above wastes shall be in compliance with USDOT packaging and transportation requirements. The Contractor shall provide the Project Engineer with all shipping papers or manifests.

The Contractor shall provide the Project Engineer with copies of disposal or recycling records.

S-28.4 FAILURE TO COMPLY WITH NOTIFICATION PROVISIONS WILL BE DEEMED A MATERIAL BREECH OF CONTRACT. IN THE EVENT THAT A REGULATORY AGENCY IMPOSES MONETARY SANCTIONS ON COUNTY THAT ARE BASED, IN WHOLE OR IN PART, UPON THE ACTS OR OMISSIONS OF THE CONTRACTOR, THE CONTRACTOR AGREES TO INDEMNIFY COUNTY AND TO HOLD HARMLESS FOR SAME, EXCEPT TO THE EXTENT THAT ANY SANCTIONS WERE CAUSED BY THE COUNTY'S OWN NEGLIGENCE.

S-29 (1702) PERMITS, LICENSES, AND TAXES

Permits and licenses shall be procured and taxes paid in conformance with Mn/DOT 1702 and the following:

S-29.1 Any City licenses and permits required to perform electrical or water work on this project shall be obtained from the appropriate City of Minneapolis office by the Contractor at its cost. The Contractor shall be responsible for the payment of all inspection fees charged by the City of Minneapolis Inspections Department in association with work performed on this project.

The successful bidder will be required to obtain a Street Use Permit from the City of Minneapolis Transportation Division prior to commencing work or implementing any traffic restrictions on roadways within the City of Minneapolis. There is a fee for this permit. The amount of the fee is directly dependent on the scope of the actual restrictions to traffic that will occur during the project. The Contractor shall obtain the permit through the following website: <http://www.minneapolis.mn.roway.net/index.php>

S-29.2 This project meets the criteria established by the Minnesota Pollution Control Agency for requiring a General Permit Authorization to Discharge Storm Water Associated with a Construction Activity under the National Pollutant Discharge Elimination System/State Disposal System Permit Program (hereafter referred to as the "MPCA Construction Activity Permit"). Bidders are advised that prior to the commencement of any construction activities, the successful bidder will be required to process the application for Permit Transfer/Modifications and obtain this permit as required by Mn/DOT 1717.2 and the modifications to that section contained in these Special Provisions. Copies of said permit and permit application form are included elsewhere in these documents as attachments.

S-29.3 Bidders are advised that the County has applied to the following agencies for the necessary permits for grading, drainage, erosion control, and turf establishment, as represented in the Plans:

- A. Minnesota Department of Natural Resources (DNR)
- B. Minnesota Pollution Control Agency
- C. Minnehaha Creek Watershed District
- D. Minneapolis Park & Recreation Board

The various permits included in the Proposal for this project, as issued, shall be construed to be part of the Special Provisions in the Proposal. The conditions, requirements and restrictions of these permits shall be binding on the Contractor's operations under this Contract.

S-29.4 The Contractor shall amend or obtain applicable permits for any construction method it proposes to use not covered by the approved permits on file.

S-30 (1706) EMPLOYEE HEALTH AND WELFARE

The provisions of Mn/DOT 1706 are supplemented with the following:

S-30.1 All construction operations shall be conducted in compliance with applicable laws, regulations and industry standards as described in Mn/DOT 1706. The contractor shall be considered to be fully responsible for the development, implementation and enforcement of all safety requirements on the project, notwithstanding any actions Hennepin County may take to help ensure compliance with those requirements.

The Contractor shall complete a written project safety & environment checklist/plan (Checklist) addressing identified regulated materials and potential hazards at the job site. This Checklist shall contain name(s) of person(s) responsible for all safety requirements and this Contractor's Designee(s) shall be available at all times that work is being performed. The Contractor's designee(s) shall be responsible for correcting violations on the Project as observed by the Engineer or his/her representative.

The Checklist shall indicate that means and methods have been developed by the contractor to eliminate or control the identified hazard or material, that contractor employees have been appropriately trained to address the identified hazard/material, and that tools, equipment and personal protective equipment are in good condition and adequate to control the hazard. The Checklist shall be submitted at or prior to the Project's pre-construction meeting, but not less than 14 calendar days prior to the start of contracted site work. In the event site work begins less than 14 calendar days from the date of execution of the contract, the Checklist shall be submitted at least 24 hours prior to the start of site work. Should the Contractor expect to and/or fail to submit the Checklist any later than commencement of site work, the Contractor will notify the County's Project Manager in writing within 24 hours of the start of work.

Submittal of the Checklist shall not relieve the Contractor of any obligation under a governing rule, standard, state or federal statute or regulation, municipal ordinance, County policy, or of any provision in the project contract documents.

- S-30.2 The Contractor shall not use any motor vehicle equipment on this project having an obstructed view to the rear unless:
- (2) The vehicle has a reverse signal alarm which is audible above the surrounding noise level; or
 - (3) The vehicle is backed up only when an observer signals that it is safe to do so.
- S-30.3 The Contractor is hereby advised that any work performed under the terms of this contract which in the opinion of the Engineer cannot be adequately and safely inspected by County personnel due to the lack of OSHA or ANSI required safety measures (i.e. Trenches, fall protection, confined space or other hazards) be deemed Unauthorized Work in accordance with Mn/DOT 1512 and will not be paid for. A \$500.00 monetary deduction (per incident) will be assessed by County for violations of safety standards and requirements that have the potential for loss of life and/or limb of Project personnel or the public. The areas of special concern include, but are not limited to excavation stability protection, fall protection, protection from overhead hazards, vehicle backup protection (See S-30.2), confined space safety, blasting operations, and personal safety devices.
- S-30.4 None of the monetary deductions listed above shall be considered by the Contractor as allowance of noncompliance incidents of these safety requirements on this Project.
- S-30.5 Bidders are hereby advised that Hennepin County has determined that all existing manholes, catch basins, and similar type enclosed structures on storm sewer systems, water distribution systems, and sanitary sewer systems contained within the right of way of all county roadways and within the construction limits of this Project are confined spaces and

access into them shall be in accordance with the MINN.RULE 5207.0300-0304 unless more applicable regulations apply. All new structures of the same type and function of the aforesaid, which are to be constructed as a part of this project, shall also be considered confined spaces and access into them shall be in accordance with the aforesaid OSHA Regulation.

It shall be the sole responsibility of the successful bidder (Contractor) on this Project to have a confined entry program which complies with OSHA. The Contractor's program shall address, but need not be limited to, access into manholes, catch basins, and similar type enclosed structures on storm sewers, water distribution systems, and sanitary sewer systems that are to be constructed, reconstructed, adjusted, repaired, or otherwise modified as part of this Project. The Contractor's program shall establish acceptable entry conditions for the various classifications of confined spaces in accordance with the MINN.RULE 5207.0300-0304 unless more applicable regulations apply. The Contractor shall have an adequately trained individual who shall be responsible for classifying each confined space in accordance with the Contractor's confined space entry program, and ensuring compliance with same by all of the Contractor's employees and all other individuals within the Contractor's control entering confined spaces on this Project. The Contractor shall develop and implement site-specific procedures to coordinate entry operations when employees of more than one employer are or will be working simultaneously in a confined space.

The Contractor's confined entry program shall clearly address its applicability to all subcontractors and their employees that will be utilized for this Project. It shall be the Contractor's responsibility to ensure compliance with OSHA by all subcontractors and their employees on this Project either through the Contractor's own program or through separate programs established by the subcontractors working on this Project.

- S-30.6 The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions required in connection with their work on this Project, including Regulations of the Occupational Safety and Health Administration (OSHA) and other regulatory and governing agencies.
- S-30.7 Hennepin County assumes no responsibility or liability for the Contractor's compliance with applicable federal and state regulations and safe work practices. The Contractor shall remain at all times solely responsible for the sufficiency of its safety program and its compliance with applicable federal and state regulations.
- S-30.8 The Contractor shall submit his work plan, at the preconstruction conference, for providing all OSHA required safety equipment (safety nets, static lines, etc.) for all work areas whose working surface is 6 feet or more above the ground, water, or other surfaces. Submittal of this plan

will in no way relieve the Contractor of his responsibility for providing a safe working area. The fall protection system shall be furnished, installed, and maintained in accordance with all applicable OSHA Regulation (Standards-29 CFR) including but not limited to “Duty to have fall protection - 1926.501” and “Fall protection Systems criteria and practices – 1926.502”, ANSI/ASSE A10.32-2004 ‘Fall Protection Systems’ for construction and demolition operation, and ANSI/ASSE Z359.2-2007 “Minimum Requirements for a Comprehensive Fall Protection Program”.

All safety equipment, in accordance with the Contractor’s plan, must be in place and operable in adequate time to allow County personnel to perform their required inspection duties at the appropriate time. No cement shall be placed in any areas affected by such required inspection until the inspection has been completed.

S-30.9 This Project includes work over water and therefore the Contractor will need to comply with the OSHA requirement for immediate availability of a lifesaving skiff in accordance with 29 CFR 1926.106, “Working Over or Near Water”. At all times when the Contractor’s and County’s personnel are on the project the Contractor shall have at least a person specifically designated to respond to water emergencies and operate the skiff at all times when there are persons, including County personnel, above water. The Contractor shall provide and update as necessary, the name(s) and contract number(s) for the designated skiff operator(s). The Contractor’s designated skiff operator must either man the skiff at all times or remain in the immediate area such that the operator can quickly reach the skiff and get underway. The Contractor shall provide a communication system, such as two-way radio, to inform the skiff operator of an emergency and to inform the operator where the skiff is needed. The skiff shall meet the following requirements: 1) capable of being launched by one person; 2) a minimum of a four person capacity; 3) a minimum of 15 HP motor in a serviceable condition; 4) have a six gallon gas tank filled with fresh fuel; 5) have navigational lights available for night operations; 6) have two oars with oarlocks attached to gunwales or the oars; 7) have one ball-pointed boat hook; 8) have a river anchor with 50 feet of attached line; 9) have a ring buoy with 90 feet of attached line; and 10) have personal floatation devices equaling the skiff rating for the maximum number of personnel allowed on board.

The Contractor shall make the skiff readily available and accessible to County personnel during those times when County personnel are present on the project while Contractor personnel are not.

S-30.10 The Contractor is hereby notified that paint systems on Bridge No. 5427 may contain lead. Precautions to protect worker health and safety may be necessary if operations by the Contractor result in removal or detachment of paint from metal surfaces.

S-31 **(1707) PUBLIC CONVENIENCE AND SAFETY**

The provisions of Mn/DOT 1707 are supplemented with the following:

- S-31.1 Metro Transit has bus service in the area that will be affected by this project. The Contractor shall notify Metro Transit five (10) days prior to the date of any traffic changes that may affect Metro Transit bus service, and ten (10) days prior to the date of requiring the relocation of any Metro Transit facility, as follows: Lisa Johnson, Manager Street Operations, telephone (612) 349-7570, email Lisa.Johnson@metc.state.mn.us
- S-31.2 Bus routes for the Minneapolis_School District will be affected by this Project. The Contractor shall notify the School District's Transportation representative, Frank Zeman, telephone (612) 668-2300, email Frank.Zeman@mpls.k12.mn.us a minimum of ten (10) working days prior to the date of any traffic changes that may affect school bus service.
- S-31.3 The Minneapolis Fire Department will be affected by this Project. The Contractor shall notify the Minneapolis Fire Department's Assistant Chief of Operations, Dave DeWall at (612) 673 a minimum of ten (10) working days prior to the date of any traffic changes that may affect the Minneapolis Fire Department.
- S-31.4 The Minneapolis Police Department will be affected by this Project. The Contractor shall notify a sergeant at the Minneapolis Police Departments 5th precinct at (612) 673-5705 a minimum of ten (10) working days prior to the date of any traffic changes that may affect the Minneapolis Police Department.
- S-31.5 Postal service for 1 U.S. post office will be affected by this Project. The branch is Diamond Lake. Any mailbox relocations or roadway closures affecting deliveries shall be communicated with the post office ten (10) working days prior to date of affecting change.

Contact information for the Post Office is:

Manager/Supervisor
Diamond Lake Post Office Minneapolis
5500 Nicollet Ave
(612) 823-2726

S-32 **(1710) TRAFFIC CONTROL DEVICES**

All traffic control devices and methods shall conform to the Minnesota Manual on Uniform Traffic Control Devices (MN MUTCD); Minnesota Standard Signs Manual Parts; Traffic Engineering Manual, and the provisions of Mn/DOT 1710, and the following:

- S-32.1 Mn/DOT 1710.3, is revised to read as follows:

The Contractor will provide, install, maintain, and remove all necessary traffic control devices to control and guide traffic over detours provided in the Contract. The signing required for the detours is indicated in the plans.

S-32.2 The provisions of Mn/DOT 1710.4 and 1710.5 are hereby deleted from the Contract.

S-32.3 On any roadway having a 45 mph or higher speed limit prior to construction, all Category I and II temporary traffic control devices shall meet NCHRP 350 crash testing criteria. This includes all new and used Category I and Category II devices. Category I devices include tube markers, plastic drums and cones, etc. Category II devices include portable sign supports. Type I, II and III barricades, etc.

The Contractor is hereby advised that the MN MUTCD requires that all signs shall meet the NCHRP 350 Crash testing criteria.

The Contractor shall provide the Project Engineer a Letter of Compliance stating that all of the Contractors Category I and II Devices are NCHRP 350 approved as of July 1, 2006. The Letter of Compliance must also include approved drawings of the different signs and devices and shall be provided to the Project Engineer at the Pre-construction meeting.

The Contractor shall conform to all NCHRP Report 350 requirements for temporary traffic control devices used on this Project.

All Category I and Category II temporary traffic control devices shall meet NCHRP 350 crash testing criteria. This includes all new and used Category I and Category II devices. Category I devices include tube markers, plastic drums and cones, etc. Category II devices include portable sign supports, Type I, II and III barricades, etc.

S-32.4 Concrete median barrier delineators shall be one of the following types listed (200 mm x 114 mm (7⁷/₈ inch x 4¹/₂ inch) in size), or an approved equal, as directed by the Engineer:

(A) Davidson Portable Concrete Barrier Marker
Davidson Plastic Co.
18726 East Valley Hwy.
Kent, Washington 98032

(B) Guardrail and Barrier Delineator, 965, Simsonite
Signals Products Division, Amerace Corp.
7542 North Natchez Avenue
Niles, IL 60648

(C) Reflexite Barrier Mount Delineator
Reflexite Corp.
315 South Street, P.O. Box 1628
New Britain, Conn. 06050

(D) Duraflex Flexx 2020 Varrier Delineator
Duraflex Corp.
297 Margaret King Ave.
Ringwood, N.J. 07456

- S-32.5 During the tenure of the contract, the Engineer may require the Contractor to replace the reflective material (on both new and/or used traffic control devices) whose effectiveness, in the Engineer's opinion has been substantially reduced from traffic or other causes.
- S-32.6 Bidders are advised that used traffic control devices conforming to the referenced requirements may be furnished in lieu of all new devices, provided they are in near new condition. All devices and the reflectorized sheeting thereon shall be in a condition acceptable to the Engineer prior to their installation on the Project.
- S-32.7 Temporary raised permanent markers and the selected mounting system shall be installed, maintained, and removed from the roadway in accordance with the applicable Mn/DOT Standard Specifications and the attached specification TEMPORARY RAISED PAVEMENT MARKERS (TRMPs).

S-33

(1712) PROTECTION AND RESTORATION OF PROPERTY

Property and landscape shall be protected in accordance with the provisions of Mn/DOT 1712 and the following:

The Contractor shall exercise extreme care in preventing damage to any areas where turf has been previously established. Parking by Contractor's personnel and equipment on non-surfaced areas will be restricted to specific areas approved by the Engineer. All areas disturbed by the Contractor's operation shall be restored to the satisfaction of the Engineer prior to acceptance of the Project. All costs involved in restoration shall be incidental.

The Contractor will be required to take special precautions or perform special construction procedures to preclude damage to existing trees that are to remain in place as determined by the Engineer. All such special precautions or construction procedures including, but not limited to, materials required shall be considered incidental work for which no direct compensation will be made.

Tree and shrub loss and damage is a very sensitive issue throughout this project. Whenever possible existing trees and shrubs shall be left in place in an undamaged condition. Care shall be exercised by the Contractor and all subcontractors when working around trees and shrubs which are to remain in place. Any costs associated with the necessary special precautions or special construction procedures shall be incidental for which no direct compensation will be made therefore.

- S-33.1 The Contractor shall comply with the following stipulations of the Section 106 Memorandum of Agreement (MOA) that is attached to the special provisions:
- a. Paragraph I (Archaeology), subparagraph B – The Contractor shall work with the County to ensure that all terms of Appendix B are complied with. The County will provide the required direct supervision services identified under paragraph B1 of Appendix B.

- b. Paragraph II (Protection of Masonry Creek Walls) – The Contractor shall provide the required reconstruction plans. (See attached concept layout and photos).

The County, Cultural Resources Unit (CRU) at Mn/DOT and the Minnesota State Historical Preservation Office (SHPO) will be involved in the construction observation and review of plans related to Paragraphs I and II of the MOA. The Contractor shall include 21 calendar days for review of Contractor prepared plans by the three agencies in his anticipated construction schedule. Personnel representing CRU and SHPO will be:

CRU: Garneth Peterson – 651-366-3615

SHPO: Mary Ann Heidemann – 651-259-3456

ALL COSTS ASSOCIATED WITH COMPLYING WITH THE MOA SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT WITH NO ADDITIONAL COMPENSATION ALLOWED THEREFORE INCLUDING ANY UNFORESEEN TIME DELAYS ASSOCIATED WITH THE MOA.

S-34

(1714) RESPONSIBILITY FOR DAMAGE CLAIMS

Responsibility for damage claims shall be in accordance with the provisions of Mn/DOT 1714, except that the first paragraph is hereby deleted and replaced with the following:

The Contractor agrees to defend, indemnify, and hold harmless the County of Hennepin, the City of Minneapolis, and the State of Minnesota and their officials, officers, agents, volunteers, and employees from any liability, claims, causes of action, judgments, damages, losses, costs, or expenses, including reasonable attorneys' fees, resulting directly or indirectly from any act or omission of the Contractor, a subcontractor, anyone directly or indirectly employed by them, and/or anyone for whose acts and/or omissions they may be liable in the performance of the services required by this Contract, and against all loss by reason of injuries or damages received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any environmental damage or hazardous material damage caused by or resulting from the Contractor's activities; or because of any act or omission, neglect, or misconduct of the Contractor; or because of any claims arising or amounts recovered from infringements of patent, trademark, or copyright; or because of any claims arising or amounts recovered under the Worker's Compensation Act; or under any other law, ordinance, order, or decree or due to the failure of the Contractor to perform fully, in any respect, all obligations under this Contract.

S-35 (1717) AIR, LAND 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 (M.P.C.A.), and in accordance with the provisions of Mn/DOT 1717, 2573, 2575 and the following:

S-35.1 Extreme Weather Event

If localized flooding is caused by an extreme weather event and results in discharge into surface water, by deliberate pumping or diverted flow, the Contractor shall provide for end of trench or pipe filtration or treatment systems. The filtration/treatment system shall be capable of preventing visibly turbid discharge from entering surface water. This work shall be completed in accordance with applicable laws pertaining to discharge into surface waters and as directed by the Engineer. The Contractor will receive compensation as Extra Work in accordance with Mn/DOT 1904.

S-35.2

By signing the Proposal and completing the NPDES permit application, the Contractor is a co-permittee with the County to ensure compliance with the terms and conditions of the General Storm Water Permit (MN R100001) and is responsible for those portions of the permit where the operator is referenced. This Permit establishes conditions for discharging storm water to waters of the State from construction activities that disturb 1 acre or more of total land area. A copy of the "General Permit Authorization to Discharge Storm Water Associated with a Construction Activity Under the National Pollutant Discharge Elimination System (NPDES)/State Disposal System Permit Program" is available at: <http://www.pca.state.mn.us/water/stormwater/stormwater-c.html> or by calling 612-596-3890.

The County has applied for and received coverage under the above mentioned permit by signing both the Owner's and Contractor's certification blanks on the permit application. The County shall retain a photocopy of the original permit application. Upon award of the Contract, the County and the Contractor shall execute the Storm Water Permit Transfer/Modification Application form (attached to these Special Provisions) and submit it along with a photocopy of the original application to the Minnesota Pollution Control Agency. The Minnesota Pollution Control Agency, upon receipt of the Storm Water Permit Transfer Modification Application, will amend it to the original permit application thereby making both the County and the Contractor co-permittees for the requirements of the General Permit, "Authorization to Discharge Storm Water."

There is no fee for the transfer of the permit. Work may not begin until all transfer permit forms are signed and dated and the contractor identifies by name a person knowledgeable and experienced in the application and implementation of the Storm Water Pollution Prevention Plan, and has

developed a chain of responsibility for all operators (subcontractors) on the site, in accordance to Part III.A.1 of the General Permit.

The County will provide the Contractor with the application form with Section 1 thru 3 and 5 thru 14 completed, as part of the Contract document package. The Contractor shall fill out the Contractor's portion (Section 4 and Section 15), complete the application process, and post the Permit and MPCA's letter of coverage onsite.

A NPDES Permit Declaration form will be sent to the Contractor with the Contract award packet. A copy of the signed permit application and a signed Permit Declaration form must be returned to the County within 10 days after receipt of the Notice of Award letter. Submittal of the copy of the signed permit application and Permit Declaration is mandatory for Contract approval. No work which disturbs soil and/or work in waters of the state will be allowed on this Project until the NPDES Permit is in effect and the County has received the required documentation.

S-35.3 The Contractor shall be solely responsible for complying with the requirements in Part II.B and Part IV of the General Permit.

The Contractor shall be responsible for providing all inspections, documentation, record keeping, maintenance, remedial actions, repairs required by the permit. All inspections, maintenance, and records required in the General Permit Paragraphs IV.E, shall be the sole responsibility of the Contractor. The word "Permittee" in these referenced paragraphs shall mean "Contractor". Standard forms for logging all required inspection and maintenance activities shall be used by the Contractor. All inspection and maintenance forms used on this Project shall be turned over to the Engineer every two weeks for retention in accordance with the permit.

The Contractor shall have all logs, documentation, inspection reports on site for Engineer's review and shall post the permit and MPCA's letter of coverage on site. The Contractor shall immediately rectify any shortcomings noted by the Engineer. All meetings with the MPCA, Watershed District, WMO, or any local authority shall be attended by both the Engineer and the Contractor or their representatives. No work required by said entities, and for which the Contractor would request additional compensation from the County, shall be started without approval from the Engineer. No work required by said entities and for which the changes will impact the design or requirements of the Contract documents or impact traffic shall be started without approval from the Engineer.

The Contractor shall immediately notify the Engineer of any site visits by Local Permitting Authorities performed in accordance with Part V.H.

S-35.4 The Contractor is advised that Section 1 of the NPDES application form makes a reference to Storm Water Pollution Prevention Plan (SWPPP). This Project's SWPPP is addressed throughout Mn/DOT's Standard Specifications for Construction, as well as this Project's Plan and these

Special Provisions. The following table identifies NPDES permit requirements and cross-references where this Contract addresses each requirement.

NPDES Permit Requirements	Cross-Reference within this Contract
Obtain NPDES Permit; Permit Compliance; Submit Notice of Termination	Mn/DOT 1701, 1702; Special Provisions: 1717 (Air, Land & Water Pollution), 1717 (National Pollutant Discharge Elimination System (NPDES) Permit)
Certified Personnel in Erosion / Sediment Control Site Management Develop a Chain of Command	Mn/DOT 1506, 1717, and 2573; Special Provisions: 1717 (Air, Land & Water Pollution), 1717 (National Pollutant Discharge Elimination System (NPDES) Permit); and 2573 (Erosion Control Supervisor).
Project / Weekly Schedule (for Erosion / Sediment Control) Completing Inspection / Maintenance Log / Records	Mn/DOT 1717 and 2573; Special Provisions: 1717 (Air, Land & Water Pollution), 1717 (National Pollutant Discharge Elimination System (NPDES) Permit); and
Project Specific Construction Staging	The Plans; Mn/DOT 1717; Special Provisions: 1717 (Air, Land & Water Pollution), 1717 (National Pollutant Discharge Elimination System (NPDES) Permit); and 1806 (Determination and Extension of Contract Time)
Temporary Erosion / Sediment Control	The Plans; Mn/DOT 2573 and 2575
Maintenance of Devices / Sediment removal Removal or Tracked Sediment Removal of Devices	The Plans; Mn/DOT 1717 and 2573; Special Provisions: 1514 (Maintenance During Construction); 1717 (Air, Land & Water Pollution), and 1717 (National Pollutant Discharge Elimination System (NPDES) Permit
Dewatering	Mn/DOT 2105.3B and 2451.3C; May also require DNR Permit
Temporary work not shown in the Plans Grading areas (unfinished acres exposed to erosion)	Mn/DOT 1717, 2573, and 2575; Special Provisions: 1717 (Air, Land & Water Pollution), and 1717 (National Pollutant Discharge Elimination System (NPDES) Permit);

Permanent Erosion / Sediment Control and Turf Establishment	The Plans; Mn/DOT 1717, 2573 and 2575; Special Provisions: 1717 (Air, Land & Water Pollution), 1717 (National Pollutant Discharge Elimination System (NPDES) Permit
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S-35.5 The following table lists contaminants applied to permit.

Table 3. Road Runoff Pollutants

Material Chemical	Physical Description	Storm Water Pollutants	Location	Process for Containment
Pesticides	Various colored to colorless liquid, powder, pellets or grains	Chlorinated hydrocarbons, organophosphates, carbonates, arsenic	Herbicide use for noxious weed control	Certified applicator
Permanent Fertilizer	Liquid or solid grains: Nitrogen, phosphorous	Nitrogen, phosphorous, organic substrate	Newly seeded areas	Organic base, slow release forms only, tied up in compost
Temporary Fertilizer	Liquid or solid grains: Nitrogen, phosphorous	Nitrogen, phosphorous, potassium, chlorides	Rapid stabilization areas, topsoil berms stockpiles	managed application certified installer, quick cover plant materials
Cleaning Solvents	Colorless, blue, or yellow-green	Perchloroethylene, methylene, chloride, trichloroethylene	No equipment washing cleaning in project limits. Trained applicator for concrete cleaning and prep work	Tarps, monitor weather for rain and wind
Wastewater from Construction	Runoff from equipment washing	Water, soil, oil and grease, solids	Not allowed within the project area	
Asphalt	Black solid	Oil, petroleum distillates	Roadways, driveways, trails, parking lots	Excess materials will be removed from project limits
Concrete	White solid	Limestone, sand	bridge, walls, curb and gutter, walks, driveways	Designated wash areas or complete haul removal

Material Chemical	Physical Description	Storm Water Pollutants	Location	Process for Containment
Glue, adhesives	White or yellow liquid	Polymer, epoxies	expansions joints	Empty container management
Paints	Various colored liquid	Metal oxides, stoddard solvent, talc, calcium carbonate, arsenic	bridge end rails, concrete surface treatments, wall railings, sign posts	Empty container management
Curing compounds	Creamy white liquids	Naptha	Bridge, walls, curb and gutter, walks, driveways	
Wood Preservatives	Clear amber or dark brown liquid	Stoddard solvent petroleum distillates, arsenic, copper, chromium	Timber pads, sign posts, rail posts	Follow manufacturer's recommendations
Hydraulic oil/fluids	Pale yellow liquid petroleum	Mineral Oil	Random leaks	Oil absorbing diapers, trained personnel
Gasoline	Colorless, pale brown or pink	Petroleum hydrocarbon, benzene, ethyl benzene, toluene, xylene, MTBE	Secondary containment	Oil absorbing diapers, trained personnel
Diesel Fuel	Clear, blue-green to yellow liquid	Petroleum distillate, oil and grease, naphthalene, xylenes	Secondary containment	Oil absorbing diapers, trained personnel
Kerosene	Pale yellow liquid Petroleum hydrocarbon	Coal oil, petroleum distillates	Secondary containment	Oil absorbing diapers, trained personnel
Antifreeze/coolant	Clear green/yellow liquid	Ethylene glycol, propylene glycol	Random leaks	Trained personnel
Erosion	Solid Particles	Soil, sediment	Project limits	Rapid stabilization measures

S-35.6

If the Contractor fails to perform the requirements as listed herein, the Engineer will issue a Work Order detailing the required action. The Contractor shall start the required action within twenty-four (24) hour of receipt of the Work Order and continue the required action until the

Project is brought into compliance with the permit. Failure to perform the required action as specified, shall subject the Contractor to a \$1000/calendar day deduction.

The Contractor shall review and abide by the instructions contained in the permit package. The Contractor shall hold the County harmless for any fines or sanctions caused by the Contractor's actions or inactions regarding compliance with the permit or erosion control provisions of the Contract Documents.

S-35.7 The Contractor shall furnish material, labor and equipment for temporary control measures as shown in the Plans or ordered by the Engineer and shall provide for the acceptable maintenance thereof during the life of the Contract, to effectively prevent water pollution through the use of berms, dikes, dams, sediment basins, fiber mats, netting, gravel, mulches, grasses, slope drains, and other erosion control devices or methods. Surface cover materials shall be anchored to reasonably prevent their entering waters of the State by erosion or rising water levels.

Temporary pollution control measures shall be included for all construction activity associated with the project where such work is necessary for example: borrow pit operations, haul roads, equipment storage, and plant or waste disposal sites.

The temporary pollution control provisions contained herein shall be coordinated with any permanent erosion control features specified elsewhere in the contract to the extent practicable to assure economical, effective, and continuous erosion control throughout the construction and post-construction period.

At the preconstruction conference, or prior to the start of the applicable construction, the Contractor shall submit for acceptance his proposed schedules for accomplishment of temporary and permanent pollution and erosion control work, as are applicable for clearing and grubbing; grading; construction of bridges and other structures at watercourses; paving; and miscellaneous construction. The Contractor shall also submit for acceptance his proposed method of erosion control on haul roads and at borrow pits and his plans for disposal of waste material. No work shall be started until the applicable erosion control schedules and methods of operation have been accepted by the Engineer.

S-35.8 All temporary and permanent erosion and pollution control measures necessitated by the Contractor's operations outside the greater of either the construction limits or the right of way shall be performed as required by all applicable laws, rules, regulations or permits at the Contractor's own expense. All temporary erosion and pollution control measures necessitated by the Contractor's negligence, carelessness, or failure to properly coordinate the installation of permanent controls as part of the work scheduled within the greater of either the construction limits or the

right of way, shall be performed as ordered by the Engineer and in accordance with all applicable laws, rules, regulations or permits, at the Contractor's own expense.

Failure by the Contractor to control erosion, pollution, and siltation as required could result in penalties as provided for in applicable laws, rules, regulations, permits and the provisions herein. The County reserves the right to employ outside assistance or to use its own forces to provide the necessary corrective measures in the event the invoking of the afore referenced penalties do not produce the necessary corrections. All expenses so incurred by the County, including its engineering costs, that are chargeable to the Contractor as its obligation and expense, will be deducted from any monies due or coming due the Contractor. In addition to the expenses incurred by the County for the completion of the afore referenced corrective measures, the County shall also deduct from any monies due or coming due the Contractor non-compliance charges, as provided within this Contract, for that amount of time from when the Contractor was first notified of the need for corrective measures until the satisfactory completion of the corrective measures.

Where the Engineer orders installation of either temporary or additional permanent erosion or pollution control measures, in the absence of any negligence, carelessness, or failure on the Contractor's part to properly schedule and carry out the measures provided for in the Contract, and except for such work which is necessitated by the Contractor's operations outside the greater of either the construction limits or the right of way, the work shall be performed at the Department's expense and payment will be made therefore at appropriate Contract bid prices for like work, or as Extra Work if there is no comparable item of work in the Contract.

S-35.9 In the event of conflict between these requirements and any applicable pollution control laws, rules, regulations, or permits of other Federal and State or local agencies, the more stringent requirements shall apply.

S-35.10 The contractor shall provide an Erosion Control Supervisor for each day that erosion and sediment control devices are in use on the project, in accordance with Contract provisions and as directed by the Engineer.

The Contractor shall, at the pre-construction conference, designate an Erosion Control Supervisor who shall be responsible for and perform the erosion and sediment control management **for overall erosion and sediment control management for the Project**. The Erosion Control Supervisor shall be responsible for the management of the erosion and sediment control operations of the Project, including those of the Contractor, subcontractors, and suppliers. The primary responsibility of the Erosion Control Supervisor shall be the Erosion and Sediment Control Management of this Project.

S-35.11 Emergency Best Management Practices must be enacted to help minimize turbidity of surface waters and relieve runoff from extreme weather events. It is required to notify the MPCA Regional Contact Person within 2 days of an uncontrolled storm water release. The names and phone numbers of the MPCA Regional Contract personnel can be found at: <http://www.pca.state.mn.us/water/stormwater/stormwater-c.html>. The Contractor is reminded that during emergency situations involving uncontrolled storm water releases that the State Duty Officer must be contacted immediately at 1-800-422-0798 or 1-651-649-5451.

S-35.12 The provisions of Mn/DOT 1717 are supplemented and/or modified with the following:

Discovery of Contaminated Materials and Regulated Wastes

If during the course of the Project, the Contractor unexpectedly encounters any of the following conditions indicating the possible presence of contaminated soil, contaminated water, or regulated waste, the Contractor shall immediately stop work in the vicinity, notify the Engineer, and request supervision of work in the vicinity of the discovery area, in accordance with Mn/DOT 1803.4.

A documented inspection and evaluation will be conducted prior to the resumption of work. The Contractor shall not resume work in the suspected area without authorization by the Engineer.

- (A) Indicators of contaminated soil, ground water or surface water include, but are not limited to the following:
- (1) Odor including gasoline, diesel, creosote (odor of railroad ties), mothballs, or other chemical odor.
 - (2) Soil stained green or black (but not because of organic content), or with a dark, oily appearance, or any unusual soil color or texture.
 - (3) A rainbow color (sheen) on surface water or soil.
- (B) Indicators of regulated wastes include, but are not limited to the following:
- (1) Cans, bottles, glass, scrap metal, wood (indicators of solid waste and a possible dump)
 - (2) Concrete and asphalt rubble (indicators of demolition waste).
 - (3) Roofing materials, shingles, siding, vermiculite, floor tiles, transite or any fibrous material (indicators of demolition waste that could contain asbestos, lead or other chemicals).
 - (4) Culverts or other pipes with tar-like coating, insulation or transite (indicators of asbestos).
 - (5) Ash (ash from burning of regulated materials may contain lead, asbestos or other chemicals).
 - (6) Sandblast residue (could contain lead).

- (7) Treated wood including, but not limited to products referred to as green treat, brown treat and creosote (treated wood disposal is regulated).
- (8) Chemical containers such as storage tanks, drums, filters and other containers (possible sources of chemical contaminants).
- (9) Old basements with intact floor tiles or insulation (could contain asbestos), sumps (could contain chemical waste), waste traps (could contain oily wastes) and cesspools (could contain chemical or oily wastes).

S-35.13 Mn/DOT 1717.2A2 is hereby deleted and replaced with the following:

A2 During Construction

The Contractor shall implement the Project's Storm Water Pollution Prevention Plan. The Contractor shall schedule and install temporary and permanent sediment and erosion control measures, construct ponds and drainage facilities, furnish earth work operations, place topsoil, establish turn and conduct other Contract work in a timely manner to minimize erosion and sedimentation.

All exposed soil areas with continuous positive slopes that are within 60 m (**200 feet**) of a public water shall have temporary or permanent erosion protection within 24 hours after the construction activity in that portion of the site has temporarily or permanently ceased and connection is established to the public water. All other positive slopes to constructed surface waters, such as permanent storm water treatment ponds, curb and gutter systems, storm sewer inlets, temporary or permanent drainage ditches, or other storm water conveyance systems, shall have temporary erosion protection or permanent cover for the exposed soil areas as soon as practicable but no later than 14 days after construction activity has temporarily or permanently ceased in that area. For those drainage areas that have a discharge point within 1 mile and flows to an impaired or Special Waters shall have temporary erosion protection or permanent cover for the exposed soil areas as soon as practicable but no later than 7 days after construction activity has temporarily or permanently ceased in that area. Impaired and Special Waters are defined as those listed and referenced in the NPDES Permit.

Positive slopes adjacent to public waters and wetlands will be stabilized at the close of each day when weather forecasts for rain that evening, and/or overnight including weekends. Once work is completed it will be stabilized permanently as soon as practical but no later than seven days.

Exposed soil areas do not include; stockpiles or surcharge areas of sand, gravel, aggregate, concrete, bituminous, or road bed and surfacing material. A perimeter sediment barrier may be necessary to minimize loss when these are within the 60 m (**200 feet**) of existing surface waters or the property edge.

The bottom of temporary or permanent drainage ditches or swales constructed to drain water from a construction site must be stabilized with erosion control measures for the last 60 m (**200 feet**), or more when conditions warrant, from the property edge or from the point of discharge to any existing surface water. Stabilization shall be completed within 24 hours after the construction activity in that portion of the ditch has temporarily or permanently ceased. Ditch stabilization will continue concurrently with construction activities but no later than 14 days after construction activities have permanently or temporarily ceased. Any, culvert pipe or storm sewer pipe that is within the cumulative distance is not part of this distance. Ditch checks may be provided where necessary to slow water flow and capture sediment.

Temporary or permanent ditches used as treatment systems will not need to be stabilized but must provide the proper Best Management Practices for the treatment system.

Pipe outlets shall be provided with temporary or permanent energy dissipation within 24 hours of connecting the pipe to any constructed or existing surface waters.

The Contractor shall limit the surface area of erodible soil that can be exposed to possible erosion at any one time when the permanent erosion control features are not completed and operative.

All liquid and solid wastes generated by concrete washout operations must be contained and not have the opportunity to come in contact with the surface waters or ground water. This includes the ditches, slopes to ditches, curb and gutter/storm sewer systems, and ponds. Areas where there are sandy soils, karsts, and high ground water the washout facility must have an impermeable liner. Liquid and solid wastes must be disposed of properly. A concrete washout sign must be installed adjacent to each washout facility to notify personnel.

S-35.14 Mn/DOT 1717.2E is hereby deleted and replaced with the following:

E Site Plans

The Engineer may require the Contractor to submit a site plan, in writing, detailing proposed erosion control and sediment control measures and a schedule indicating starting and completion times for construction operations working in water bodies and/or in direct proximity to waters of the state.

Contractor shall not start work in the affected areas until the schedule and site plan have been accepted by the Engineer and all materials and equipment for the activity are on site.

S-36 (1801) SUBLETTING OF CONTRACT

The provisions of Mn/DOT1801 are hereby modified in accordance with

the following:

S-36.1 The following is hereby added to the standard provisions of Mn/DOT 1801:

Minnesota law requires prime contractors to pay any subcontractor within ten days of the prime contractor's receipt of payment from the County for undisputed services provided by the subcontractor. This law also requires the prime contractor to pay interest of 1½ percent per month on any undisputed amount not paid on time to the subcontractor.

S-36.2 The following pay items in this Contract are hereby designated as "specialty items" since they include payment for items that are sole source:

<u>(ITEM NO.)</u>	<u>(DESCRIPTION)</u>
2411.604	ARCH SURFACE TREATMENT TYPE 2
2411.618	STONE RETAINING WALL
2540.618	MASONRY STONE WALL RESTORATION 1
2540.618	MASONRY STONE WALL RESTORATION 2
2545.511	LIGHTING UNIT SPECIAL 10' POLE
2545.511	LIGHTING UNIT SPECIAL 15' POLE
2564.602	SIGN COLLAR

S-37 **IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

By signing this bid, the bidder will be deemed to have stipulated as follows:

- A. That any facility to be utilized in the performance of this Contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et. seq., as amended by Pub. L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et. seq., as amended by Pub. L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR, Part 15), is not listed on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.
- B. That the County and the State Transportation Department shall be promptly notified prior to contract award of the receipt by the bidder of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility to be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

S-38 **(1803) PROSECUTION OF WORK**

All work performed under this Contract shall be prosecuted in accordance with the provisions of Mn/DOT 1803 and the following:

S-38.1 The Work under this Contract shall be planned, reported and accomplished using the Critical Path Method (hereinafter referred to as

CPM). All work associated with these requirements is considered incidental for which no direct payment will be made.

S-38.2 DEFINITIONS

Definitions can be found at <http://www.dot.state.mn.us/const/tools/contracttime.html> and are intended to supplement or supersede definitions provided with “Primavera Project Planner” (P3), version 3.1

S-38.3 COMPUTER SOFTWARE

County uses “Primavera Project Planner” (P3), version 3.1 for Windows. If the Contractor utilizes software other than "Primavera Project Planner" (P3) the schedule shall be submitted in "Primavera Project Planner" (P3) format. The Contractor is responsible for any conversion discrepancies

S-38.4 NOTICE TO PROCEED(S)

This Project contains Notice to Proceed 1 (NTP1) and Notice to Proceed 2 (NTP2) criteria. The Contractor shall submit to the Engineer a Preliminary Schedule within eight (8) calendar days of issuance of Contract Award. Acceptance of the first Preliminary Schedule shall be a condition of Contract Approval and NTP1. NTP2 is a condition of Baseline Schedule acceptance and will not extend beyond 90 calendar days from NTP1.

(A) Preliminary Schedule(s)

All schedules submitted prior to Baseline acceptance will be considered Preliminary Schedules. The Preliminary Schedule(s) are meant to communicate the Contractor’s general plan of work, and allow the Contractor to proceed with limited amount of work as parties work toward Baseline Schedule acceptance/NTP2. The first Preliminary Schedule shall communicate that all Milestone dates are understood and sufficiently detail a 30 day look-ahead period. Subsequent schedule submittals shall show the status of work actually completed, with data dates of the 15th of every month. The schedule should be received as soon as possible after the applicable data date, but in no instance shall be later than four (4) calendar days. Subsequent Preliminary Schedule(s) shall detail at least a rolling 45 day look-ahead period; in which this rolling 45 day look-ahead shall comply with the “Level of Detail” section contained herein.

(B) Baseline Schedule

Baseline Schedule shall include the entire scope of work shall not extend beyond any Contractual completion dates, contain negative float or utilize any other prohibited scheduling techniques. The Baseline shall include the level indicated in the “Level of Detail” section contained herein, unless changes are approved by the engineer.

TWO (2) WEEK LOOK-AHEAD SCHEDULE:

The Contractor shall submit a detailed two (2) week schedule to the Engineer each week until all work is completed. This schedule may be a hand generated but shall span a forward looking, rolling period of at least fourteen (14) calendar days. This schedule is meant as the Contractor's best effort to fully communicate work planned for the rolling fourteen day period. Work within this rolling period shall specifically reference the applicable Working Schedule Activity ID; with the Activity Description broken down further to clearly communicate the work that is being accomplished.

S-38.5 SCHEDULE UPDATES

The Contractor shall submit an updated schedule which accurately reflects the status of work actually completed, with a data date of the 15th of every month. The schedule should be received as soon as possible after the applicable data date, but in no instance shall be later than four (4) calendar days. Changes to the Schedule shall be closely coordinated with the Engineer and are subject to the Engineer's acceptance. If County deems Work is performed substantially out of sequence then County will request in writing, the Contractor to demonstrate the impacts in accordance with "Time Impact Analysis" section contained herein.

S-38.6 ACCEPTANCE OF SCHEDULE

The Engineer's review and acceptance of Schedules will not waive any Contract requirements and shall not relieve the Contractor of any obligation or responsibility for submitting complete and accurate information. By review and acceptance of the Schedule County does not endorse or otherwise certify the validity or accuracy of any part of the Schedules. The responsibility for validity and accuracy of all Schedules is the sole responsibility of the Contractor.

The Engineer will accept or return comments on submitted schedules within fourteen (14) calendar days after being received. Schedules that are not accepted shall be corrected by the Contractor within seven (7) calendar days after the Engineer has returned comment. It is the Contractor responsibility to meet with the Engineer as often as necessary to satisfy the Engineer's comments within said seven (7) calendar days.

S-38.7 SCHEDULE RECOVERY

Unless otherwise directed in writing by the Engineer, whenever the current working schedule indicates negative Total Float greater than five (5) percent of the remaining calendar days before a contractual obligate Milestone, the Contractor shall submit, within seven (7) calendar days, a Time Impact Analysis (TIA) as described in "Time Impact Analysis" section herein; whereas the impact schedule shall recover the negative float regardless of fault of either party for past delays. The requirement to

recover negative float regardless of fault is not a directive by County to accelerate the Work but rather a directive to provide a proposal with any cure involving acceleration, at a cost to County, shall be directed in writing from County prior to any execution of acceleration thereof.

S-38.8 SCHEDULE SUBMISSION

The Contractor shall include the following for each Schedule submittal:

- (A) A narrative to include and discuss: (1) a bar chart sorted by Early Start indicating critical paths in red, (2) upcoming and pending coordination required with County, or 3rd parties, (3) potential problem areas, (4) description and reason for any changes made to the schedule and the affects the changes have on Milestones or Project Completion Date.
- (B) Bar Charts shall contain the following information: (1) Activity ID and Activity Description, (2) Original Duration, (3) Early Start, Late Start and Late Finish, (4) Total Float, (5) Predecessors and Successors, and (6) Include a title block and a timeline on each page. As a minimum the title block shall include file name and revision; the timeline shall include start date, finish date, data date, and run date.
- (C) One (1) CD-R compact disk containing a backup, in (P3) compressed format (PRX files).

S-38.9 TIME IMPACT ANALYSIS

The Contractor shall submit a Time Impact Analysis (TIA) to determine the effect of any impact when they believe they are impacted, or at the Engineer's request, regardless if the Contractor believes that there is no impact to the schedule. The Contractor shall be responsible to determine the effect of an impact as contemporaneously as possible; this may require the Contractor to estimate the duration of the impact while the impact is in progress. The Engineer may elect to specify the duration the Contractor should use in their analysis.

A Time Impact Analysis (TIA) shall include: 1) a statement that there is "No effect to the schedule" OR, 2) it shall include an Impact Schedule, any associated cost burden or savings, and a narrative report developed specifically to demonstrate the effects of deviation(s) from the current working schedule with basis for entitlement and identification of the provisions of the Contract. The Engineer may require that the logic for out of sequence work be fixed and analyzed via TIA. The Contractor shall submit a TIA within seven (7) calendar days of receiving a request for a TIA from the Engineer. The Engineer may accept the Impact Schedule as the new Working Schedule while parties negotiate associated cost burden or savings. All accepted Impact Schedules shall become the next Working Schedule and referenced in accordance with the "Naming Convention" section herein.

S-38.10 FLOAT SUPPRESSION / SEQUESTERED FLOAT

The Contractor shall not engage in float suppression manipulations which have the net effect of sequestering float time. It is expressly agreed and understood that the Contractor shall not be entitled to any compensation or damages on account of delays which could have been avoided by revising activity time or logic used to sequester float and will exclude the Contractor's right to recover any delay damages or compensation from County. Lags/Leads are subject to the consent of the Engineer. The Contractor shall remove any Lags/Leads and replace with an activity identifying the Lag/Lead upon request of the Engineer, regardless of prior acceptance on previous schedules

S-38.11 USE OF FLOAT

The Contractor acknowledges that all float is a shared commodity available to the Project and is not for the exclusive benefit of any party; but is an expiring resource available to accommodate changes in the Work, however originated. Contract time extensions for Contract performance will be granted only to the extent that delays or disruptions to effected work paths exceed total float along those paths of the current Working schedule in effect at the time of delay or disruption. It is understood that identified contingencies, as described in the "Calendar and Identified Contingency" section, become available total float as time elapses and the contingency was not used.

S-38.12 CALENDARS AND IDENTIFIED CONTINGENCY

The duration of each activity shall include the necessary work days to actually complete the work defined by the activity; contingency shall not be built into the durations but shall be accounted for in accordance with "Identified Contingency and Calendars" section contained herein.

Each activity shall be assigned the appropriate calendar. The Project calendars shall indicate planned work and nonworking days for each major item of Work. Each calendar, with the exception of the calendar utilized for tracking calendar days, shall include a **minimum of fifteen (15) percent weather contingency for each major item of Work affected by weather. The Contractor shall submit a statement indicating duration (in hours) of their normal work day as it relates to the work week, e.g., M-F (10 hrs) and Sat (6 hrs) for every calendar. Contingency will be the amount of indicated non workdays compared to this statement**

S-38.13 NON-COMPLIANCE

The Contractor's refusal, failure or neglect to diligently pursue timely acceptance of any schedule, or TIA shall constitute reasonable evidence that the Contractor is not prosecuting the Work, or separable part, with the diligence that will insure its completion within the applicable Contract Time and shall constitute sufficient basis for the Engineer to exercise options available in the "Non-Compliance" section contained herein.

The Engineer may use one or a combination of the following. The Engineer will use their best judgment in determining which of the following option(s) will best facilitate compliance:

(A) 100 Percent Withholding

The Engineer may withhold an amount up to 100 percent of the estimated value of work performed.

(B) Monetary Deduction

The Engineer may **assess a non recoverable monetary deduction of \$1000/day** for every day past an applicable deadline within these Special Provisions (1803 CRITICAL PATH METHOD (CPM) SCHEDULE).

S-38.14 LEVEL OF DETAIL

Each Activity shall: (1) have a unique activity description and contain a verb, (2) be a duration of not more than twenty (20) working days nor less than 5 days, unless otherwise authorized by the Engineer, (3) have at least one predecessor and one successor activity, except for Project start and finish respectively, and (4) Express activity durations in Days.

S-38.15 The Progress Schedule required as per Mn/DOT 1803.1 shall include and identify separate tasks for temporary and permanent erosion control activities.

S-38.16 Bidders are hereby advised that the reconstruction of the underground utility systems identified in section WM of these Special Provisions will impact the progress of the roadway reconstruction activities. From the standpoint of overall disruption and inconvenience to the community it is considered prudent to accomplish the reconstruction of the underground utility systems in conjunction with this Project. The completion of the removals and grading activities required by this contract at the earliest possible time will aid in the completion of the installation of new utility lines by others in a timely fashion. The successful roadway reconstruction contractor should also anticipate the loss of efficiency in its construction activities and the unavailability of work areas within the project between the time the existing pavement and sidewalks are removed and the time all underlying work is completed so that the roadway surfacing activities can proceed.

S-38.17 Milling and bituminous paving operations shall be coordinated and scheduled so that milled areas will be covered with the bituminous wear course within three (3) working days of the removal of the existing surface.

S-38.18 This contract contains a provision that the bridge shall be reopened to traffic (Special Provision Section 16.2) on or before October 15, 2012. This requirement may be met by restoring through traffic on the new bituminous (wear or binder course), the existing bituminous surface, or

temporary bituminous pavement. The Contractor shall consider this requirement when scheduling the project.

Any temporary bituminous pavement that may be required to comply with the October 15, 2012 opening date shall be placed and removed at the Contractor's expense.

- S-38.19 In all locations where retaining walls are to be constructed, temporary fencing shall be installed along the top of the excavation limits prior to performing any excavation for the wall construction.
- S-38.20 The Contractor's construction schedule for the project shall incorporate the following timing and sequencing restrictions:
- A. No work that affects the bed of Minnehaha Creek may occur between March 15 and June 15 of any calendar year. This restriction is included in the attached Minnesota Department of Resources Protected Waters Permit.
 - B. Removal of existing water main may not occur until Engineer has approved plans for new water main construction and Minneapolis Water Works has accomplished required work to close off existing water main.
 - C. New water main may not be installed until required piling has been installed and temporary sheet pile removed.

It is not intended nor shall it be construed that all the restrictions within this contract that affect the Contractor's construction activities are included in this section. Other restrictions exist on the work and are included elsewhere in this Proposal and the Plans.

S-39 (1804) FAILURE TO MAINTAIN SATISFACTORY PROGRESS

The provisions of Mn/DOT 1804 are hereby modified with these Special Provisions.

The last sentence of 1804 is deleted and the following substituted therefore:

- A. If the Contractor fails to adhere to the approved Working Schedule or fails to take action as ordered to remedy unsatisfactory progress; a notice of default may be issued as provided for in 1808, and/or options under the Non-Compliance section in Section S-1803 (Critical Path Method (CPM) Schedule) of these Special Provisions.

S-40 (1805) METHODS AND EQUIPMENT

The Contractor shall provide and use construction methods and equipment in accordance with Mn/DOT 1805 and the following:

The third and fourth paragraphs are hereby effectively modified to include the following:

Methods and equipment which cause debris and particles of any nature to become airborne in such a manner to cause adverse impacts, including but not limited to safety hazards and nuisances, to adjacent property, property owners or the general public traveling through the project will not be permitted on this project.

S-41 (1806) DETERMINATION AND EXTENSION OF CONTRACT TIME

S-41.1 Mn/DOT 1806.1 (Determination of Contract Time) is hereby deleted and the following substituted therefore:

In addition to the requirements indicated above all work required to open the project to through traffic and provide for pedestrian traffic along one side of the project, as per Special Provision Section 16.2, shall be completed by October 15, 2012 or the Contractor will be assessed a monetary deduction as shown in Mn/DOT 1807.

1806.1 DETERMINATION OF CONTRACT TIME

The Contract starting date is the latest date specified for the beginning of construction operations as set forth in the Proposal or the eight day after the date on Notice of Contract Approval, whichever is later.

When the Contract time is specified as a fixed calendar completion date or calendar day, the County has determined the Contract time by considering the Proposal quantities, normal weather for the locality and season of the year, and the necessity of having the work completed by the specified date. The Engineer may only extend the time in accordance with 1806.2.

1. Avoidable Delays

Avoidable delays are those delays that the Contractor could foresee or had power to control or prevent. Avoidable delays include, but are not limited to, the following circumstances or conditions:

- (A) Delays caused by conditions on the Project, including traffic conditions, that could be foreseen or anticipated prior to time of bid opening. These conditions include the curing of concrete, drying of paint, setting of bituminous courses, and other foreseeable construction-sequencing delays.
- (B) Delays due to the Contractor's failure to provide sufficient forces and equipment to maintain satisfactory progress in completing the progress-controlling operations.
- (C) 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.
- (D) Delays caused by plant and equipment failure of less than 4

hours duration, or delays of any duration due to the Contractor's failure to provide and maintain the equipment in good mechanical condition or to provide for immediate emergency repairs.

2. Unavoidable Delays

Unavoidable delays are those delays that the Contractor could not foresee or have the power to control or prevent and that occur with no fault or negligence on the part of the Contractor. Partial delay will be recognized when conditions prevent work on progress-controlling operations with full efficiency. In addition to inclement weather conditions, the following circumstances or conditions will be considered unavoidable delays:

- (A) Delays caused by failure of the County to approve the Contract at least 8 calendar days in advance of the latest date specified for beginning construction operations.
- (B) Delays caused by an earthquake, flood, cloudburst, cyclone, tornado, or other cataclysmic phenomenon of a nature beyond the power of the Contractor to foresee and defend against.
- (C) 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.
- (D) Delays caused by the County 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.
- (E) Delays caused by non completion of work being done by other contractors or utility owners, or due to other unforeseeable interferences not the fault of the Contractor.
- (F) Delays directly attributable to the performance of Extra Work or increased quantities of work that were not addresses in an executed change order.
- (G) 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 supplier to foresee and forestall.

The following is hereby deleted from the beginning of 1806.2 (Extension of Contract Time):

“The granting of additional time for completion of the work will be limited to the performance of Extra Work or increased quantities of work.

Additional time allowed will be limited to a period of time proportional to the increased dollar volume of work, unless:

- (A) It can be shown that the added work was a controlling factor in the rate of progress, or
- (B) An extension of Contract time was otherwise allowed in the agreement or 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.”

The following is hereby added to the beginning of 1806.2 (Extension of Contract Time):

The granting of additional time for completion of the work will be determined under the Time Impact Analysis Section S-1803 (Critical Path Method (CPM) Schedule) of these Special Provisions. No extensions requested by the Contractor will be considered unless the Contractor has accepted the Baseline Schedule and the Working Schedule has been regularly updated.

Mn/DOT 1806.3 (Revision of Working Day Charges) is hereby deleted in its entirety.

S-41.2

In addition to, and within, the afore Specified Contract time for completion of the project as a whole, portions of the project shall be completed in accordance with the following intermediate completion dates:

- (A) The only work to be done in 2011 shall be clearing and opening up the area around the bridge to allow the archaeology consultant access to photograph and document the bridge to meet SHPO and CRU requirements.
- (B) All work required by the Contract to open bridge with wearing course, retaining walls under bridge and a pedestrian path on one side of bridge shall be completed by October 15, 2012.
- (C) The completion of all remaining work except planting shall be by June 30, 2013.
- (D) The planting shall be either completed in spring of 2013 or fall of 2012 planting time period.

S-41.3

No work which will restrict or interfere with traffic shall be performed between 12:00 noon on the day preceding and 9:00 A.M. on the day following any consecutive combination of a Saturday, Sunday, and legal holiday without written permission from the Engineer.

S-41.4

Within 10 days from the date of final approval of the Construction Contract by the County, the Contractor shall furnish evidence to the Project Engineer that orders for all structural metals required for the bridge have been placed.

S-41.5 The Contract completion date for the Plant Establishment Period associated with Mn/DOT Specification 2571 pay items shall be determined by the Engineer in accordance with Mn/DOT Standard Specification 2571.3A1e.

The Engineer may suspend or extend any Plant Installation Period (PIP), depending on the Engineer's assessment of planting conditions. If it is necessary to suspend a PIP before the work can be completed, the Contractor will have use of time remaining in the suspended PIP to complete the work in the next appropriate PIP. If a PIP concludes without the work being complete, the Engineer may extend the time allowed to complete the plant installation to the next appropriate PIP only to the extent that the Contractor can demonstrate that the delays encountered were beyond the Contractor's control. The extension of time will be in proportion to the original time allotted to complete the work.

The provisions of Mn/DOT 1806.1C(3) are modified to the extent that the term “(C) during the inclusive period from November 15 to April 15”; is deleted. A similar phrase set forth in the second paragraph of Mn/DOT 1807.2 is also deleted.

S-42 (1807) FAILURE TO COMPLETE THE WORK ON TIME

Liquidated damages for failure to complete the work on time will be assessed in accordance with the provisions of Mn/DOT 1807, as modified herein, and the amount(s) deducted from any monies due or coming due to the Contractor in an amount(s) equal to the following:

S-42.1 The second paragraph is hereby replaced with the following:

In any suit involving assessment or recovery of liquidated damages, the reasonableness of daily and/or hourly 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.

S-42.2 Liquidated damages will be assessed the Contractor in the amount of \$1,000.00 per calendar day for failure to complete those portions of the project described in S-41.2A of these Special Provisions within the times specified therein.

S-42.3 Liquidated damages will be assessed the Contractor in the amount of \$2,500.00 per calendar day for failure to complete those portions of the project described in S-41.2B of these Special Provisions within the times specified therein.

S-42.4 Liquidated damages will be assessed the Contractor in the amount of \$1,500.00 per calendar day for failure to complete those portions of the project described in S-41.2C of these Special Provisions.

S-42.5 Liquidated damages will be assessed the Contractor in the amount of \$500.00 per calendar day for failure to complete those portions of the project described in S-41.2D of these Special Provisions.

S-42.6 For informational purposes only, bidders are advised that in addition to the requirements of Mn/DOT 1807, other Sections of these Special Provisions, as shown below, contain requirements for assessment of monetary deductions to this Contract:

1404	MAINTENANCE OF TRAFFIC AND (2563) TRAFFIC CONTROL
1506	SUPERVISION BY CONTRACTOR
1706	EMPLOYEE HEALTH AND WELFARE
1803	PROSECUTION OF WORK
2533	PORTABLE PRECAST CONCRETE BARRIER DESIGN 8337
2563	TRAFFIC CONTROL SUPERVISOR
2571	PLANT INSTALLATION AND ESTABLISHMENT

S-42.7 The Contractor will be subject to an hourly charge for failure to maintain the traffic control devices as set forth in Section S-1404 (MAINTENANCE OF TRAFFIC) of these Special Provisions. Non-compliance charges, for each incident, will be assessed at a rate of \$250.00 per hour for each hour or any portion thereof with which the Engineer determines that the Contractor has not complied.

S-42.8 The Contractor will be subject to an hourly charge for failure to provide copies of the inspection logs, within the time frame agreed upon, when requested by the Engineer as set forth in Section S-1404 (MAINTENANCE OF TRAFFIC CONTROL) of these Special Provisions. Non-compliance charges, for each incident, will be assessed at a rate of \$250.00 per hour for each hour or any portion thereof with which the Engineer determines that the Contractor has not complied.

S-42.9 The Contractor will be subject to a daily charge of \$100 for each day that sign posts and/or stub posts are not removed as set forth in Section S-1404 (MAINTENANCE OF TRAFFIC) of these Special Provisions.

S-42.10 The Contractor will be subject to an hourly charge for failure to perform roadway sweeping and cleaning activities as set forth elsewhere herein. Non-compliance charges, for each separate incident, will be assessed at a rate of \$50.00 per hour for each hour or any portion thereof in which the Engineer determines that the Contractor has not complied.

S-42.11 The Contractor will be subject to an hourly charge for failure to (1) install and/or maintain the erosion control devices and (2) correct adverse erosion impacts; all as set forth in the Minnesota Department of Transportation Standard Specifications for Construction, these Special Provisions, appropriate permits incorporated herein by reference and/or attachment, and the direction of the Engineer. Non-compliance charges, for each separate incident, will be assessed at a rate of \$25.00 per hour, for each hour or any portion thereof which the Engineer determines that the Contractor has not complied.

Assessment of the aforesaid non-compliance charge for failure to install and/or maintain the erosion control devices required is not intended to nor shall it be construed to be in lieu of applicable civil or criminal non-compliance penalties assessed against the Contractor as co-permittee by other governmental or regulatory agencies.

S-42.12 Assessment of all the aforesaid liquidated damages shall be applied separately or in any concurrent combination deemed appropriate by the Engineer.

S-43 (1809) EMERGENCY CANCELLATION OF CONTRACT

The last paragraph of Mn/DOT 1809 is hereby corrected to read:

Termination of the Contract or any portion thereof shall not relieve the Contractor of responsibility for the completed work, nor shall it relieve the Contractor's Sureties of their obligation for and concerning any just claims arising out of the work performed.

S-44 (1901) MEASUREMENT OF QUANTITIES

The provisions of Mn/DOT 1901 are hereby supplemented with the following:

S-44.1 The Contractor shall provide automated weighing devices when materials are paid for by mass (weight) and hauled in trucks.

S-44.2 Automated Weighing Device

Automated weighing devices shall be interlocked to a ticket printer. The ticket shall contain the date, Project number, pay item number, truck or tractor and trailer identification, truck tare and net mass (weight). The Contractor shall provide the truck driver with a copy of the weigh ticket. The truck driver shall give the ticket to the inspector on the Project.

S-44.3 Uniform Load

In the event that the Contractor requests the use of Uniform Loads, the method of arriving at uniform loading must be approved by the Engineer. Automated weighing devices will be required when belt scales are used in Uniform Load determinations. Periodic Spot checks will be required. Trucks will be stopped and required to be run over a commercial scale.

S-45 (1904) EXTRA AND FORCE ACCOUNT WORK

The provisions of Mn/DOT 1904 are supplemented and/or modified with the following:

S-45.1 The Contractor is required to submit Force Account Work itemized statements of cost in accordance with Mn/DOT 1904 to the Engineer on Mn/DOT form TP-21659 (Summary of Daily Force Account). Copies of this form can be obtained from the Engineer. The form can also be obtained from the Mn/DOT web site <http://www.dot.state.mn.us/const/tools/forceaccount.html> .

S-45.2 The following sentence shall be added to the second paragraph of Mn/DOT 1904.

Under no circumstance will the negotiated unit price for Extra Work which is performed by a subcontractor include a Prime Contractor allowance which exceeds that provided for in Mn/DOT 1904 (4), Paragraph 3, as modified herein.

S-46 (1906) PARTIAL PAYMENTS

Partial payments shall be made as provided for in Mn/DOT 1906 and in accordance with the following:

S-46.1 Substitute the following two paragraphs for the fourth paragraph:

From the total of the amounts ascertained as payable, an amount equivalent to not less than 5 percent of the whole will be deducted and retained by the County in protection of its interests until released as hereinafter provided. The balance less all previous payments will be certified for payment.

When the work under contract has been completed to the extent that not more than 5 percent of the contract value remains to be completed, the County will release to the Contractor such portions of the retained funds as it considers to be in excess of the amount adequate for protection of its interests. Before any reductions are made in the amounts retained, the Contractor may be required to furnish an affidavit of consent from his sureties.

S-46.2 The following is hereby added to the end of Mn/DOT 1906:

Out of State Contractors

A. In accordance with Minnesota Law, if an out of state contractor is awarded the Contract under these specifications and the Contract exceeds or can reasonably be expected to exceed \$100,000, the County, to ensure the Contractor's payment of certain Minnesota taxes, shall deduct eight percent (8%) of every payment to the Contractor unless a waiver is obtained from the Minnesota Department of Revenue. The monies deducted shall be retained until the Department of Revenue determines the Contractor's tax liability. Any said amount shall be in addition to any other amount deducted or withheld from Contractor's payments under these specifications.

B. If the Contractor desires an exemption:

1. The Contractor may either apply directly to the Minnesota Department of Revenue for the exemption or may complete form SD-E furnished by the County. If the form is furnished by the County, then upon the Contractor's completion and return of the form to the County, the County will forward the completed form to the Minnesota Department of Revenue for certification.

2. Unless the out of state contractor can receive an exemption because of its recent construction work in Minnesota and its full compliance with pertinent Minnesota tax laws, it must file either a cash or surety bond with the Minnesota Department of Revenue. The Contractor is advised, however, that it is intended that the Contract bond furnished in accordance with Section 1305, as modified herein, will satisfy any bond requirement needed to receive an exemption except that the Contract bond initially furnished to the County under these specifications shall be not less than 108% of the Contract amount.
3. To expedite the County's final approval of the Contract, the out of state contractor should act promptly to return Form SD-E to the County.

Additionally, to further ensure payment of said taxes, all contractors shall be responsible for deducting, when required, sufficient monies from payments to their out of state subcontractors who perform work in Minnesota under subcontracts in excess of \$100,000 and also for otherwise complying in all respects with the law relating to such retaining.

S-47 **(1908) FINAL PAYMENT**

Final payment shall be made as provided for in Mn/DOT 1908 and in accordance with the following:

- S-47.1 Final payment for all work included in the Contract will be made to the Contractor within 35 calendar days after all of the following conditions have been satisfied:
- A. The Certificate of Final Acceptance has been executed by the County and the Contractor.
 - B. A written release approving final payment has been received by the County from the Contractor's Sureties.
 - C. Proof supplied by the Contractor that he has complied with the provisions of M.S. 290.92 regarding withholding of State income taxes.
 - D. An affidavit has been received by the County from the Contractor showing that all claims against him by reason of the Contract have either been paid or satisfactorily secured.
 - E. All requirements of the EEO Plan have been completed.

- S-47.2 If this Contract contains a "Minority Business Enterprise" goal, the following requirement shall apply:
- Before final payment is made, the Contractor shall also complete an affidavit showing the total dollar amounts of work performed by disadvantaged business enterprise (DBE) and women business enterprise (WBE).

S-48 (1910) FUEL COST ESCALATION CLAUSE

The provisions of Mn/DOT 1910 are hereby deleted and replaced with the attached Fuel Escalation Clause:

The provisions set forth in the attachments are modified as follows:

- S-48.1 The Contractor shall be required to file a written claim presenting all required data to determine if a reimbursement should be allowed.
- S-48.2 The Contractor will provide the calculations and Contract items that he wishes to be considered for the fuel cost adjustment. The Engineer will verify the items and calculations to determine the amount that will be paid.

S-49 (2011) VIBRATION MONITORING

S-49.1 Description of Work

The Contractor shall develop a vibration control plan providing for the protection of the MCES Sanitary Sewer during driving of piling and removal of temporary piling. This plan shall be approved by the Engineer prior to construction activities. The work includes a pre-condition survey; furnishing, installing and maintaining vibration monitoring instrumentation; collecting the vibration data; and interpreting and reporting the results. The Contractor shall implement this approved plan during construction operations.

Hennepin County is not responsible for the safety of the Work based on vibration-monitoring data, and compliance with this Section does not relieve the Contractor of full responsibility for damage caused by the Contractor's operations.

S-49.2 Responsibilities of Contractor

- A. Furnish and install vibration-monitoring instrumentation.
- B. Protect from damage and maintain instruments installed by the Contractor and repair or replace damaged or inoperative instruments.
- C. Collect, interpret and report data from instrumentation specified herein.
- D. Implement response actions.

S-49.3 Qualifications of Vibration Monitoring Personnel

- 1. The Contractor's vibration-monitoring personnel shall have the qualifications specified herein. These personnel may be on the staff of the Contractor or may be on the staff of a specialist subcontractor. However, they shall not be employed nor compensated by subcontractors, or by persons or entities hired by subcontractors, who will provide other services or material for the project.
- 2. The Contractor's vibration-monitoring personnel shall include a qualified Vibration Instrumentation Engineer who is a registered

Professional Engineer in the State of Minnesota, who has a minimum of a Bachelor of Science degree in civil engineering, and who has at least 4 years of experience in the installation and use of vibration-monitoring instrumentation and in interpreting instrumentation data. The Vibration Instrumentation Engineer shall:

- a) Be on site and supervise the initial installation of each vibration-monitoring instrument.
 - b) Supervise interpretations of vibration-monitoring data.
3. The Contractor's vibration-monitoring personnel shall be subject to the review of the Engineer.

S-49.4 Definitions

The following definitions shall apply to the vibration controls:

1. **Peak Particle Displacement:** The The peak particle displacement is the maximum movement induced by the vibration. The displacement amplitudes are in units of mils (0.001), zero to peak amplitude.
2. **Peak Particle Velocity (ppv):** The peak particle velocity is the maximum rate of change with respect to time of the particle displacement. The velocity amplitudes are in units of inches per second (ips), zero to peak amplitude.
3. **Frequency:** The frequency of the vibration is the number of oscillations that occur in one second. The frequency units are given in Hertz (Hz) where one Hz equals one cycle per second.

S-49.5 Submittals

- A. As soon as feasible after the Notice to Proceed, submit manufacturer's product data describing all specified vibration-monitoring instruments to the Engineer for review, including requests for consideration of substitutions, if any, together with product data and instruction manuals for requested substitutions.
- B. Within three (3) weeks after the Notice to Proceed, submit to the Engineer for review the resumes of the Vibration Instrumentation Engineer and any vibration monitoring technical support personnel, sufficient to define details of relevant experience.
- C. Within five (5) Workdays of receipt of each instrument at the site, submit to the Engineer a copy of the instruction manual and the laboratory calibration and test equipment certification.
- D. Prior to the start of construction and prior to performing any vibration monitoring, the Contractor shall submit to the Engineer for review a written plan detailing the procedures for vibration monitoring. Such details shall include:

1. The name of the Firm providing the vibration monitoring services.
2. Description of the instrumentation and equipment to be used.
3. Measurement locations and methods for mounting the vibration sensors.
4. Procedures for data collection and analysis.
5. Means and methods of providing warning when the vibration limits, as specified in Section S-49.10, are reached.
6. Generalized plans of action to be implemented in the event any vibration limit, as specified in Section S-49.10, is reached. The generalized plans of action shall be positive measures by the Contractor to control vibrations (e.g. using alternative construction methods).

S-49.6 Instrumentation

The Contractor shall furnish, maintain and operate at least two vibration monitors during any pile driving and removal of temporary piling that could, in the judgment of the Engineer, produce measurable ground vibrations. In the event that the Contractor chooses to have concurrent vibration producing activities at more than one location on the construction site, he shall notify the Engineer in writing at least two weeks prior to the commencement of such activities. The Engineer may require additional vibration monitoring instruments at each location depending on site parameters. No vibration producing activities may be started until the appropriate instrumentation is provided by the Contractor and approved by the Engineer.

All vibration instruments shall be supplied with current calibration documents and shall be recalibrated on approximately a six-month use interval.

The Contractor shall designate an individual in his organization or under Contract to him, who shall be responsible for instrument coordination. The Contractor shall be responsible for placing the instruments at measuring locations designated by the Vibration Instrumentation Engineer subject to approval by the Engineer, and reading and recording the pertinent vibration event data. The Contractor shall report the data to the Engineer at the completion of each vibration event.

The vibration monitor shall be capable of measuring and recording the maximum peak particle velocity in three mutually perpendicular axes (not "vector sum"), and have the following minimum features:

1. Seismic range: 0.01 to 4 inches per second with accuracy of +5 percent of the measured peak particle velocity or better at frequencies

between 10 Hertz and 100 Hertz, and with a resolution of 0.01 inches per second or less.

Frequency response (+3 dB points): 2 to 200 Hertz.

2. Three channels for simultaneous time-domain monitoring of vibration velocities in digital format on three perpendicular axes.
3. Two power sources: internal rechargeable battery and charger and 115 volts AC. Battery must be capable of supplying power to monitor vibrations continuously for up to 24 hours. Contractor shall supply extension geophone and microphone cables so that the instruments can be placed within heated structures if outside temperatures drop below 32 degrees Fahrenheit.
4. Capable of internal, dynamic calibration.
5. Direct writing to printer and capability to transfer data from memory to a CD. Instruments must be capable of producing strip chart recordings of readings on site within one hour of obtaining the readings. Provide computer software to perform analysis and produce reports of continuous monitoring.
6. Continuous monitoring mode must be capable of recording single-component peak particle velocities, and frequency of peaks with an interval of one minute or less.

S-49.7

Data Collection

- A. The Contractor shall collect seismograph data prior to any pile driving or removal of temporary piling to document background vibrations at each monitoring location. This monitoring shall consist of a continuous recording of the maximum single-component peak particle velocities for one-minute intervals, which shall be printed on a strip chart. The background monitoring shall be performed for a minimum of two non-consecutive workdays, spanning the hours during which construction activities will take place.
- B. Monitors shall be placed on top of the MCES-interceptor at the two locations where the interceptor is found on either side of the existing bridge.
- C. The Contractor shall monitor vibration during pile driving and removal of temporary piling as determined by the Engineer. This monitoring shall consist of a continuous recording of the maximum single-component peak particle velocities for one-minute intervals, which shall be printed on a strip chart. During the monitoring, the Contractor shall document all events that are responsible for the measured vibration levels, and submit the documentation to the Engineer with the data as specified in Section S-49.8. A record form for documenting these events is included herein as Figure 1.
- D. All vibration monitoring data shall be recorded contemporaneously and plotted continuously on a graph by the data acquisition equipment. Each graph shall show time-domain wave traces

(particle velocity versus time) for each transducer with the same vertical and horizontal axes scale.

- E. The Contractor shall notify the Engineer at least 24 hours prior to starting a new vibration-producing construction task, and shall have the seismographs in place and functioning properly prior to any such activity. No significant vibration-producing activity shall occur within this zone unless the monitoring equipment is functioning properly.
- F. The equipment shall be set up in a manner such that an immediate warning is given when the peak particle velocity in any direction exceeds the vibration limits specified in Section S-49.10. The warning emitted by the vibration-monitoring equipment shall be instantaneously transmitted to the responsible person designated by the Contractor by means of warning lights, audible sounds or electronic transmission.

S-49.8 Data Reduction, Processing, Plotting and Reporting

- A. Within 10 working days after the completion of the background vibration monitoring, the Contractor shall submit to the Engineer a hard copy report documenting the results at each of the monitoring locations.
- B. During pile driving and removal of temporary piling, the Contractor shall provide weekly, hard copy reports summarizing any vibration monitoring data collected at the specified vibration-monitoring locations. The reports for each week shall be submitted on or before the end of the following week.
- C. All reports shall be signed by the approved Vibration Instrumentation Engineer, and shall include the following:
 - 1. Project identification, including County Project Number, Project Name and Bridge number as shown on the project plans.
 - 2. Location of the monitoring equipment.
 - 3. Location of vibration sources (e.g. pile driving or removal of temporary piling)
 - 4. Summary tables indicating the date, time and magnitude and frequency of maximum single-component peak particle velocity measured during each one-hour interval of the monitoring period.
 - 5. Field data forms (construction vibration monitoring only).
 - 6. Appendix graphs of the strip charts printed during the monitoring periods.
- D. In addition to the hard copy data specified herein, the Contractor shall provide data on a CD with each report.

S-49.9 Damage to Instrumentation

- A. The Contractor shall protect all instruments and appurtenant fixtures, leads, connections, and other components of vibration-monitoring systems from damage due to construction operations, weather, traffic, and vandalism.
- B. If an instrument is damaged or inoperative, the Contractor's instrumentation personnel shall repair or replace the damaged or inoperative instrument within 72 hours at no additional cost to the County. The Contractor shall notify the Engineer at least 24 hours prior to repairing or replacing a damaged or inoperative instrument. The Engineer will be the sole judge of whether repair or replacement is required.

S-49.10 Data Interpretation and Implementing Plans of Action

- A. The following vibration limits are applicable for the Project during pile driving and removal of temporary piling.
- B. The ground vibration limits defined herein may restrict construction activities. Contractor shall make modifications to his construction activities, as necessary, to meet the specified limits.
- C. If operations result in values which exceed the ground vibration limit, immediately notify the Engineer. If the activity that causes the vibration limits to be exceeded is being performed by the Contractor, suspend that activity immediately and submit a report. This report shall give the data and include the proposed corrective action to ensure that the specified limit is not exceeded in the future. This report shall be submitted to the Engineer, and his permission must be obtained before continuing significant vibration-producing activities.
- D. Ground Vibration Control Limit: Make measurements for this limit at external ground locations adjacent to affected buildings or structures. This vibration criterion will be measured as peak particle velocity.
 - 1. Impact Vibrations: The maximum single component peak particle velocity resulting from construction activity shall not exceed the values given as follows:

(4) Frequency of the Peak Particle Velocity	Allowable Peak Particle Velocity
(Hz)	(ips)
10 or less	.50
10 to 40	.75
50	1.25

60	1.50
70	1.75
80	2.00
90	2.25
100 or greater	2.50

2. Steady State Vibrations: The maximum single component peak particle velocity resulting from construction activity shall not exceed the values given as follows:

Frequency of the Peak Particle Velocity (Hz)	Allowable Peak Particle Velocity (ips)
10 or less	.25
10 to 40	.35
50	.60
60	.75
70	.90
80	1.00
90	1.15
100 or greater	1.25

- A. Modifications to Means, Methods and Equipment: Modify the means, methods and equipment in any way necessary to eliminate damage to sanitary sewer. These modifications shall include any necessary modifications of previously submitted and approved plans, should field experience demonstrate that damage has occurred or may occur.
- B. The Engineer shall have the authority to prohibit or halt the Contractor's operations at any time if the methods being employed jeopardize the safety of the public.

S-49.11 Pre-Construction Condition Survey

Prior to beginning construction, the Contractor shall conduct a survey of the existing sanitary sewer in accordance with Division SAN of the Special Provisions. The Pre-Construction Condition Survey shall document the condition of interior cracks and defects visible in the sanitary sewer utilizing measurements, sketches, notes and digital photographs that will provide an adequate baseline to evaluate the effects of nearby construction on the stability of the sanitary sewer.

All documentation shall be maintained by the Contractor for the duration of the Contract. If a claim of damage is made, the Contractor shall supply a copy of the documentation to the Engineer. The documentation shall become the property of Hennepin County upon completion of work on this Contract or upon request from the County for documentation due to a damage claim, whichever is earlier. The Pre-Construction Condition Survey shall be conducted by a person with experience with this type of survey work and this person shall be approved by the Engineer prior to beginning the survey.

S-49.12 Basis of Payment

Payment for performing vibration monitoring, as described above, shall be included as part of the Lump Sum bid under Item No. 2503.601, "Protection of MCES Sanitary Sewer".

CONSTRUCTION VIBRATION MONITORING FIELD DATA FORM

Contract Number: _____

Contract Name: _____

Contractor: _____

Observer: _____

Seismograph Information

Manufacturer and Model: _____

Serial Number: _____

Current Calibration Date: _____

Monitoring Location

Building: _____

Address: _____

Sensor Location (describe location and attach sketch)

Data Collection: 1-minute ppv Strip Chart (attach data)

Monitoring Period (date and time) Start: _____ End: _____

Observed Events

Date	Time	Source of Vibration (e.g. demolition, pile driving, compaction, excavation, tracked vehicles, etc.)	Distance From Sensor (ft)	Peak Particle Velocity (in./sec)	Frequency (Hz)

Attach additional sheets as necessary

FIGURE 1. CONSTRUCTION VIBRATION MONITORING DATA FORM

S-50 (2031) FIELD OFFICE AND LABORATORY

The Contractor shall furnish, maintain, and remove a field office in accordance with the provisions of Mn/DOT 2031, except as modified as follows:

- S-50.1 The sixth and seventh sentences of the first paragraph of Mn/DOT 2031.2 are hereby deleted and replaced with the following:
- The telephone service provided to the field office shall be touch tone service with "call waiting" and shall include touch tone telephone sets. Two telephones shall be provided in the field office; one at each end of the trailer. The Contractor shall pay for the telephone installation, basic monthly phone service charges, all local calls, and all long distance calls within a 50-mile radius, and the removal of the telephone.
- S-50.2 The Contractor shall provide either: a DSL Deluxe high speed Internet basic connection, high speed Broadband cable connection or equivalent internet provider plus a wireless router to allow a minimum of 4 computers to connect into the internet to allow for the remote computer and telephone access that is compatible with the County requirements at time of installation. Contractor shall cover installation and monthly rental costs for modems, routers, filters, maintenance fees and / or ISP charges, as required by the County to operate a remote business environment. In the event such services are not available in the area, then the Contractor shall provide an ISDN phone connection. If ISDN is not available, the Contractor shall provide for a standard dial up phone connection or a minimum of four mobile PC MC1A (wireless) cards, with associated monthly service contracts for the life of the Contract.
- S-50.3 The field office shall have operational electric power and telephone service prior to beginning operations on the Project. The electric power may be supplied by temporary usage of a generator of sufficient capacity to operate the lights and climate control units until such time that the required electrical service hook-up can be provided.
- S-50.4 The potable water supplied shall be both hot and cold.
- S-50.5 The provisions of Mn/DOT 2031.3A(10) are hereby modified to say that the minimum floor area of the field office, based on exterior dimensions, shall be not less than 672 square feet. The field office shall have a room (min. 12' length) at each end plus center meeting room. The office shall have a hard surface floor, not carpet. All desk areas shall have a lighting source within 3 feet of desk surface.
- S-50.6 In addition to the aforementioned modifications, the Contractor shall, at no direct cost to the County, provide and maintain the following items for exclusive use by County personnel for the entire duration of the Contract:
- (1) One combination (All-in-One) plain paper scanner/facsimile/printer/dry toner photocopying machine able to

staple, duplex copy and color copy with auto feed capable of reproducing 8½" X 11" on up to and including 11" X 17" sheets of paper machine with a separate telephone line and number shall be provided in the field office. The machine should be equipped with "Bluetooth" connectivity to allow for laptop computers to print directly to the printer wirelessly. The Contractor shall coordinate the installation of drivers to accommodate this connectivity with Hennepin County I.T. Services. See Special Provision Section S-50.3 for additional connectivity requirements. The brand and model of the machine selected shall be approved by the Engineer prior to ordering the installation in the field office.

- (2) The telephone service provided shall have a minimum of one incoming line for and an additional separate dedicated line for the facsimile machine. The telephone sets provided shall have multi-line capabilities.
- (3) One first aid kit including, but not limited to the following: Thermometer, scissors, assorted adhesive bandages, cold compress, ace bandage, gauze wrap, sterile pads, medical tape, tweezers, first aid spray, cotton swabs, cotton balls, alcohol, antiseptic, hydrogen peroxide, aspirin, toothache drops, ammonia inhalants, eye irrigation package, wire splint and a handbook.
- (4) A lockable, fireproof, non-portable safe with an interior volume of no less than 18 ft³ and no dimension less than 2 feet. The interior of the safe shall be configured to accommodate storage of a personal computer and printer that will be furnished by the County. The safe shall be securely fastened to the field office. In the event a safe with acceptable size or configuration is not obtainable the Contractor shall provide other means of security acceptable to the Engineer.

All equipment and accessories furnished by the Contractor are subject to the approval of the Engineer.

S-50.7

The Contractor shall provide contract maintenance agreements on all electrical accessories, for the life of this Contract. These maintenance agreements shall be incidental to the field office.

The Contractor shall be responsible for repairing or replacing any of the equipment provided under this Contract should damage or loss occur due to theft or vandalism. In the event the facsimile and/or copier equipment be damaged beyond repair or stolen, the Contractor shall provide equivalent replacements within three working days after the loss of the use of the equipment, throughout the life of the Contract. All costs of repair and/or replacement shall be incidental to the Contract Unit Price of the field office.

- S-50.8 The field office shall be provided and put into place prior to the start of construction activities and shall remain in place thereafter for the life of the Contract, including all periods of work suspension.
- S-50.9 The field office shall be located within ½ mile of the project site and include sufficient parking space for five vehicles. The field office may be located in an office building. A portable field office can be located on a side street or along Lyndale Avenue but it cannot be located where it would restrict traffic or present a sight distance hazard. If a portable field office is located outside of the project limits, the Contractor shall obtain approval from the City of Minneapolis for its location.

S-51 (2041) ON-THE-JOB-TRAINING PROGRAM

Section II. 6.b of the "Required Contract Provisions-Federal-Aid Contracts" set forth elsewhere in this Proposal is deleted and the following substituted therefore:

As part of the Contractor's equal employment opportunity affirmative action program, training shall be provided as follows:

The Contractor shall provide on-the-job training aimed at developing full journeyman in the type of trade involved. **THE NUMBER OF HOURS OF TRAINING TO BE FULFILLED UNDER THIS CONTRACT WILL BE 900; UTILIZING AT LEAST 1 TRAINEE(S).** In the event the Contractor subcontracts a portion of the Contract work, he/she shall determine how much of the training requirement will be fulfilled by the subcontractor, provided, however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. This Contractor shall insure that these provisions are made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on (1) the basis of the Contractor's needs and (2) the availability of journeymen in the various classifications within a reasonable area of recruitment. The contractor must complete all sections of the "On-the-Job Training (OJT) Program Approval Form" The form should be submitted to Mn/DOT's Office of Civil Rights within ten (10) days of Contract Award and must be received no later than at the time of the pre-construction conference to the Project Engineer. The Form can be found in the attached Equal Employment Opportunity (EEO) Special Provisions on EEO Page 25, and on the Mn/DOT Office of Civil Rights website - <http://www.dot.state.mn.us/civilrights/documents/OJTPre-ConstructionForm.pdf>. The Contractor will be credited for each trainee who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

THE COMPLETED FORM **MUST** BE SUBMITTED TO MN/DOT NO LATER THAN AT THE TIME OF THE PRE-CONSTRUCTION CONFERENCE. The Contractor may use one of the following means to submit their completed On-the-Job Training (OJT) Program Approval Form.

- a) Mail the form to Mn/DOT Office of Civil Rights 395 John Ireland Blvd. MS 170 Saint Paul, MN 55155
- b) The form may be faxed to Christian Guerrero at (651) 366-3129.

A CONTRACTOR WHO IS APPROVED AND ACCEPTED INTO MN/DOT'S ON-THE-JOB TRAINING (OJT) ALTERNATIVE PROGRAM WILL SUBMIT THEIR TRAINING PLAN WITHIN THE TIMEFRAMES SPECIFIED BY THAT PROGRAM AND THEREFORE WILL NOT BE REQUIRED TO SUBMIT THE "ON-THE-JOB TRAINING (OJT) PROGRAM APPROVAL FORM" WITHIN TEN (10) DAYS OF CONTRACT AWARD OR AT THE TIME OF THE PRE-CONSTRUCTION CONFERENCE. The trainees that have been approved as part of their Contractor – based assignment of positions, must be utilized in accordance with the following provisions set forth here.

Training and upgrading of minorities and women toward journeyman status is a primary objective of these requirements. Accordingly, the Contractor shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent such persons are available within a reasonable area of recruitment. The Contractor will be responsible for demonstrating the steps that he/she has taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance with these requirements. This training commitment is not intended and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employees shall be employed as a trainee in any classification in which he/she has successfully (1) completed a training course leading to journeyman status or (2) in which he/she has been employed as a journeyman. The Contractor shall satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the Contractor's records shall document the findings in each case.

The Contractor should also note the following in regards to qualification of candidates to meet the OJT requirements:

1. All apprentices that are officially registered in one of the approved training programs listed below are eligible to be accepted as a OJT candidates as long as they have not worked more hours than the stated number of hours of their crafts apprenticeship program.

2. Movement of approved trainees from project to project or from contractor to contractor is allowed for OJT credit, if that practice is not determined to constitute a practice of “bicycling” and/or result in a disproportionate adverse effect upon minority and women apprentice members or trainees. Bicycling – is the transfer of minority or female employees or trainees from contractor to contractor and/or from project to project for the sole purpose of meeting the Contractor's goals. "Bicycling" shall be a violation of this Special Provision and the regulations in 41 CFR Part 60-4.

The minimum length and type of training for each classification will be as established on the “On-the-Job Training (OJT) Program Approval Form” submitted by the Contractor and approved by the State Transportation Department and the Federal Highway Administration. The State Transportation Department and the Federal Highway Administration will approve a program if it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and will qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved but not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts.

Examples of approved training programs are not limited to but include the following:

- MN Construction Laborers Apprenticeship Program
- Local 49 Operating Engineers Apprenticeship Training Program
- North Central States Regional Council of Carpenters Training Program
- Iron Workers Apprenticeship Program
- MN Teamsters Construction Apprenticeship Training Program
- MN Cement Masons Apprenticeship Training Program
- Painters and Allied Trades District Council 82 Finishing Trades Apprenticeship Program
- MN Electricians Union Apprenticeship Programs.

Any training program proposed by a contractor to meet the obligations set forth in this Provision which is not included in the list of approved programs cited above will be subject to approval by Mn/DOT’s Office of Civil Rights, and must include a minimum of 500 training hours but shall not to exceed 2,000 hours. If a contractor proposes to utilize an approved apprenticeship program from one of the examples cited above, the

contractor must provide the Apprenticeship Form or Indenture Number when submitting for approval. The Contractor shall also furnish to Mn/DOT's Office of Civil Rights a list of currently employed apprentices in each trade they wish to utilize. The list must include: Name, Gender, Ethnicity and current year of apprenticeship. The number of hours an approved trainee who is enrolled in a certified apprenticeship program can retain eligibility for trainee status will be consistent with the amount of hours that have been established as the minimum requirement necessary to be completed prior to achieving journey level status.

Approval or acceptance of a training program shall be obtained from Mn/DOT's Office of Civil Rights prior to any work by the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Any and all training provided by a contractor to meet the obligations in this Provision must provide a significant and meaningful training experience for the trainee candidate. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as noted below, the Contractor will be reimbursed at the appropriate Contract price per hour for each employee that is trained in accordance with, and for at least the minimum period specified in the approved training program. As approved by the Engineer, reimbursement will be made for training persons in excess of the number specified herein. This reimbursement will be made even though the Contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the Contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the Contractor where he/she does one or more of the following and the trainees are concurrently employed on a Federal-aid project; (1) contributes to the cost of the training, (2) provides the instruction to the trainee or (3) pays the trainee's wages during the offsite training period.

No payment shall be made to the Contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the Contractor and evidences a lack of good faith on the part of the Contractor in meeting the requirements of this Special Provision. It is normally expected that a trainee will begin his/her training on the Project as soon as feasible after start of work utilizing the skill involved, and remain on the Project as long as training opportunities exist in his/her work classification or until he/she has completed his/her training program. It is not required that all trainees be on board for the entire length of the

Contract. If a contractor lays off or terminates a trainee for any reason, that contractor must complete and submit the “Trainee Termination Form” which can be found in the EEO Special Provisions. A Contractor will have fulfilled his/her responsibilities under this special provision if he/she has provided a significant, meaningful training experience and/or acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the Contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the Contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this Project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Special Provision.

The Contractor shall furnish the trainee a copy of the program he/she will follow in providing the training. The Contractor shall provide each trainee with a certification showing the type and length of training satisfactorily completed.

The Contractor shall provide for the maintenance of records and furnish periodic reports documenting his/her performance under these Special Provisions. Any trainee that has been approved by the Office of Civil Rights and employed by the Contractor, and subsequently terminated must be documented on the “On-the-Job Training Trainee Termination Form” located in the EEO Special Provisions of this Contract on EEO Page 26. All required forms needed to satisfy the requirements of these Special Provisions can be found in the attached EEO Special Provisions, pages 23-26 or on the Mn/DOT Office of Civil Rights website - <http://www.dot.state.mn.us/civilrights/>.

Compliance with the foregoing requirements for timely filing of the reports may be a condition precedent to the processing and payment of partial and final payments. If it is determined that a contractor has not acted in “Good Faith” with efforts to comply with this provision or engages in willful violations, a contractor may be subject to sanctions including but not limited to: monetary deductions associated with the trainee line item in the contract, withholding of partial and/or final payment.

The trainee period will be measured by time in hours as specified hereinbefore, and payment will be made under Item 2041.610 (Trainees). This item will be shown on the Bid Schedule at the fixed rate amount of \$1.00 per hour.

With appropriate documentation, an additional \$4.00 per hour (maximum total of \$5.00 per hour) will be paid to the Contractor for hours worked on the project by employees recruited from Mn/DOT's OJT Supportive Services Programs. In conjunction with any employees recruited from Mn/DOT's OJT Supportive Services Programs, an additional \$5.00 per hour (maximum total of \$10.00 per hour) will be paid to the Contractor for hours worked on the project by employees recruited from Mn/DOT's OJT Supportive Services Programs, if the Contractor provides a mentor for the trainee(s) while the trainee(s) is working on the project. Approval for payments to be made under Item 2041.610 (Trainees) for any amount which exceeds the fixed rate amount of \$1.00 must be received in writing from the Mn/DOT Office of Civil Rights. The ratio of trainee to mentor may not exceed 3 to 1. A listing of Mn/DOT's OJT Supportive Services Programs can be found on the Office of Civil Rights website cited above.

S-52 **(2051) MAINTENANCE AND RESTORATION OF HAUL ROADS**

The provisions of Mn/DOT 2051 are supplemented by the following:

S-52.1 The Contractor shall **NOT** use any City Street as a haul road unless approved by the Engineer and City.

S-53 **(2101) CLEARING AND GRUBBING**

Clearing and grubbing shall be performed in accordance with the provisions of Mn/DOT 2101 and the following:

S-53.1 The first paragraph of Mn/DOT 2101.3D Disposal Limitations, is revised to read as follows:

The Contractor shall dispose of trees, brush, stumps, roots, and other debris or byproducts by chipping, marketing, or burning. The Contractor:

S-53.2 Mn/DOT 2101.3D(4) under Disposal Limitations, is revised to read as follows:

(4) Shall conduct burning only after the disposal options are deemed impractical, and in accordance with 2104.3, Minnesota Rules Chapter 7009 and any applicable local ordinances. At no time shall waste tires, rubble, or plastics or similar materials be used to ignite the wood resources.

S-53.3 Mn/DOT 2101.3D(5) under Disposal Limitations, is revised to read as follows:

(5) Shall not bury trees, brush, stumps, roots, and other debris or by-products within the State or County Right of Way.

S-53.4 Mn/DOT 2101.3D1(a) under Marketable Trees, is revised to read as follows:

(a) Shall not burn or waste marketable trees without having written proof from three potential wood-using industries or individuals that the

wood is not wanted. This requirement only applies when the volume of marketable trees on the Project exceeds 75 m³ (**100 cubic yards or 20 cords or 10,000 board feet**).

- S-53.5 Mn/DOT 2101.3D2c(3) under Disposal Deadlines and Locations is revised to read as follows:
- (3) Within the Right of Way by burning or chipping, when allowed.
- S-53.6 The first paragraph of Mn/DOT 2101.3D3 Pine, is revised to read as follows:
- The Contractor shall dispose of all non-marketable pine trees, brush, stumps, roots, and debris by chipping, debarking, burning, or covering with an air tight tarp within 20 calendar days of being cleared during the growing season.
- S-53.7 Mn/DOT 2101.3D6 Burying is hereby deleted in its entirety.
- S-53.8 The first paragraph of Mn/DOT 2101.5 Basis of Payment, is revised to read as follows:
- Payment for the accepted quantities of clearing and grubbing at the Contract prices per unit of measure will be full compensation for all removal and disposal costs, including the costs of securing outside disposal sites as needed and on carrying out the specified treatment in disposing of elm, oak wilt infected red oaks, pine, and marketable trees.
- S-53.9 The areas to be cleared and grubbed shall be as defined by the greater of the construction limits or the clear zone requirements as shown on the plans.
- S-53.10 No tree shall be cut until the Engineer has marked it for removal. The Contractor shall remove only those trees necessary to be removed to construct the Project. All other trees shall be protected from damage during construction. Trees shall be felled so that they fall away from trees being saved. In the event that a tree being saved is damaged or scraped, the damaged area of the tree shall be painted with an approved pruning paint within one (1) hour of the damage. The Contractor shall have on hand at least one (1) full gallon of pruning paint at all times for this purpose.
- S-53.11 The third sentence of the first paragraph of Mn/DOT 2101.3C is hereby deleted. All stumps shall be removed completely to a minimum depth of 6 inches below the proposed ground surface.
- S-53.12 Bidders are hereby advised that, for public relation reasons as well as others, not all clearing and grubbing limits and trees to be removed will be identified and marked by the Engineer throughout the project limits at the beginning of construction activities. Clearing and grubbing operations shall be staged with grading activities on the project. Multiple mobilizations and demobilizations will be required to complete all

clearing and grubbing required on the project. The unit price bid shall include as many mobilizations and demobilizations as necessary to clear and grub the project limits as staked by the Engineer.

S-54 **(2102) PAVEMENT MARKING REMOVAL**

The provisions of Mn/DOT 2102 are modified and/or supplemented with the following:

S-54.1 In addition to the requirements above, the Contractor is responsible for determining what work areas have lead concentration above OSHA's Permissible Exposure Limit. That information is to be provided to the Project Engineer and Mn/DOT's Inspectors.

(A) Site Access

To ensure that no one is accidentally exposed to lead, people are not permitted into areas of high lead concentration without protection. Signs are used to indicate where unprotected people must not go. The signs shall say:

Warning. Lead Work Area. Poison. No Smoking or Eating.

(B) Protective Clothing

The Contractor must provide protective clothing for County inspectors in any area with lead exposure above 30 $\mu\text{g}/\text{m}^3$ or where the lead concentration is unknown. The clothing can be disposable or reusable. It must include coveralls or equivalent, shoe covers, and head covers. The Contractor is responsible for laundering the clothing and for providing clean clothing at least weekly or for daily disposal of the clothing. If the contaminated clothing can be reused, the Contractor is responsible for storing it.

(C) Wash Facilities

The Contractor must provide soap, water, and towels to enable County's inspectors to wash at the site. If showers are provided for the Contractor's employees, they must be available for County's inspectors, also.

The Contractor must provide a means to remove surface contamination from the inspector's clothing. That may be a HEPA vacuum, a downdraft booth (with the exhaust captured and cleaned), or other effective means that do not increase the concentration of airborne lead.

(D) Inspection Delay

The County's inspectors will not enter a blasting containment area until at least fifteen minutes after blasting and other lead dust-producing activities have stopped, to permit the dust to

settle. There will be no extra payment or penalty against County for this delay.

S-55 (2104) REMOVING PAVEMENT AND MISCELLANEOUS STRUCTURES

Pavement, abandoned and miscellaneous structures and other obstructions shall be removed from the Right of Way and disposed of in accordance with the provisions of Mn/DOT 2104 and the following:

S-55.1 Unless otherwise provided for under separate Contract Items, the removal of portions of abandoned utility lines and pipes when required for the new construction will be incidental work for which no direct compensation will be made.

S-55.2 No direct compensation will be made for plugging holes in existing drainage structures when removing pipe sewers from structures which are to remain in place. All costs associated with constructing a masonry patch to the satisfaction of the Engineer shall be incidental to the appropriate pipe removal pay item.

S-55.3 Pavement removal shall be staged as necessary to comply with the requirements of construction staging, traffic control, and Mn/DOT 1404.

The Engineer shall have the right to require the removal of the existing pavement, curb, curb and gutter, sidewalk (in accordance with other provisions governing sidewalk removal), and other removals as may be required throughout the Project to aid in the installation/relocation activities of the utility companies working within the project limits. Said removals shall be completed within 5 working days of the Engineer's order to do so and shall be completed at the appropriate Contract unit price.

S-55.4 The fourth paragraph of Mn/DOT 2104.5 is hereby deleted. The removal of all concrete or bituminous surfacing, without regard to thickness, shall be paid for under Item 2104.503 Remove Pavement.

S-55.5 Payment at the Contract unit price per each for Item 2104.501 Remove Manhole or Catch Basin shall be compensation in full for all costs of complete removal and disposal of the concrete base and all components of the existing casting assembly.

S-55.6 Item 2104.501 Remove Retaining Wall is for the removal of existing modular block and masonry retaining walls within approved removal limits regardless of size or type.

The method of measurement for Remove Retaining Wall shall be by the length along the base of the wall. Payment at the Contract unit price per foot shall be compensation in full for all costs of removing and disposing of the retaining walls entirely, including that portion embedded below ground and any tie-back system that may exist. Payment for retaining

wall removal shall be made at the Contract unit price per linear foot regardless of the height or type of wall removed.

S-55.7

Stones from the Historic Masonry Creek Stone Retaining Walls along the north and south sides of the creek, west of the bridge shall be salvaged, if possible. Salvaging shall be accomplished by hand by a prequalified Stone Restoration Specialist. The Stone Restoration Specialist who is prequalified and selected by the Contractor shall submit the proposed method for salvaging stones to the Engineer for review and approval by the Engineer in cooperation with CRU and SHPO. This review and approval process may take up to 21 calendar days.

The Contractor shall not begin any salvaging of wall stones or wall removal prior to obtaining the Engineer's approval of the proposed extent of wall removal. The Engineer will consult with CRU and SHPO before approving these limits. The approval process may take up to 7 calendar days and the Contractor with the Stone Restoration Specialist shall be available to meet with the Engineer, CRU, and SHPO to discuss both the method of stone salvaging and limits of wall removal.

Salvaged stones shall be stockpiled on site and protected from damage by other construction activities, natural elements, and potential theft until the stones are used for reconstruction of the masonry creek stone retaining wall along the north side of the creek. Protection shall include but not be limited to covering with a tarp and surrounding the storage area with a fence. Stones that are deemed to be unusable along with other debris from the salvaging of stones and wall removal shall be disposed of by the Contractor. Excess salvaged stones, if any, shall be placed by the Contractor within the landscaped areas of the project where directed by the Engineer. Placement of the excess stones shall be considered incidental with no additional compensation allowed therefore.

Item 2104.618 Salvage Masonry Stone Retaining Wall at the unit price bid per square foot shall be full compensation for all labor, equipment, and materials required to salvage reusable stones, completely remove the two walls within the approved removal limits, stockpile and protect salvaged stone, and dispose of debris from removal of the two walls. Measurement of each wall shall be accomplished prior to beginning salvaging and shall be made on the exposed face of the wall. The bottom of each wall shall be the point where the existing creek bottom meets the wall regardless of whether or not the wall extends below the existing creek bottom. Measurement shall include void areas below existing stones where it is apparent that stone has deteriorated, fallen, or been washed into the creek.

S-55.8

If the Contractor is required to dispose of treated wood the following shall apply:

TREATED WOOD DISPOSAL

This work consists of disposing of treated wood in accordance with the following:

(A) Description of Services

For each site the Contractor shall:

- Describe the method of material pickup and the expected material condition, i.e.: specific lengths, etc.
- Describe the method of waste material transport and waste material disposal site.
- Dispose treated wood in a MPCA permitted lined solid waste landfill (not a demolition landfill).
- The Contractor has the option to chip creosote treated wood on site. After the wood is chipped on site, it can be transported off site and incinerated at a MPCA permitted incinerator. Call 651-366-3630 for a list of incinerators permitted to burn creosote treated wood. This applies to creosote treated wood only.
- Within 30 days after the treated wood is transported off site, the Contractor shall provide the Project Engineer with disposal records. Records include manifests, scale tickets, and invoices. Records shall indicate type of treated wood, quantity, date and location of disposal.

S-55.9 Item 2104.501 Remove Conduit System is for the removal of lighting and signal conduit, not included in either the lighting system or signal system lump sum pay items. The Contract unit price per linear foot shall include all costs associated with removal and disposal of conduit per the attached specs: “Technical Specifications for the Excavation of Asbestos – Containing Electrical Conduit”, City of Minneapolis requirements and the MPCA.

S-55.10 Item 2104.523 Salvage Signs Type C is for salvaging existing signs as indicated in the plans and as directed by the Engineer. The Contract unit price per each shall be compensation in full for all costs associated with salvaging these signs and storing them at the designated location within the project.

Type C signs may be salvaged and stockpiled with the existing posts intact. All posts not salvaged with the sign panels shall be removed and disposed in accordance with Mn/DOT 2104.3C3 by the Contractor as an incidental expense to Item 2104.523 Salvage Sign Type C.

S-55.11 When salvaging a sign or sign panel, the Contractor shall remove and salvage all posts, A-frame angle brackets, stringers, as well as the nuts, bolts and washers in such a manner so as not to damage the sign panel. If the Contractor damages any sign panel during the salvage operations, and

the Engineer or his representative determines that the damaged sign panel cannot be reused, the Contractor shall dispose of the damaged sign panel and furnish a new replacement sign panel, in accordance with the applicable fabrication specifications contained elsewhere in these Special Provisions, at no cost to the County.

The Contractor shall store all salvaged signs on the job site as directed by the Engineer until installed under Item 2564.537 Install Sign Type C by the each.

S-55.12 Debris resulting from the concrete sidewalk removal, curb removal, , pipe removal, catch basin and manhole repair and/or construction, etc., shall be disposed of by the contractor outside of the right of way as set forth in Mn/DOT 2104.3C3 as incidental work for which no direct compensation will be made.

S-55.13 Any damage to any inplace pavement, roadway structure or appurtenance, including but not limited to traffic control signal systems, lighting cable, etc., caused by the Contractor's actions or failure to act shall be repaired by the Contractor as directed by the Engineer at no cost to the County. Final acceptance of the project will not occur until all such damage has been repaired by the Contractor to the satisfaction of the Engineer.

S-55.14 Measurement and payment for the removal and disposal of materials will be made only for those Items of removal work specifically included for payment as such in the Proposal and as listed in the Plans. The removal of any unforeseen obstruction requiring in the opinion of the Engineer equipment or handling substantially different from that employed in excavation operations, will be paid for as Extra Work as provided in Mn/DOT 1403.

S-56 (2105) EXCAVATION AND EMBANKMENT

Excavation and embankment construction shall be performed in accordance with the provisions of Mn/DOT 2105 and the following:

S-56.1 Material from the top 1 foot of the natural soil shall not be used in the upper 3 feet of the roadbed.

S-56.2 The last paragraph in Mn/DOT 2105.3B Preparation of Embankment Foundation, is revised to read as follows:

Before backfilling depressions within the roadway caused by the removal of foundations and other structures, the contractor shall enlarge the depressions as directed by the Engineer.

S-56.3 The first and second sentences, in the second paragraph in Mn/DOT 2105.3D Disposition of Excavated Material, are revised to read as follows:

When the soils are so varied that selection and placement of uniform soils is not practical, the Contractor shall use disks, plows, graders or other equipment to blend and mix suitable soils to produce a uniform soil texture, moisture content and density; except that, all soils that contain 20

percent or more particles passing the #200 sieve shall be blended, mixed and dried with a disk, within the entire upper 6 feet of embankment. The disk shall meet the requirements of 2123 N, Disk Harrow. A disk is also to be used below the upper 6 feet of the embankment fill area, if in the opinion of the Engineer, the Contractor is not producing a uniform soil texture.

- S-56.4 The fifth paragraph in Mn/DOT 2105.3D Disposition of Excavated Material is revised to read as follows:
- Peat, muskeg, and other unstable materials that are not to be used in the roadbed embankments shall be deposited in the areas indicated in the Plans or elsewhere as approved by the Engineer. All other material that is considered unsuitable for use in the upper portion of the roadbed shall be placed outside of a 1:1 slope down and outward from the shoulder lines on fills under 30 feet in height or outside of a 1 vertical to 1.5 horizontal slope down and outward from shoulder lines on fills over 30 feet in height, or used to flatten the embankment slopes, or disposed of elsewhere as approved by the Engineer.
- S-56.5 The second sentence in the eighth paragraph of Mn/DOT 2105.3D Disposition of Excavated Material, is revised to read as follows:
- No stones exceeding 6 inches in greatest dimension will be permitted in the upper 3 feet of the roadbed embankment.
- S-56.6 The fourth to last paragraph in Mn/DOT 2105.3D Disposition of Excavated material, which begins with “All combustible debris materials (stumps, roots, logs, brush, etc.) together with all...” is hereby deleted and replaced with the following:
- All noncombustible materials other than soils (oversized rock, broken concrete, metals, plastic pipe, etc.) shall be disposed of in accordance with 2104.3C.
- S-56.7 All excavated material that is unsuitable or not required for embankment construction or for topsoil, shall be disposed of by the Contractor at no expense to the County, outside of the right of way, subject to the provisions of Mn/DOT 2104.3C3 and Mn/DOT 2105.3D.
- S-56.8 Bidders are advised that Mn/DOT 2105.5 regarding Muck Excavation is modified to the extent that Contract unit prices for such excavation will not be adjusted for excavation at depths of 15 feet or more below the natural ground surface.
- S-56.9 The Contractor shall salvage, stockpile and reuse any suitable topsoil material as topsoil. An estimated quantity of topsoil borrow has been provided in the Bid Proposal for use on the project in the event the on-site topsoil material salvaged does not provide an adequate amount to meet the project requirements. No topsoil borrow shall be placed on the project

until the Engineer has directed the Contractor to do so. The provisions of Mn/DOT 1903 shall not apply to Item 2105.525 Topsoil Borrow (LV).

- S-56.10 The Contractor shall salvage, stockpile and reuse select grading material designated by the Engineer for use within the roadway embankment, subgrade or other areas of the project. An estimated quantity of select granular borrow has been provided in the Bid Proposal for use on the project in the event that excavated material from within the project construction limits does not provide an adequate amount of grading material to meet the project requirements. No select granular borrow shall be placed on the project until the Engineer has directed the Contractor to do so. The provisions of Mn/DOT 1903 shall not apply to Item 2105.522 Select Granular Borrow Mod 10% (CV).
- S-56.11 Compaction of all embankments construction, including culvert backfills, shall be obtained by the “Quality Compaction” Method described in Mn/DOT 2105.3F.
- S-56.12 Excess soils and rock not used on the Project shall become the property of the Contractor and shall be disposed of outside of the Right of Way. No direct compensation will be paid for the preparation of any acceptable Disposal Plan or for Off-Project disposal of excess materials. Disposal sites shall be left in a well graded condition with all solid wastes and boulders adequately covered.
- S-56.13 No disposal shall occur in those areas defined below as “environmentally sensitive” unless the contractor can document that: 1) non-sensitive areas are not available; or that 2) the material can be used to benefit an “environmentally sensitive” area. All necessary permits for the disposal operations shall be obtained by the contractor and approval from the appropriate State and Federal Agencies shall be included in the Contractor’s Disposal Plan.
- (A) No disposal shall occur in the following “environmentally sensitive” area:
- 1) Wetlands, as described in “Wetlands of the United States”, Circular 39, published by the U.S. Department of Interior, Fish and Wildlife Service;
 - 2) 100-year frequency flood plains;
 - 3) Archaeological or historic sites – See Section 1701 (LAWS TO BE OBSERVED (CULTURAL RESOURCES)) of these Special Provisions for specific requirements;
 - 4) Areas with stability or settlement problems;
 - 5) Areas with artesian conditions;
 - 6) Unique animal or plant communities;

- 7) Landscapes or geologic formations with exemplary, unique, rare or threatened/endangered characteristics.
- (B) Any environmentally sensitive areas shown in the Plan are approximate only. If it is anticipated that said areas may be affected by disposal site usage and/or any of the Contractor's operations, the Engineer will determine exact limits on an "as needed basis".
- (C) Prior to the disposal of any excess grading materials, concrete rubble, bituminous materials, or any other materials requiring disposal, the contractor shall have on file a written Disposal Plan with written approval by the Engineer. The written Disposal Plan must reflect not only the above requirements, but also the following points:
- 1) That legal permission from the property owner has been obtained;
 - 2) That all required local and county disposal permits have been obtained;
 - 3) That the MPCA has reviewed and granted permits as necessary for solid waste disposal;
 - 4) That the disposal area and Plan meet with requirements of the U.S. Fish and Wildlife Service as noted in Executive Order 11990 and Circular 39, as verified by field review. In this regard, the contractor shall give notice sufficient to permit the Engineer and a County representative to conduct a site review; and
 - 5) That the limits of the disposal area will be staked by the Contractor so as to accommodate the site review and aid the Contractor in limiting disposal operations so that encroachments do not inadvertently occur.

The Contractor is required to present his/her Disposal Plan in detail at the Pre-Construction Conference.

S-56.14 The Contractor will be permitted to salvage for use on this or other projects all existing bituminous and concrete materials removed from within the roadway excavation limits. Any use of salvaged materials, however, shall be subject to the material specifications of its intended uses.

S-56.15 The first sentence of the third paragraph of Mn/DOT 2105.3G is hereby deleted and replaced with the following:

Earthwork finishing and topsoil covering operations, along with temporary protection or permanent cover (as defined in Appendix A to the attached "General Permit Authorization to Discharge Storm Water Associated with a Construction Activity Under the National Pollutant Discharge Elimination System/State Disposal System Permit Program") shall be conducted concurrently with the grading operations so as to permit

prosecution and completion of temporary protection or permanent cover at the earliest practicable time within the required time frames included in any and all applicable permits.

- S-56.16 The following is hereby added to the provisions of Mn/DOT 2105.5:
No payment will be made for grading practices used to minimize or repair erosion nor for excavation to remove sediment deposits resulting from erosion.

S-57 (2123) STREET SWEEPER (WITH PICKUP BROOM)

This work shall consist of removing aggregate and soil sediments from paved portions of the project, or adjacent roadways, open to the traveling public.

Removal shall be accomplished with self-propelled street sweeping equipment. All materials shall be collected and retained within the sweeping equipment as they are swept. Disposal of the swept material shall be in accordance with Mn/DOT 2104.3C.

Sweeping shall be accomplished as directed by the Engineer and in accordance with any applicable permits obtained for the construction of the project. The Contractor shall have the responsibility to inform the project engineer, or designated representative, of any roadways within or adjacent to the project which are experiencing aggregate or soil deposits due to the project construction activities.

- S-57.1 The need for roadway sweeping and cleaning is directly related to the construction activities being performed on the project. At times sweeping and cleaning operations may be needed on a daily basis and other times less frequent needs will exist. When appropriate, a sweeping and cleaning schedule may be developed to ensure adequate debris removal from the roadways on a timely basis.

- S-57.2 Roadway sweeping and cleaning shall commence at the times agreed to in a sweeping and cleaning schedule, if one is developed, or within two hours of the project engineer's (or designated representative) order to perform sweeping and cleaning activities. Failure to perform sweeping and cleaning activities in accordance with all applicable permits and as directed by the Engineer will result in the assessment of non-compliance charges. Non-compliance charges, for each separate incident, will be assessed at an hourly rate equal to \$50.00 per hour each hour or any portion thereof which the Engineer determines that the Contractor has not complied.

- S-57.3 The method of measurement and basis of payment for Item 2123.610 Street Sweeper (with Pickup Broom) shall be by the hour for the actual time spent sweeping the project roadways or adjacent streets as directed by the Engineer.

Payment by the hour, as measured to the nearest one-half hour, shall be compensation in full for all costs incidental thereto, including but not limited to labor, equipment, water and debris disposal. No additional compensation shall be paid for overtime labor which may be required to complete all necessary sweeping.

The unit price bid for Item 2123.610 Street Sweeper (with Pickup Broom) shall not be subject to any price adjustments as provided in Mn/DOT 1903.

- S-57.4 Payment under Item 2123.610 Street Sweeper (with Pickup Broom) will only be for those hours of sweeping necessary to keep the project roadways and adjacent roadways clean from construction debris as ordered by the Engineer. No payment will be made for sweeping normally required to construct the project as specified; such as between bituminous lifts, prior to bridge deck low slump overlays, prior to curb and gutter construction on bituminous base, prior to placement of traffic markings, etc. No payment will be made under this item for sweeping done by "kickoff brooms".

S-58 (2130) APPLICATION OF WATER

The provisions of Mn/DOT 2130 shall govern except as modified below:

The following paragraph is hereby added to the requirements of Mn/DOT 2130.2:

Water can be metered and purchased at residential rates at hydrants designated by the City of Minneapolis.

S-59 (2211) AGGREGATE BASE

Aggregate base courses shall be constructed in accordance with the provisions of Mn/DOT 2211 except as modified below:

- S-59.1 The following is hereby added to the end of the first paragraph of Mn/DOT 2211.3C:

Blade mixing the material will be required as may be necessary to produce a substantially uniform gradation and moisture content.

- S-59.2 Compaction shall be achieved by the "Quality Compaction Method" described in Mn/DOT 2211.3C.

- S-59.3 The last paragraph in Mn/DOT 2211.3C2 Quality Compaction Method is revised to read as follows:

The Engineer may elect to perform density tests as shown in the Mn/DOT Grading and Base Manual, as needed to assist inspection. The actual density obtained by testing the aggregate base must meet or exceed the requirements shown in 2211.3C1 Specified Density or 2211.3C3 Penetration index Method in order to be acceptable.

S-59.4 The first sentence in Mn/DOT 2211.3F1 Gradation Control, is revised to read as follows:

The Contractor and/or aggregate producer shall be responsible for maintaining a gradation control program in accordance with the random sampling acceptance method described in the Mn/DOT Grading and Base Manual.

S-59.5 Mn/DTO 2211.3F2(d) under Acceptance Testing is hereby deleted and replaced with the following:

Samples for gradation testing will be taken randomly by the engineer prior to compaction, in accordance with the random sampling method described in the Grading and Base Manual.

S-59.6 Mn/DOT 2211.3F2(j) under Acceptance Testing, is revised to read as follows:

- (j) One gradation sample will be taken from each subplot and tested. Payment will be based on the average results from the four subplot samples for each specified sieve.

S-59.7 The third paragraph after Mn/DOT 2211.3F2(k) under Acceptance Testing, is revised to read as follows:

A 5% price reduction will be assessed to both individual or averaged test lots for each test result that fails to meet specified gradations for sieve sizes not listed in Tables 2211-B and 2211-C by more than 2%. These price reductions are cumulative and shall be analyzed both separately and averaged by lot when applicable.

S-59.8 Table 2211-B in Mn/DOT 2211.3F2 Acceptance Testing, is hereby deleted and replaced with the following:

Table 2211-B
AGGREGATE BASE PAYMENT SCHEDULE
(4 Sublots/4 Samples)

% Passing Outside Specified Limits*		
4.75 mm (#4) 2.00 mm (#10) And 425 µm (#40) Sieves	75 µm (#200) Sieve	Acceptance Schedule (Price Reduction)
1	0.1	5%
---	0.2	6%
---	0.3	9%
---	0.4	11%
---	0.5	14%
2	0.6	15%
>2	>0.6	Corrective Action

* Based on average of 4 tests
Price Reductions for more than one failing sieve size shall be cumulative. The compensation due to the Contractor for the quantity of material represented by the failing test results shall be reduced by the sum of the respective percentages.
The Contractor does not have the option of taking a price reduction in lieu of complying with the Specifications.

- S-59.9 The following is added to Table 2211-C in Mn/DOT 2211.3F2 Acceptance Testing:
Substantial compliance will be applied to no more than one test failure. Substantial compliance will be eliminated when two or more test failures occur and test failures meeting substantial compliance will be subject to the next higher price reduction. One sieve failure = one test failure. Test failures for each material type will be treated separately.
- S-59.10 The following is added to Table 2211-D in Mn/DOT 2211.3F2 Acceptance Testing:
Substantial compliance will be applied to no more than one test failure. Substantial compliance will be eliminated when two or more test failures occur and test failures meeting substantial compliance will be subject to the next higher price reduction. Test failures for each material type will be treated separately.
- S-60 (2232) MILL PAVEMENT SURFACE**
Milling of the existing surfacing shall be accomplished in accordance with the provisions of Mn/DOT 2232, the details in the plans, and the following:
- S-60.1 Historical records indicate that the existing surfacing on that portion of CSAH 22 included in this Contract consists entirely of bituminous throughout the pavement section.
- S-60.2 Milling of the existing bituminous surfacing shall be accomplished on the roadways included in this Contract in accordance with the following:
- A. Longitudinally along the front of the gutter and across each intersecting street as detailed in the plans.
 - B. The Engineer shall have the right to modify the milling locations, widths and depths from those depicted in the plans as may be necessary, in his opinion, to complete the work in a manner that will result in sound bituminous overlay, within the scope of the Contract.
 - C. The maximum depth of bituminous pavement milling, per square yard payment, shall be 1.5 inches. In the event the Engineer determines the existing conditions require milling to a depth greater than 1.5 inches, separate measurement and payment will be made, at

the Contract unit price, for those areas where milling is completed to a depth greater than 1.5 inches.

S-60.3 Payment made at the Contract unit price per square yard for Item 2232.501 "Mill Bituminous Surface" shall be compensation in full for all costs associated with completing milling of the existing bituminous surfacing in accordance with the Contract documents, and as may be modified by the Engineer. It is understood that the depth of milling may range from 0 to 1.5 inches at any location within the area to be milled; up to and including a consistent depth of 1.5 inches across the entire width of the roadway.

Separate measurement and payment will be made under the Contract unit price per square yard for Item 2232.501 "Mill Bituminous Surface" for each area where additional milling (again ranging from 0 to 1.5 inches) may be required by the Engineer.

S-60.4 In those locations where castings and valve boxes exist within the limits of the milling, the removal of the existing pavement immediately adjacent to the castings and valve boxes shall be accomplished to the designed milling depth and cross-slope such that the vertical side of the existing casting or valve box is exposed. Use of small milling machines, chipping hammers or other equipment as may be necessary to comply with this requirement shall be incidental to the milling pay items included in the Contract.

S-60.5 The provisions of Mn/DOT 1903 shall not apply to Items 2232.501 Mill Bituminous Surface.

S-61 CERTIFIED READY-MIX CONCRETE PLANTS

Mn/DOT 2461.4D7 is hereby deleted and replaced with the following:

D7 Certified Ready-Mix Plant Program

Mn/DOT requires quality control of concrete production under a Certification program for ready-mix concrete plants. The Prime Contractor is responsible to assure that all ready-mix concrete used on this Contract is produced by a certified ready-mix plant.

To ensure that proper testing procedures and documentation are followed, the Ready-Mix Producer shall obtain and have on site a copy of the current Mn/DOT Concrete Manual. The manual is available via the Mn/DOT Concrete Engineering Unit website.

To facilitate communication between the Producer and the Engineer regarding quality control, the Producer shall equip the Certified Ready-Mix Plant with a working facsimile machine or a working email address.

D7a Certification Documents

The Contractor shall obtain all of the ready-mixed concrete used on this Contract from a Certified Concrete Plant meeting all of the pertinent

requirements of Mn/DOT Standard Specifications 1604 and 2461 and the following.

It is the Prime Contractor's responsibility to ensure that the Ready-Mix Concrete Producer adheres to all of the requirements. At the time of delivery, a Certificate of Compliance shall accompany each truckload of ready-mixed concrete used by the Contractor or any sub-contractor on this Contract. **A computerized Certificate of Compliance is required when supplying any concrete for an Agency Contract.** Computerized means that the concrete mix design quantities batched are recorded from load cells and meters.

If the computer that generates the Certificate of Compliance malfunctions, the Producer may finish any pours that are in progress provided the plant issues handwritten Certificates of Compliance on the most current version of Mn/DOT form TP 00042. New pours shall not commence without a working computerized Certificate of Compliance.

If the distance of the Certified Plant to the point of placement does not allow delivering the concrete in compliance with 2461.4D6, the Contractor may supply concrete from a non-certified source provided less than 20 cubic meters (yards) of Agency concrete is produced each day and a handwritten Certificate of Compliance Form TP 00042 is provided.

The Certificate of Compliance shall label each item of information and shall include:

- 1) Name of the ready-mix concrete plant
- 2) Name of the Contractor
- 3) Date
- 4) State Project Number (SP) or (SAP)
- 5) Bridge Number (when applicable)
- 6) Time concrete was batched
- 7) Truck number
- 8) Quantity of concrete in this load
- 9) Running total of each type of concrete, each day for each project
- 10) Type of concrete (Mn/DOT Mix Designation Number)
- 11) Cementitious Materials (portland cement, ground granulated blast furnace slag, fly ash, silica fume, others) including brand, type and production mill and production power plant for fly ash using MN/DOT Standard Abbreviations available on the Concrete Engineering Unit website
- 12) Admixture brand and product name using MN/DOT Standard Abbreviations
- 13) Aggregate sources using State Pit Numbers

- 14) Admixture quantity per 100 wt. of cement or oz/cm(cy) for:
- air-entraining admixtures,
 - water reducing admixtures,
 - other admixtures
- 15) The Certificate of Compliance shall list the batch information for all materials and use Mn/DOT standardized labels to represent each column in the order listed below. It is preferable that all the information is presented across the page (a through k) but printing the information using two lines is satisfactory provided that the materials are identified in each line of information and is presented in the following order.

Metric Certificate of Compliance		
<u>CATEGORY</u>		<u>STANDARD LABEL</u>
a) Ingredients (aggregate, cementitious, water, admixtures)		<u>Ingredient</u>
b) Product Source (Mn/DOT Standard Abbreviation)		<u>Source</u>
c) Total Moisture Factor (in decimals to 3 places)		<u>MCFac</u>
d) Absorption Factor (in decimals to 3 places)		<u>AbsFac</u>
e) Mn/DOT mix design oven dry (OD) weights (kg/m³)		<u>OD</u>
f) Absorbed moisture in the aggregates (kg/m³)	<i>(e x d)</i>	<u>Abs</u>
g) Saturated surface dry (SSD) weights for aggregates (kg/m³)	<i>(e + f)</i>	<u>SSD</u>
h) Free moisture (kg/m³)	<i>(c - d) x e</i>	<u>Free Mst</u>
i) Target weights for one cubic meter of concrete (kg/m³)	<i>(g + h)</i>	<u>CM Targ</u>
j) Target batch weights (kg)	<i>(CMs x i)</i>	<u>Target</u>
k) Actual batch weights (kg)		<u>Actual</u>

English Certificate of Compliance

<u>CATEGORY</u>		<u>STANDARD LABEL</u>
a) Ingredients (aggregate, cementitious, water, admixtures)		<u>Ingredient</u>
b) Product Source (Mn/DOT Standard Abbreviation)		<u>Source</u>
c) Total Moisture Factor (in decimals to 3 places)		<u>MCFac</u>
d) Absorption Factor (in decimals to 3 places)		<u>AbsFac</u>
e) Mn/DOT mix design oven dry (OD) weights (lbs/cy)		<u>OD</u>
f) Absorbed moisture in the aggregates (lbs/cy)	$(e \times d)$	<u>Abs</u>
g) Saturated surface dry (SSD) weights for aggregates (lbs/cy)	$(e + f)$	<u>SSD</u>
h) Free moisture (lbs/cy)	$(c - d) \times e$	<u>Free Mst</u>
i) Target weights for one cubic yard of concrete (lbs/cy)	$(g + h)$	<u>CY Targ</u>
j) Target batch weights (lb)	$(CYs \times i)$	<u>Target</u>
k) Actual batch weights (lb)		<u>Actual</u>

Note: Actual cubic meters (cubic yards) batched may vary due to differences in: air content, weight tolerances, specific gravities of aggregates and other variables.

- 1) Total Water (Batch Water + Free Moisture) (kg/lbs)
- 2) The Certificate of Compliance shall compute the water available to add [(Mix Design Water)x (Target CM (CY's)) – Total water] (liters/gallons)

The Certificate of Compliance shall provide space for water adjustment information, including:

1. Water in liters (gallons) added to truck at plant (filled in by batchman or driver)
2. Water in liters (gallons) added to truck at the jobsite (filled in by driver)
3. Total actual water in kg (lbs) = **(Total Water from Certificate of Compliance + any additions)** (filled-in by Field Inspector)

Note: Drivers are required to fill-in spaces. Enter Zero (0) if no water is added.

- 16) The ticket shall also include the following information printed with enough room beside each item to allow the field inspector to record the appropriate test results: air content, air temperature, concrete temperature, slump, cylinder number, location/part of structure, time discharged, and signature of Inspector.
- 17) Location for Producer's Representative signature.

A Mn/DOT Certified Plant I Technician representing the Producer shall review the first Certificate of Compliance for each mix type, each day, for accuracy and hand sign the Certificate at a location designated for signature. By signing the Certificate of Compliance the representative agrees to the terms of this policy and certifies that the materials itemized in this shipment comply with the applicable Minnesota Department of Transportation specifications and the Project Plans.

Definitions

Mix Design Water – The maximum allowable water content for one cubic meter (yard) of concrete as noted on Mn/DOT Estimated Composition of Concrete Mixes Form TP-02406

Total Moisture Factor - See 5-694.311 of Concrete Manual

Absorption Factor - See 5-694.311 of Concrete Manual

Free Moisture – The water that is carried on the surface of the aggregate that becomes part of the total water

Batch Water – Water actually batched into the truck by the batcher

Total Water = Batch Water + Free Moisture

Temper Water – Water added in mixer to adjust slump.

Total Actual Water - The water in the concrete mixture at the time of placement from any source other than the amount absorbed by the aggregate. It includes all batch water placed in the mixer, free moisture on the aggregate and any water added to the ready mix truck prior to placement

Ready-Mix Producer or "Producer" – Party that is producing the concrete for the Contract. It is understood that the Ready Mix Producer is the agent of the Prime Contractor

D7b Quality Control Testing and Sampling

The Prime Contractor/Producer, supplying concrete from a Ready-Mix Plant involved in the Certified Plant Program, will provide testing of the materials in the concrete as outlined below. A Plant Level II Technician Quality Control Supervisor, certified by Mn/DOT, shall oversee all testing and plant operations. The Quality Control Supervisor shall remain on site during concrete production or be accessible by cellular phone to assure their presence at the plant site within one hour. A Mn/DOT Certified Plant Technician will maintain or oversee the maintenance of a plant diary. The diary, kept at the plant site for 5 calendar years, will document

yards produced each day, tests performed, material problems, breakdowns, weather, etc., all to the approval of the Engineer.

The testing rates stated in the Schedule of Materials Control are minimums. **All samples shall be taken in a random manner using an appropriate number generator.** Changes in the material require taking additional tests. Changes include but are not limited to: variable gradation results, new aggregates arriving on site, moisture conditions changing due to weather, or any other condition that warrants additional testing in the opinion of the Engineer. **The Agency may determine when additional testing is necessary.**

Mechanical shakers are required for sieve analysis of fine and coarse aggregates. AASHTO Standard Specifications for Transportation Materials and Methods of Sampling and Testing discuss the equipment and calibration necessary for performing the required tests. The following is a list of the applicable tests and standards.

- AASHTO T-27.....Sieve Analysis of Fine and Coarse Aggregates
- AASHTO T-255.....Total Moisture Content of Aggregate by Drying
- AASHTO M-92Wire-Cloth Sieves for Testing Purposes. The sieves shall comply with the requirements of 5-693.420B of the Department's Bituminous Manual "Equipment Calibration and Verification Policies and Procedures for Laboratory certification".
- AASHTO M-231Weighing Devices Used in the Testing of Materials. The scales shall comply with the requirements of 5-693.820 of the Department's Bituminous Manual "Calibration of weigh scales".

The provisions of 2461.4D3 apply regarding requirements to notify the Engineer of intent to pour concrete. If the Ready-Mix Producer needs to change plants for an unexpected reason, it is allowable on an infrequent basis if the Quality Control Supervisor obtains approval from the Project Engineer or Metro Inspection (for the Metro District) before the plant change is made.

The Agency Plant Monitor shall watch the material sampling process whenever possible.

D7c Moisture Content

All moisture tests are run by a Plant Level I Technician certified by Mn/DOT.

The Ready-Mix Producer shall determine the moisture content in all fractions of the aggregate according to the Schedule of Materials Control. Changes in the material may require additional testing. The Producer is responsible for all costs associated with determining the moisture content, including equipment, labor, and materials.

The Ready-Mix Producer will provide the Agency with all documentation for each moisture test, which is kept on file at the plant site for 5 calendar years. The moisture content of each aggregate is charted and available at the plant. The Producer must allow Agency personnel to observe the batching process to verify weights shown on the Certificate of Compliance.

D7c1 Moisture Content Determination by Oven Dry Method

The moisture content of the aggregate is determined by the oven dry method as outlined in the Mn/DOT Concrete Manual.

D7c2 Moisture Content Determination by Moisture Probe

In lieu of performing oven dry moisture contents on fine aggregate, the Producer may use a moisture probe. This method is acceptable if an Agency Representative has approved use of the moisture probe. To obtain approval for the use of a moisture probe, the Producer must calibrate the moisture probe before each construction season using the method described in 5-694.142 of the Mn/DOT Concrete Manual. The written permission of the Engineer is required to use other methods.

The Producer must complete an oven dry moisture comparison on the fine aggregate and chart both the probe moisture content and the oven dry method results at a minimum rate of once per week.

D7d Gradations

All gradation testing is performed by a Plant Level I Technician certified by Mn/DOT. Testing rates shall be determined according to the Schedule of Materials Control.

The Ready-Mix Producer shall determine the gradation of the fine aggregate to insure conformity to Mn/DOT Specification 3126 and the coarse aggregates to insure conformity to Mn/DOT Specification 3137 or as otherwise required or permitted in the Special Provisions of the contract. The Producer is responsible for all costs associated with running gradations including equipment, labor and materials. The Producer shall perform all testing at the plant site to assure immediate re-sampling and testing of failing material.

The Producer shall run gradations and perform calculations as outlined in the Mn/DOT Concrete Manual. The Producer shall split and bag all Quality Control samples and clearly identify them (Date, Test No., Time, Type of Material, Plant, Sampling Location) and retain them for a period of two weeks for companion sampling by the Agency.

The Ready-Mix Producer shall document the results of all gradations on the Weekly Concrete Aggregate Report (Mn/DOT Form 2449) utilizing every other column to provide room for Agency companion results. The Ready-Mix Producer will chart all sieves of the coarse aggregate and the

2.36 mm (#8), 600 µm (#30), and 300 µm (#50) sieves of the fine aggregate quality control samples using procedures outlined in the Concrete Plant I Certification Course. In addition, the Producer shall plot the results of the Agency verification samples on the same chart. Supporting documentation for all gradations and charts is kept on file at the plant site for 5 calendar years.

Agency Plant Monitors will take verification samples for quality assurance according to the Schedule of Materials Control. **(NOTE: Where problems with compliance with the Certified Ready Mix Program occur, plant inspections and testing rates shall increase).**

Agency Plant Monitors shall observe the actual water batched on a minimum of one load of concrete each time a verification gradation is collected. This observation includes: watching the ready-mix truck reverse the drum after washing to remove all wash water, checking to verify that an accurate moisture test is utilized during batching, confirming that the water measuring device is providing accurate data, and verifying that any additional water added to adjust the slump is recorded. It is extremely important that the actual water is verified since the durability of the concrete depends on maintaining a low water-cement ratio. The Agency Plant Monitor shall document the actual water batched on the Weekly Certified Ready-Mix Plant Report (Mn/DOT Form 24143) and submit a copy to the Concrete Engineering Unit with a copy of the Weekly Concrete Report (Mn/DOT Form 2448).

If the gradation tests on split samples from quality control or verification samples result in a variation between the Producer and the Agency greater than that set forth below, the two parties will cooperatively take and split a new sample. The Producer’s representative shall test the sample while witnessed by the Agency Plant Monitor. This will serve as a check on the process to correct deviations from the standard testing procedure. If this problem continues, the Project Engineer, the District Materials Engineer and the Concrete Engineer will make a total review of this plant.

If the results still do not agree, the parties shall resolve the dispute by Third Party Resolution according to procedures described in the Mn/DOT Contract Administration Manual.

Allowable variations on percent passing any sieve:

Sieve	% Allowed
50 mm - 9.5 mm (2" - 3/8")	+ or - 6
4.75 mm - 600 µm (#4 - #30)	+ or - 4
300 µm (#50)	+ or - 3
150 µm (#100)	+ or - 2
75 µm (#200)	+ or - 0.6

The Ready-Mix Producer, after an acceptable time period, may request a reduction in testing rates if past results warrant. Such a request is subject to approval by the Mn/DOT Concrete Engineer. This approval is based on extraordinary procedures performed by the Aggregate Supplier and Ready-Mix Producer to insure consistency and quality control. Extra fractions and bins are an example of such a procedure.

D7e Concrete Plant Contact Report

Prior to the production of Agency concrete each construction season, an Agency Plant Monitor shall perform a thorough on-site inspection of the concrete plant and complete a Concrete Plant Contact Report (Mn/DOT Form 2163). This Contact Report contains the information necessary to assure that the plant can produce concrete meeting specifications. The Producer signs the report thereby certifying compliance with the Certified Ready Mix requirements and continual maintenance of the plant as reviewed.

D7f Non-Compliance

If a proposed plant cannot produce concrete, perform testing, or report information as required during completion of the Concrete Plant Contact Report, concrete from this plant is not acceptable.

After completing the Concrete Plant Contact Report and starting the Project, any procedural changes that cause non-compliance with this program will result in decertification of the plant and cessation of further production of concrete for this Project. Decertification will also occur at any plant that continually produces concrete that is in noncompliance as detailed above. Complete disregard of this specification or fraudulent test reports are grounds for immediate Decertification. Decertification could include any or all, but is not limited to, the following actions:

Revocation of Plant Certification.

Revocation of Technician Certification for individual(s) involved.

Loss of bidding privileges as determined by the State Construction Engineer.

Criminal prosecution for fraud as determined by the Attorney General.

Decertification actions are determined by the Mn/DOT Concrete Engineer.

S-62

CONCRETE CURING

Mn/DOT specifications: 2301.3M2, 2401.3G, 2404.3C3, 2521.3C3b, 2531.3G2 are hereby modified to include the following provision:

The Contractor shall place all types of membrane cure material homogeneously to provide a uniform solid white opaque coverage on all exposed concrete surfaces (equal to a white sheet of typing paper). The membrane cure shall be placed within ½ hour of concrete placement or once the bleed water has disappeared unless otherwise directed by the Engineer.

Failure to comply with these provisions will result in a price reduction for the concrete item involved in accordance with Mn/DOT 1503.

Exception: Specific Mn/DOT approved alpha methyl styrene curing membranes may have a base color (i.e. yellow) that cannot comply with the above requirement. In this case, the color shall be of a uniform solid opaque consistency meeting the intent of the above requirement.

S-63 (2301) BRIDGE APPROACH PANEL MIX DESIGN

Standard Plan Sheet 5-297.223 is hereby revised such that Concrete Mix No. 3X42 is hereby deleted and replaced with Concrete Mix No. 3A42.

S-64 (2357) BITUMINOUS TACK COAT

The provisions of Mn/DOT 2357 are hereby deleted and replaced with the following:

2357.1 DESCRIPTION

This work shall consist of the application of bituminous material (emulsion or liquid asphalt) on a bituminous or concrete pavement prior to paving a new lift of Hot Mixed Asphalt.

2357.2 MATERIALS

A. Bituminous Material3151

The bituminous material for tack coat will be limited to one of the following kinds of emulsified asphalt. However, the Engineer may authorize the use of medium cure cutback asphalt (MC-250) during the early and late construction season when it is anticipated the air temperature may drop below 32 degrees Fahrenheit.

Allowable grades are as follows:

Emulsified Asphalt

AnionicSS-1, SS-1h

Cationic.....CSS-1, CSS-1h

Cutback Asphalt

Medium Cure Liquid Asphalt.....MC-250

Only Certified Sources are allowed for use. Mn/DOT's Certified Source List is located at the following link:

<http://www.dot.state.mn.us/products/> .

2357.3 CONSTRUCTION REQUIREMENTS

A. Restrictions

Tack coat operations shall be conducted in a manner that offers the least inconvenience to traffic, with movement in at least one

direction permitted at all times without pickup or tracking of the bituminous material.

The tack coat shall not be applied when the road surface or weather conditions are unsuitable as determined by the Engineer. The daily application of tack coat shall be limited to approximately the area on which construction of the subsequent bituminous course can reasonably be expected to be completed that day.

B. Equipment

The bituminous material shall be applied with a distributor meeting for requirements of 2321.3C1.

C. Road Surface Preparations

At the time of applying bituminous tack coat material, the road surface shall be dry and clean and all necessary repairs or reconditioning work shall have been completed as provided for in the Contract and approved by the Engineer.

All objectionable foreign matter on the road surface shall be removed and disposed of by the Contractor as the Engineer approves.

Preparatory to placing an abutting bituminous course, the contact surfaces of all fixed structures and the edge of the in-place mixture in all courses at transverse joints and in the wearing course at longitudinal joints shall be given a uniform coating of liquid asphalt or emulsified asphalt, applied by methods that will ensure uniform coating.

D. Application of Bituminous Tack Coat Material

Unless otherwise indicated in the plans or provisions, the bituminous tack coat material shall be applied within the application rates shown below in Table 2357.3-D as based on pavement type or condition and type of bituminous material. The Engineer shall approve the time and rate of application. Only a Mn/DOT certified asphalt emulsion supplier is allowed to dilute the emulsion. When diluted, the supplier shall provide asphalt emulsion diluted 1 part emulsion to 1 part water. Dilution of asphalt emulsion in the field is not allowed. The Engineer may waive the tack coat requirement when multiple lifts are paved on the same day.

**Table 2357.3-D
 Tack Coat Application Rates**

Pavement Type or condition	Application Rate, liter/square meter [gallons/sy]		
	Undiluted Emulsion SS-1, SS-1H, CSS-1, CSS-1H	Diluted Emulsion (1 part Emulsion to 1 part water) ¹ SS- 1, SS-1H, CSS-1, CSS-1H	MC Cutback ² MC-250
New HMA	0.14 – 0.23 [0.03 – 0.05]	0.23 – 0.46 [0.06 – 0.10]	0.14 – 0.23 [0.03 – 0.05]
Aged HMA ³ or Un-milled PCC	0.23 – 0.37 [0.05 – 0.08]	0.46 – 0.69 [0.10 – 0.15]	0.23 – 0.37 [0.05 – 0.08]
Milled HMA or Milled PCC	0.32 – 0.46 [0.07 – 0.10]	0.64 – 0.92 [0.14 – 0.20]	0.32 – 0.46 [0.07 – 0.10]

¹ As approved by the asphalt emulsion supplier

² When approved by the Engineer

³ Older than 1 year

The temperature of the bituminous material at the time of application shall be approved by the Engineer, within the limits specified following:

SS-1, SS-1H, CCS-1, CSS-1H.....21 to 71°C (**70 to 160° F**)

MC-250.....74 to 104°C (**165 to 220° F**)

Unless otherwise directed, sand shall be spread on the newly tacked surface at pedestrian crossings.

2357.4 METHOD OF MEASUREMENT

A. Bituminous Material

Bituminous material used for tack coat will be measured by volume at 15°C (**60° F**)

2357.5 BASIS OF PAYMENT

Payment for the accepted quantity of asphalt emulsion and cutback shall be at the Contract price per unit of measure for undiluted asphalt emulsion and neat cutback. Furnishing and applying sand on newly tacked surfaces at pedestrian crossings shall be at no expense to the County with no direct compensation being made therefore. Should the contract fail to include a Contract Item covering payment for the bituminous material used for tack coat, all costs of furnishing and applying bituminous tack coat material will be included in the compensation provided for the bituminous mixture, with no measurement made of the bituminous material used and with no direct compensation being made therefore.

Payment for the tack coat will be made on the basis of the following schedule:

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
2357.502	Bituminous Material for Tack Coat	Liter [gallon]

S-65

(2360) PLANT MIXED ASPHALT PAVEMENT

Mn/DOT 2360 are hereby deleted from the Mn/DOT Standard Specifications and replaced with the attached **2360 Plant Mixed Asphalt Pavement Gyrotory Design Specification** dated February 1, 2010.

S-65.1

Mix Designation Numbers for the bituminous mixtures on this Project are as follows:

Type SP 12.5 Wearing Course	SPWEB340F
Type SP 12.5 Non-Wearing Course	SPNWA330B
Type SP 12.5 Wearing Course (for patching)	SPWEB340B

S-65.2

Pavement smoothness requirements of 2360.7C **will not** apply on this Project. The requirements of 2360.7B (Straight edge specification) **will** apply. Pavement) Specification is hereby deleted and replaced with the following:

D.1 Maximum Density

Compact the pavement to at least the minimum required maximum density values in accordance with Table 2360-19, “Required Minimum Lot Density (Mat)”.

S-65.3

Table 2360-20 Longitudinal Joint Density Requirement of the attached 2360 (Plant Mixed Asphalt Pavement) Specification is hereby deleted.

S-65.4

2360.3.D.1.h Mat Density Cores of the attached 2360 (Plant Mixed Asphalt Pavement) Specification is hereby deleted and replaced with the following:

D.1.h Mat Density Cores

Obtain four cores in each lot. Take two cores from random locations as directed by the Engineer. Take the third and fourth cores, the companion cores, within 1 ft [0.3 m] longitudinally from the first two cores. Submit the companion cores to the Engineer immediately after coring and sawing. If the random core location falls on an unsupported joint, at the time of compaction, (the edge of the mat being placed does not butt up against another mat, pavement surface, etc.) cut the core with the outer edge of the core barrel 0.3 meters [**1 foot**] away (laterally) from the edge of the top of the mat (joint). If the random core location falls on a confined joint (edge of the mat being placed butts up against another mat, pavement surface, curb and gutter, or fixed face), cut with the outer edge of the core barrel 150 mm ± 12.5 mm [**6 inches ± 0.5 inch**] from the edge of the top of the mat (ex. center of 100 mm [**4 inch**] core barrel 200 mm ± 12.5 mm [**8 ± 0.5 inches**] from the edge of the top of the mat). Cores will not be taken within 300 mm [**1 foot**] of any unsupported edge. The Contractor is

responsible for maintaining traffic, coring, patching the core holes, and sawing the cores to the paved lift thickness before density testing.

The Engineer may require additional density lots to isolate areas affected by equipment malfunction, heavy rain, or other factors affecting normal compaction operations.

- S-65.5 2360.3.D.1.j Companion Core Testing of the attached 2360 (Plant Mixed Asphalt Pavement) Specification is hereby deleted and replaced with the following:
The Department will select at least one of the two companion cores per lot to test for verification.
- S-65.6 2360.3.D.1.n Longitudinal Joint Density of the attached 2360 (Plant Mixed Asphalt Pavement) Specification is hereby deleted.
- S-65.7 2360.3.D.1.p Shoulders of the attached 2360 (Plant Mixed Asphalt Pavement) Specification is hereby deleted.
- S-65.8 Table 2360-24 Payment Schedule for Longitudinal Joint Density (SP Wear and SP Shoulders, 4% Void) of the attached 2360 (Plant Mixed Asphalt Pavement) Specification is hereby deleted.
- S-65.9 Table 2360-25 Payment Schedule for Longitudinal Joint Density (SP Non-wear and SP Shoulders, 3% Void) of the attached 2360 (Plant Mixed Asphalt Pavement) Specification is hereby deleted.
- S-65.10 2360.3.D.1.r Pay Factor Determination of the attached 2360 (Plant Mixed Asphalt Pavement) Specification is hereby deleted.
- S-65.11 The accepted quantities of asphalt mixture used on the project shall be paid for under Item 2231.501 Bituminous Patching Mixture at the Contract prices per unit of material shall be compensation in full for all costs of constructing the asphalt surfacing as specified, including the costs of furnishing and incorporating any asphalt binder, mineral filler, hydrated lime, or anti-stripping additives that may be permitted or required.

S-66 (2411) STONE RETAINING WALL

S-66.1 Description

This work shall consist of furnishing and installing stone retaining walls in accordance with the applicable Specifications of Mn/DOT 2411, the details included in the plans, as directed by the Engineer, and the following:

The walls shall be constructed in the locations and to the configurations and the dimensions shown in the plans. See Exhibit B on the County's e-gram server for a sample rendering of the anticipated completed view of the wall.

The approved wall system shall be constructed in accordance with manufacturer's recommendations and certified designs, upon approval of the design methodology by the Engineer.

S-66.2

Design

- A. The Contractor shall have the wall system designed and detail drawings prepared by a Professional Engineer experienced in retaining wall design that is registered in the State of Minnesota.
- B. The design computations and the plans shall be certified by the Contractor's design engineer and shall be submitted to the County's Project Engineer, for review and approval and the project's permanent record, prior to beginning any retaining wall work. It should be noted that the plans will also be reviewed by CRU and SHPO, therefore the review process may take up to 21 calendar days. The design shall be per AASHTO and the Mn/DOT Roadway Design Manual except as noted.
- C. The detailed drawings shall contain all the necessary information for the construction of the wall. Included shall be a typical section detailing excavation limits, geotextile locations, block embedments, leveling pad dimensions, drainage considerations, backfill, etc. Include as many sections and other views necessary for the construction and inspection of the wall. The information on embedment, geotextile locations, and geotextile lengths as they relate to wall heights may be shown in tabular form. Also included shall be the pertinent information on the individual blocks and the geotextile material.
- D. All plan sheets shall clearly identify the name of the responsible engineering firm and the name of the person certifying the plan. Each sheet shall be certified.
- E. If a fence is required along the top of the wall, the wall shall be designed to provide for the post installation.
- F. Soil borings and geotechnical report that were obtained for this project are available on the County's website. No warranty is made or implied that the information shown on the attached boring logs is accurate, is representative of the entire wall construction site, or representative of the conditions below the depth of the borings. No structural analysis of any kind has been performed on the in-place soils along the proposed wall alignment. The provisions set forth in the third and fourth paragraphs of Mn/DOT 1205 shall apply to the information offered in the attached soil borings.

S-66.3

Materials:

Stone Wall Units: Shall be Pewter Colored Lannon Stone with a Hand Pitched Rock Face on all surfaces that are exposed after construction is

complete. The approximate minimum size of the bottom wall units shall be 2.5' wide (perpendicular to creek) by 2.5' high by 3' long (parallel to creek). The maximum length of a bottom wall unit shall be approximately 5'. Wall units on top of the bottom unit shall be the same approximate minimum width (2.5') perpendicular to the creek but shall be 8" high and vary between 1' and 1.5' long (parallel to the creek). The top unit shall be the same dimensions as those above the bottom unit but the width perpendicular to the creek shall vary between 2' and 2.5'.

Aggregate Bedding: Shall meet the requirements of 3601B, Granular Filter Material, Table 3601-2.

S-66.4 Construction Requirements

A minimum of two feet of aggregate bedding shall be placed a minimum of 4' below finished grade or creek bottom where wall is exposed to the creek bottom during construction and a minimum width of 1.5' outside the edge of the bottom stone wall unit. The aggregate bedding depth shall be such that no more than 1' of the bottom wall unit shall be visible above finished grade along the length of the wall.

If sheeting is required for installation of the wall units, the special provisions for protection of the MCES sanitary sewer shall apply for any sheeting placed within 15' of the outside wall of the sanitary sewer.

S-66.5 Measurement and Payment

Measurement will be made by the actual fascia unit vertical front face area constructed including embedded stones.

Payments made under Item 2411.618 Stone Retaining Wall at the Contract unit price per square foot shall be compensation in full for all labor, equipment and materials (including, but not limited to, professional design services, determination of soil characteristics, miscellaneous hardware, excavation, granular backfill, aggregate bedding, aggregate base, any shoring or sheeting necessary, stone wall units, geotextile, geogrid, drainage systems, etc.) required to design and construct the walls complete in place at the locations shown in the plans or as directed by the Engineer.

S-67 (2411) CONCRETE STAIRWAY

S-67.1 Measurement and Payment

Payment under Item 2411.601 Concrete Stairway at the Contract Lump Sum price shall be full compensation for all labor, equipment, and materials required to construct the concrete stairway complete in place at the location shown in the plans or as directed by the Engineer.

S-68 (2461) STRUCTURAL CONCRETE

The provisions of Mn/DOT 2461 are modified in accordance with the following:

S-68.1 Mn/DOT 2461.2A(2) shall be modified to include the following:

Type III cement may be used in the production of precast concrete items when approved by the Engineer.

- S-68.2 Delete the fourth paragraph of Mn/DOT 2461.3B2 and replace with the following:
- The cement-voids ratio shown shall control the cementitious contents of all concrete mixes with the following exceptions:
- (a) When the cement content is fixed by the minimum values provided for in 2461.3C.
 - (b) As otherwise authorized herein.
 - (c) For bridge deck concrete, the ratio of the mass (weight) of water to the mass (weight) of cementitious shall not exceed 0.44 and the minimum cementitious content shall be 611 pounds per cubic yard.
 - (d) For concrete pavement, including approach panels and concrete pavement rehabilitation, the ratio of the mass (weight) of water to the mass (weight) of cementitious shall not exceed 0.40 for machine placement and 0.45 for manual placement.
 - (e) For Type 3, Grade A concrete, not defined as concrete pavement, the ratio of the mass (weight) of water to the mass (weight) of cementitious shall not exceed 0.45.

- S-68.3 Mn/DOT 2461.3C shall be modified to include the following:
- Cement substitutions will not be permitted when producing High-Early Concrete except by permission of the Engineer or as otherwise required or permitted in the Specifications applying to the item of work in which the concrete is to be used.

- S-68.4 Mn/DOT 2461.3E shall be deleted and replaced with the following:
- The use of calcium chloride will only be permitted with the approval of the Engineer. The Engineer may permit the use of calcium chloride for the purpose of accelerating the hardening of concrete. In any event, calcium chloride will not be permitted in units containing prestressing steel nor in any concrete containing steel reinforcement.

- S-68.5 5 Mn/DOT 2461.4A4a and 2461.3B3 are hereby deleted and the following inserted therefore:

4A4a Water Content

Water content of the concrete shall be the minimum that will produce the desired consistency. The water content shall consist of the free water carried by the aggregate plus the water added at the mixer, and may also include the water used in making extremely dilute admixture solutions.

The Engineer will test the concrete for consistency as often as may be necessary during the progress of the work. The County reserves the right to reject any concrete batch the consistency of which is outside of the

slump range as listed in Table 2461-2. When any test shows the slump to be in excess of the upper limit of the slump range, the concrete represented by that test will be rejected unless adjustments satisfactory to the Engineer are made in the concrete prior to use.

The Contractor shall adjust the slump within the allowable range to optimize both placement and finishing.

(1) Concrete without water reducer

When not using a Mn/DOT approved Type A water reducer at the manufacturer’s recommended dosage rates listed on the Mn/DOT Concrete Unit Website, the values for the slump shall meet the range as specified below in Table 2461-2 for a slump range **without** water reducer. **No tolerances shall be applied to the slump range.**

(2) Concrete with water reducer

When using an approved Type A water reducer at the manufacturer’s recommended dosage rates listed on the Mn/DOT Concrete Unit Website, the values for the slump shall meet the range as specified below in Table 2461-2 for a slump range **with** water reducer. **No tolerances shall be applied to the slump range.**

**TABLE 2461-2
 SLUMP RANGE DESIGNATION**

Slump Designation	Slump Range Without Water Reducer	Slump Range With Water Reducer
1	12-25 mm (1/2-1 inch)	12-25 mm (1/2-1 inch)
2	25-50 mm (1-2 inches)	25-75 mm (1-3 inches)
3	25-75 mm (1-3 inches)	25-100 mm (1-4 inches)
4	50-100 mm (2-4 inches)	50-125 mm (2-5 inches)
5	50-125 mm (2-5 inches)	50-150 mm (2-6 inches)
6	75-150 mm (3-6 inches)	75-175 mm (3-7 inches)

If unusual placement conditions are encountered in the work that renders the specified consistency unsuitable, contact the Concrete Unit. The Concrete Unit will provide mix composition modifications to provide the desired change in consistency while maintaining the other specified properties of the concrete mix. The addition of water only, for the purpose of temporarily facilitating the placement of concrete under such unusual conditions, will not be permitted.

Concrete Placed by the Slip-Form Method

Providing the concrete does not slough, is adequately consolidated and meets all other requirements, the Contractor may place the concrete at a slump value that optimizes placement for that designated mixture.

Non Conformance

Material not meeting requirements shall not knowingly be placed in the work. **The Contractor does not have the option of taking a price reduction in lieu of complying with the Specifications.**

Should any non-conforming material be inadvertently placed in the work, it will not be accepted for payment at Contract prices but will be subject to the following tables governing acceptance and payment provided the material was placed to the satisfaction of the Engineer. Otherwise the determination will be made according to other procedures addressed in 1503. The price reduction will represent only the quantity of material represented by the sample and actually used.

When concrete is a minor component of the Item Unit Bid Price such as concrete for sign posts, the Engineer will base any price reductions on a concrete price of \$80.00 per cubic yard. Otherwise, the Contractor may remove and replace the concrete or comply with the following:

GENERAL CONCRETE*

* Below slump range	Pay at 95% of the Unit Bid Price for the concrete represented provided the material is satisfactorily placed
Up to 40 mm (1-1/2 inch) over slump range	Pay at 75% of the Unit Bid Price for the concrete represented provided the material is satisfactorily placed
45 mm – 55 mm (1-3/4 inch – 2-1/4 inch) over slump range	Pay at 50% of the Unit Bid Price for the concrete represented provided the material is satisfactorily placed
>55 mm (2-1/4 inch) over the slump range	Pay at 25% of the Unit Bid Price for the concrete represented provided the material is satisfactorily placed

***If piling or footing concrete is placed below the slump range, a price reduction of \$104.00 per cubic meter (\$80.00 per cubic yard) will apply to the concrete represented by the slump test. See Concrete Placed by the Slip-Form Method above (No price reduction for low slump provided the concrete is adequately placed).**

BRIDGE DECK CONCRETE

Below slump range	Pay at 95% of the Unit Bid Price for the concrete represented provided the material is satisfactorily placed
Up to 40 mm (1-1/2 inch)	Pay at 75% of the Unit Bid Price for the concrete represented provided the material is satisfactorily placed
>40 mm (1-1/2 inch) Over slump range	Pay at 25% of the Unit Bid Price for the concrete represented provided the material is satisfactorily placed

**LOW SLUMP BRIDGE DECK CONCRETE
 12 mm to 25 mm (1/2 inch to 1 inch) Specified**

Below slump range	No deduction if material is satisfactorily placed
Up to 12 mm (1/2 inch) over slump range	Pay at 50% of unit bid price for the concrete item represented provided the material is satisfactorily placed
>12 mm up to 20 mm (1/2 inch. Up to 3/4 inch)	No Pay at the unit bid price for the concrete item represented provided the material is satisfactorily placed
>20 mm (3/4 inch) over the slump range	No Pay – contact Concrete Unit for recommendation

**LOW SLUMP CONCRETE – PATCHING
 12 mm to 25 mm (1/2 inch to 1 inch) Specified**

Below slump range	No deduction if material is satisfactorily placed
Up to 12 mm (1/2 inch) over slump range	Pay at 75% of unit bid price for the concrete item represented provided the material is satisfactorily placed
≥20 mm (3/4 inch) above the slump range	Pay at 25% of unit bid price for the concrete item represented provided the material is satisfactorily placed

- S-68.6 Mn/DOT 2461.4A4b shall be modified with the following:
 The air content for all paving grade concrete shall be 7.0 percent plus or minus 1.5 percent. The air content shall be measured after placement on the grade but before consolidation. 2461.4A4b shall be adjusted accordingly based on the 7.0 percent target value.
- S-69 (2471) STRUCTURAL METALS**
- S-69.1 The Contractor is hereby referred to the Structural Metals Section of Division SB, which is attached to this Proposal. The provisions of the Section shall apply to the entire Contract.
- S-70 (2502) SUBSURFACE DRAINS, SUBCUT DRAIN TYPE**
- This work shall consist of constructing subsurface drains in accordance with the applicable provisions of Mn/DOT 2502, the details included in the plans, as directed by the Engineer, and the following:
- S-70.1 The location and alignment of the subsurface drains and outlets are shown in a general manner on the Plans. Exact location and alignment shall be as determined by the Engineer in the field to ensure that the drain properly collects and discharge observed or anticipated flowing groundwater and

infiltration water that may accumulate in the bottom of granular – backfilled subcuts.

S-70.2 Material Requirements:

Perforated drain pipe shall be 4 inch perforated Corrugated Polyethylene (PE) Tubing, Mn/DOT 3278 for Option 2. All perforated pipe shall be wrapped with Geotextile, Mn/DOT 3733, Type I. Fine Filter Aggregate shall meet the requirements of Mn/DOT 3149.2J, which is modified so that the percent passing the No. 40 sieve will be 5-35.

S-70.3 The Contractor shall place 4 inch perforated Corrugated Polyethylene (PE) Tubing after the sub-cut is partially or totally backfilled.

Drains shall be placed by machine trencher capable of cutting the trench, shaping the trench bottom to cradle the lower one-third of the pipe, laying the pipe, and backfilling with filter aggregate in one simultaneous and continuous operation. Plowing will not be permitted. The trenching head shall be equipped with a shield to prevent adjacent material from caving. Trench width shall be 8 inches minimum, 10 inches maximum, with pipe being centered therein.

The trench shall be backfilled with Fine Filter Aggregate. Filter aggregate shall be free flowing and receive vibratory compaction to the satisfaction of the Engineer. In addition to the required trench compaction, at least one pass of general compaction, as directed by the Engineer, shall be made over the trench prior to placing the overlying required pavement structure.

The trenching operation may be performed anytime after at least 2 feet of sub-cut backfill has been placed and compacted. If the trenching is not done until the sub-cut is completely backfilled, only the lowermost 2 feet of the trench need be Construction Requirements

(A) Subcut drains may connect directly to permanent drainage structures. Where so specified, connections to drainage structures shall be incidental work and shall meet the approval of the Engineer.

Pipe shall generally be placed according to the Plan details, but other configurations may be approved by the Engineer to accomplish the desired results. Unless otherwise specified, drain grades shall not be less than 0.2 percent. Structure outlets may be at maximum spacing of 243.8 m [**800 feet**], provided both ends of the pipe are tied to structures. The Contractor shall supply and use laser grade control equipment for PE pipe when pipe grades do not follow working grades at a constant depth.

S-70.4 Perforated pipe drains shall be connected directly to permanent drainage structures via non perforated discharge pipes which shall be constructed concurrently with the drains and be laid at roughly right angles to the roadway centerline. A 12 inch straight length of (TP) connecting pipe shall be provided to connect (PE) subsurface drains to structures. This

connector pipe shall be attached to the (PE) edge drain to provide easy entry (alignment) for probes, cleaners or video cameras.

Discharge pipes shall be connected to the drainage structures at a height of approximately 1 foot, but not less than 6 inches, above the top of the structure invert. The connection method shall be approved by the Engineer.

S-70.5 Measurement and Payment

Measurement will be made by the length of furnished and satisfactorily installed subsurface pipe drains, approved by the Engineer.

The provisions of Mn/DOT 2502.5 are hereby modified to the extent that:

Payment made under Item 2502.541 4 inch Perforated (PE) Pipe Drain at the Contract unit price per linear foot shall be full compensation for fabric wrapped pipe, furnished and installed as specified, filter aggregate backfill and compaction, end caps, connecting the pipe drains into the drainage structures, and all other associated work required to install the perforated pipe drains as detailed, specified, and as directed by the Engineer.

S-71 (2503) PIPE SEWERS

Pipe sewers shall be furnished and installed in accordance with the provisions of Mn/DOT 2503, Section 12 of the AASHTO LRFD Bridge Design Specifications, except as modified as follows:

S-71.1 In addition to the provisions of Mn/DOT 2451, the trench backfill shall be compacted by approved mechanical tampers.

S-71.2 Each shipment of pipe shall be accomplished by a Certification of Compliance furnished by the pipe manufacturer, in accordance with Mn/DOT 1603. Damaged pipe shall not be used.

S-71.3 Class C bedding shall be used on all pipe work except as noted in Mn/DOT 2451.3C2. This will be considered an incidental item with no direct compensation therefor.

S-71.4 Concrete pipe ties shall be furnished and installed in accordance with Standard Plate 3145 in the locations and pipe runs identified in the plans and as directed by the Engineer. Furnishing and installing concrete pipe ties shall be an incidental expense to the Contract unit price per linear foot of the appropriate storm sewer pipe pay item for the size installed.

S-72 (2506) MANHOLES AND CATCH BASINS

Manholes and catch basins shall be constructed in accordance with the provisions of Mn/DOT 2506, except as modified as follows:

S-72.1 All backfill material around manholes and catch basins shall be compacted by approved mechanical tampers.

- S-72.2 Concrete collar encasements with a minimum thickness of 4 inches shall be placed around the outside of all manhole and catch basin structures within the roadway as directed by the Engineer. These concrete collars shall be placed at the time of final casting adjustment. All costs to install the concrete collars shall be incidental to the appropriate Contract unit price for the structure or the casting adjustment.
- S-72.3 After frame or ring castings have been set to final grade and all concrete work has been completed, the inner surfaces of all existing and new pre-cast concrete adjusting rings incorporated into any structure that has been constructed, reconstructed or adjusted shall receive an application or applications of an epoxy protective coating. The epoxy coating material shall be one of those listed on the Mn/Dot Concrete Engineering Unit's list of approved Epoxy Penetrant Sealers, or an approved equal.
- The surfaces of the concrete on which the protective coating is to be applied shall be thoroughly cleaned by wire brushing. All loose mortar or other foreign matter shall be removed from these surfaces. Application shall be as recommended by the manufacturer.
- Furnishing and placing the protective coating, as specified above, will be considered to be incidental expense for which no direct compensation will be made.
- S-72.4 Payment for Item 2506.602 Connect into Existing Drainage Structure at the contract unit price per each shall be compensation in full for all costs necessary to create an opening in an existing structure to insert the new drainage pipe, including patching any gaps between the structure and pipe or filling any holes left from removed pipes with masonry, all as directed by the Engineer. Any damage caused to the existing structure shall be repaired by the Contractor, to the satisfaction of the Engineer, at no expense to the County.
- Payments at the contract unit price per each of the aforelisted separate pay items shall be compensation in full for all costs incurred in furnishing and installing sanitary manholes as specified and detailed.
- S-73** **(2511) RIPRAP**
- Riprap shall be constructed in accordance with the provisions of Mn/DOT 2511, except as modified as follows:
- S-73.1 Granular filter and riprap shall be placed within the shortest practicable time span, after installation of culvert outfalls to minimize erosion.
- S-74** **(2521) WALKS**
- Walks shall be constructed in accordance with the provisions of Mn/DOT 2521 and the following:

S-74.1 No deductions in the walk measurement will be made for the metal covers, miscellaneous signal, lighting structures, sign collars or utility access covers encompassed in the work.

S-74.2 All work required to prepare the base, except new aggregate material, associated with the replacement sidewalks shall be as directed by the Engineer and shall be incidental to the new sidewalk construction. Any new aggregate base material that may be required by the Engineer shall be compensated for under Item 2211.501 Aggregate Base Class 5.

S-75 (2521) SAWING CONCRETE WALK

This work shall consist of sawing concrete walk to produce a neat line from which to extend the new work in accordance with the following:

Measurement will be made by the length of concrete walk sawed. Payment will be made under Item 2521.515 (Sawing Concrete Walk) at the Contract bid price per meter [**linear foot**], which shall be compensation in full for all costs relative thereto.

S-76 (2531) PEDESTRIAN CURB RAMP – TRUNCATED DOME SYSTEMS

This work consists of constructing pedestrian curb ramps with Truncated Dome Systems (detectable warning surfaces) in compliance with the ADA Accessibility Guidelines (ADAAG). This work shall be performed in accordance with the applicable Mn/DOT Standard Specifications, the details in the Plan, and the following:

S-76.1 It shall be the Contractor's option as to the product to be used. See the approved products list at <http://www.dot.state.mn.us/products> . Only approved products are allowed. Stamped concrete is not allowed.

S-76.2 All truncated dome systems shall be installed in strict accordance with the recommendations of the manufacturer. The installation protocol shall include details regarding product specific construction requirements and how the system will be sealed to mitigate freeze/thaw damage through moisture intrusion. The Contractor shall provide this information to the Engineer for approval two weeks prior to commencement of work.

S-76.3 The entire truncated dome area typically 2 feet x 4 feet shall contrast visually from the adjacent walking surfaces. The entire truncated dome area shall be a light color (light gray or buff typically) when the adjacent sidewalk is a dark color. The entire truncated dome area shall be a dark color (red or dark gray typically) when the adjacent sidewalk is a "white" or light gray cement color. The Engineer will determine the colors when the pavement is dry (everything looks dark when it rains). Other colors may also provide a dark on light or light on dark contrast and may be used with approval of the Engineer.

S-76.4 Granite panels shall be 2 inches thick nominal and not have any cracks, chips, or color deformations. A sanded textured finish for the granite panels is required.

S-76.5 At the time of construction, all Truncated Dome Systems are specified to be in dimensional and alignment compliance with the requirements of the ADAAG as detailed in the Plan.

S-76.6 No measurement will be made of the number of pedestrian curb ramps installed as specified in the ADAAG. All work necessary to the installation of the pedestrian curb ramps with the exception of the truncated dome area will be paid for as concrete walk.

S-76.7 The truncated dome area will be measured by the square foot. Payment will be made under or Item 2531.618 (Truncated Domes) at the Contract bid price per square foot, which shall be compensation in full.

S-77 (2531) CONCRETE CURBING

The concrete curb and gutter shall be constructed in accordance with the provisions of Mn/DOT 2531, except as modified below:

S-78 (2533) PORTABLE PRECAST CONCRETE MEDIAN BARRIER – DESIGN 8337

This work shall consist of furnishing, installing, maintaining, removing and relocating when necessary portable precast concrete median barriers in accordance with the current Mn/DOT Standard Plate No. 8337 B, the provisions of Mn/DOT 2533, the traffic control plan, Technical Memorandum No. 08-03-TS-01 and the following:

S-78.1 Portable precast concrete barrier may be used barrier conforming to the requirements set forth on the current Standard Plate 8337 except that the reinforcement steel does not need to be epoxy coated. All used barrier provided shall be free of protruding objects and in a sound condition acceptable to the Engineer.

S-78.2 The Contractor shall only place barrier that is deemed to be acceptable.

To be acceptable, the barrier section shall meet the following minimum requirements:

- Connecting loops shall be intact and undamaged. In the case of wire rope, there shall be no delamination or missing strands.
- May have no more than hairline cracking due to handling and wear present.
- Barrier faces and/or ends may have areas where surface concrete has been lost, but no area that would affect impacting vehicle travel/direction or overall structural integrity.
- Rebar surface may be partially exposed but is not likely to affect impacting vehicle travel/direction or overall structural integrity.
- Finished edges are reasonably square with no loss of concrete and may have minimal chipping due to wear.

The barrier is **unacceptable** in the following cases:

- Any connecting loops are cracked or, in the case of wire rope, are delaminated or missing strands.
- Barrier section has major cracking that is likely to affect its structural integrity.
- Barrier faces have extensive loss of surface concrete which would affect vehicle travel/direction.
- Barrier is delaminated to the point that rebars are completely exposed and are likely to affect impacting travel/direction or structural integrity.

Additional information regarding acceptable and unacceptable barrier can be found at the website for the Office of Traffic, Security and Operations; which can be found at:

<http://www.dot.state.mn.us/trafficeng/safety/index.html>.

- S-78.3 The portable precast concrete median barrier shall remain the property of the Contractor at the completion of the Project. The Contractor shall arrange for disposal of the barrier outside of the Right of Way at the completion of the Project.
- S-78.4 Portable precast concrete barrier (PPCB) delineators meeting the specifications included in Section (1710) of these Special Provisions shall be attached to the portable barriers at 30 foot intervals.
- S-78.5 The barrier shall be placed in the locations and at the times indicated in the plans and as directed by the Engineer. The barrier shall not be removed until the Engineer approves the removal.
- When no longer required on the project, as determined by the Engineer, the barrier shall be removed from the right of way and shall remain the property of the Contractor.
- S-78.6 The Contractor will be subject to a non-compliant charge for unacceptable Portable Concrete Barrier sections. Non-compliance charges, for each incident, will be assessed at a rate of \$250.00 per hour, for each or any portion thereof, which the Engineer determines that the Contractor has not complied.
- S-78.7 The Contractor will be subject to a non-compliant charge for failure to properly connect the Portable Concrete Barrier sections. Non-compliance charges, for each incident, will be assessed at a rate of \$250.00 per hour, for each or any portion thereof, which the Engineer determines that the Contractor has not complied.
- S-78.8 Type J barrier may be used in lieu of Type F barrier, provided the following conditions are met:
- (A) When used between lanes of opposing traffic, only one type of portable barrier shall be used.

(B) When only one-way traffic is adjacent to the barrier, both types of portable barrier will be permitted if the Type J barriers are upstream from the Type F barriers. The two types of barriers cannot be inter-mixed.

S-78.9 Measurement will be made by the length of portable concrete barrier furnished, installed, or relocated, complete in place as specified and as directed by the Engineer.

S-78.10 Payment will be made as Item 2533.507 Portable Precast Concrete Barrier, Design 8337 at the Contract price per linear foot which shall be compensation in full for all costs relative thereto, including but not limited to, furnishing, installing, and maintaining the barrier, furnishing, installing and maintaining the attached reflectors, replacing any damaged units as necessary and moving or removing the barrier as specified when approved by the Engineer.

S-79 (2540) MASONRY CREEK STONE WALL RESTORATION

S-79.1 Description

A portion of two existing stone walls along the north and south sides of Minnehaha Creek, west of the existing bridge, will be disturbed in order to facilitate construction of the project. These are historically significant walls. For this reason, the Contractor shall take all appropriate measures to protect the walls to the greatest extent possible and minimize disturbance. Existing stones within each wall that need to be removed to facilitate construction of the project shall be salvaged in accordance with Section S-55.

Restoration of the wall along the north side of the creek shall be accomplished by installing stones that are salvaged from the existing walls. This wall shall be restored with salvaged stone to the same variable elevation as the wall that is removed, therefore concrete on the top of the existing wall will be replaced with salvaged stone to attain the same wall elevation. If sufficient stone cannot be salvaged for reconstruction of this wall, new stone meeting the requirements of Section S-79.3 shall be used for the remainder of the wall construction with salvaged stone being used for reconstruction of the westerly portion of the wall and new stone used for reconstruction between salvaged stone and the new bridge abutment.

Restoration of the south wall shall be as directed by the Engineer and in accordance with the following:

The restored wall shall be constructed in accordance with certified designs, upon approval of the design methodology by the Engineer who will obtain concurrence from CRU and SHPO in accordance with Section A-31.1. The wall shall be reconstructed in the same location and configuration as existing. (See Exhibit A on the County's e-gram site for a conceptual view of the existing versus proposed wall).

S-79.2 Design

- A. The Contractor shall have the south wall system designed and detail drawings prepared by a Professional Engineer experienced in retaining wall design that is registered in the State of Minnesota.
- B. The design computations and the plans shall be certified by the Contractor's design engineer and shall be submitted to the County's Project Engineer, for review and approval and the project's permanent record, prior to beginning any retaining wall work.
- C. The detailed drawings shall contain all the necessary information for the construction of the wall. Included shall be a typical section detailing excavation limits, geotextile locations, block embedments, leveling pad dimensions, drainage considerations, backfill, etc. Include as many sections and other views necessary for the construction and inspection of the wall. The information on embedment, geotextile locations, and geotextile lengths as they relate to wall heights may be shown in tabular form. Also included shall be the pertinent information on the individual blocks and the geotextile material.
- D. All plan sheets shall clearly identify the name of the responsible engineering firm and the name of the person certifying the plan. Each sheet shall be certified.
- E. Soil borings that were obtained for the project are available on the County's website. No warranty is made or implied that the information shown on the attached boring logs is accurate, is representative of the each wall construction site, or representative of the conditions below the depth of the borings. No structural analysis of any kind has been performed on the in-place soils along each proposed wall alignment. The provisions set forth in the third and fourth paragraphs of Mn/DOT 1205 shall apply to the information offered in the attached soil borings.

S-79.3 Stone Wall Units

In the event that there is not adequate salvaged stone to be used in reconstruction of the stone wall on the south side of the creek west of the new bridge abutment, new wall units shall be provided that approximately match the existing stone size. The new wall units shall be Pewter Colored Lannon Stone.

S-79.4 Installation

If sheeting is required for installation of the wall units, the special provisions for protection of the MCES sanitary sewer shall apply for any sheeting placed within 15' of the outside wall of the sanitary sewer.

S-79.5 Measurement and Payment

Measurement and Payment for “South Side” Masonry Creek Stone Wall Restoration 1 will be made under Item 2540.618 at the Contract square foot unit price. The square foot price shall be compensation in full for all labor, equipment and materials (including, but not limited to, professional design services, determination of soil characteristics, miscellaneous hardware, excavation, granular backfill, aggregate bedding, aggregate base, any shoring or sheeting necessary, stone wall units, geotextile, geogrid, drainage systems, etc.) required to design and reconstruct the wall along the south creek complete in place at the location shown in the plans or as directed by the Engineer.

Measurement and Payment for Install Salvaged Stones for “North Side” Masonry Stone Wall will be made under Item 2540.618 at the Contract square foot unit price. This price shall be compensation in full for all labor, equipment and materials required to install salvaged stone for reconstruction of the wall along the north side of the creek.

Measurement and Payment for “North Side” Masonry Creek Stone Wall Restoration 2 will be made under Item 2540.618 at the Contract square foot unit price for any new stone that is required to complete the reconstruction of the north side creek wall. This price shall be compensation in full for all labor, equipment, and materials required to install new stone for reconstruction of this wall.

S-80 (2563) TRAFFIC CONTROL SUPERVISOR

The Contractor shall provide a Traffic Control Supervisor for day lane closures are used on the Project, in accordance with Contract provisions and as directed by the Engineer.

S-80.1 The Traffic Control Supervisor shall be certified as a worksite supervisor by either the American Traffic Safety Services Association (ATSSA) or by Mn/DOT.

Certification as a Traffic Control Supervisor can be obtained by providing proof that the individual has completed the National ATSSA Traffic Control Supervisor Course within the last 3 years, and has attended the one-day Mn/DOT Traffic Control Overview Course, and passed a short written recertification exam or by attending a 3 day Mn/DOT Traffic Control Supervisor Course within the last 5 years.

S-80.2 A copy of the traffic control supervisor's certification shall be provided to the Engineer at the Project pre-construction conference.

(A) The Contractor shall, at the pre-construction conference, designate a Traffic Control Supervisor who shall be responsible for and perform the traffic control management. The Traffic Control Supervisor shall be either an employee of the Contractor other than the superintendent, or an employee of a firm which has a subcontract for overall traffic

control management for the Project. The Traffic Control Supervisor shall be responsible for the management of the traffic control operations of the Project, including those of the Contractor, subcontractors and suppliers. The primary responsibility of the Traffic Control Supervisor shall be the Traffic Control Management of this Project.

- (B) The Traffic Control Supervisor shall have the authority needed to effectively require modifications and maintenance of traffic controls. This includes having the authority necessary to obtain and use all labor, equipment, and materials needed to provide and maintain traffic control in routine and in emergency situations.
- (C) The Traffic Control Supervisor shall have an up-to-date copy of the Part VI of the MN MUTCD (Minnesota Manual on Uniform Traffic Control Devices), including the "Field Manual for Temporary Traffic Control Zone Layouts," and "A Guide to Establishing Speed Limits in Highway Work Zones".

S-80.3

Traffic control management by the Traffic Control Supervisor includes, but is not limited to:

- (1) Ensuring that traffic control devices are functioning as required. This includes the repair or replacement of all signs, barricades, and other traffic devices that become damaged, moved, or destroyed, or lights that cease to function properly, and barricade weights that are damaged or otherwise fail to stabilize barricades.
- (2) Providing sufficient surveillance of signs, barricades, and other traffic control devices. This includes inspecting traffic control devices that are in use (by the Traffic Control Supervisor or his approved representative).
- (3) The Traffic Control Supervisor will be on the Project when the detour is put into effect and when the detour is removed and roadway is open to traffic. The Traffic Control Supervisor shall be available within 45 minutes of notification of an incident. The Contractor shall give to the Engineer, the names, addresses and phone numbers of at least three individuals (one of which is the Traffic Control Supervisor) responsible to provide and ensure immediate attention to the traffic control management.
- (4) Coordinating all traffic control operations, including those of subcontractors and suppliers.
- (5) Coordinating Project activities with appropriate police and fire control agencies.
- (6) Overseeing all requirements covered by the Plans and specifications which contribute to the convenience, safety and orderly movement of traffic.

- (7) Providing sufficient surveillance of all Portable Changeable Message (PCM) signs to ensure the following:
 - (a) Correct and current information is always provided.
 - (b) Proper placement of PCM signs.
 - (c) PCM signs are turned off when messages are no longer necessary.
- (8) Maintaining constant communications with Project personnel. As part of this requirement, the Traffic Control Supervisor will be required to have a cellular phone.

S-80.4 Traffic control management shall be provided by the Contractor. For any period of time the Traffic Control Supervisor or representative is not readily available to provide traffic control management the Contractor will be subject to an hourly charge assessed at a rate of \$250.00 per hour for each hour or any portion thereof which the Engineer determines that the Contractor has not complied.

S-80.5 No measurement will be made of the various duties of the Traffic Control Supervisor, but all such work shall be construed to be included in the lump sum payment under Item 2563.601 (Traffic Control Supervisor). The lump sum payment shall be compensation for all costs incidental thereto.

S-81 (2563) RAISED PAVEMENT MARKERS TEMPORARY (TRPMS)

This work shall consist of constructing temporary raised pavement markers and the selected mounting system, placing the marker on the roadway, and removing the marker in accordance with the specification TEMPORARY RAISED PAVEMENT MARKERS (TRPM), Section 1710 of these special provisions and the following:

S-81.1 TRPMs will be measured by the number of markers installed. Payment will be made under Item 2563.602 (Raised Pavement Marker Temporary) at the Contract bid price per each.

S-82 (2563) PORTABLE CONCRETE BARRIER DELINEATOR

This work shall consist of furnishing, installing and maintaining barrier delineators on portable concrete barriers in accordance with the provisions of Mn/DOT 2564, Section 1710 of these special provisions and the following:

S-82.1 Measurement will be made by the number of barrier delineators furnished and installed as specified. Payment will be made under Item 2563.602 (Portable Concrete Barrier Delineator) at the Contract bid price per each, which shall be payment in full for all costs involved.

S-83 (2564) TRAFFIC SIGNS AND DEVICES

Type "C" traffic signs and markers shall be furnished and installed in accordance with the provisions of Mn/DOT 2564 and the following:

- S-83.1 See (3352) SIGNS, DELINEATORS AND MARKERS herein for modifications to the Standard Mn/DOT signing material requirements and sign sheeting requirements.
- S-83.2 All bolts shall be 5/16 inch, A304 stainless steel bolts meeting the requirements of Mn/DOT 3391.2E. All bolts shall be fastened with nylon insert lock nuts. All nuts shall be of the same grade and material as the bolts.
- S-83.3 Sign posts furnished in accordance with Mn/DOT 3401 shall have a mass of 2.75 lbs/ft and shall have a black alkyd resin, gloss enamel baked on finish.
- S-83.4 Mn/DOT 2564.2F4 is modified to read:
Sign legend material for all sign panels, the numerals on M1-5A Route Markers and M1-5B Type Overlays, delineators, markings, and warning signs, shall be Diamond Grade DG3 (Proposed ASTM Type XI) manufactured by 3M Company.
- S-83.5 The ninth paragraph of Mn/DOT 2564.3H is hereby deleted. Warning stickers will not be required on the signs.

S-84 (2564) SIGN COLLAR

- This work shall consist of furnishing and installing 15 inch sign collars in conjunction with sidewalk construction.
- S-84.1 Furnishing and installation by the Contractor shall be in accordance with the details and notes as shown in the plans.
- S-84.2 Sign collars shall be installed at the Type C sign locations as shown in the plans.
- S-84.3 The Contractor shall purchase the sign collars from the City of Minneapolis. It shall be the Contractor's responsibility to make arrangements with the City of Minneapolis Transportation Division to pick up the sign collars during normal business hours at 300 Border Avenue North, Minneapolis, Minnesota. Arrangements shall be coordinated through Pat Grant (telephone 612-673-5757).
- S-84.4 Payment at the Contract unit price per each for Item 2564.602 Sign Collar shall be compensation in full for all costs associated with furnishing and installing the sign collars in accordance with the specifications and details herein during the sidewalk construction.

S-85 (2571) PLANT INSTALLATION

- The provisions of Mn/DOT 2571 shall govern except as modified below:
- S-85.1 The third paragraph in Mn/DOT 2571.1 Description, is revised to read as follows:
The Contractor shall comply with the current edition of the "Inspection and Contract Administration Manual for Mn/DOT Landscape Projects,"

published by the Mn/DOT Landscape Architecture Unit, as the minimum and maximum criteria and standard for all operations.

- S-85.2 Mn/DOT 2571.2A2(d) under Plant Stock Documentation, is revised to read as follows:
- (d) All plant material shipped from out-of-state nursery vendors subject to applicable state and federal quarantines (including but not limited to Emerald Ash Borer, Gypsy Moth and Japanese Beetle), must be accompanied by current documentation certifying that all plants shipped are free from regulated pests. To determine if Minnesota vendors are subject to quarantines, call the MDA Supervisor of the Nursery Inspection and Export Certification Unit at 651-201-6388.
- S-85.3 The third sentence in Mn/DOT 2571.2A3 Substitutions, is revised to read as follows:
- The list of nursery stock suppliers can be found in the current edition of the “Inspection and Contract Administration Manual for Mn/DOT Landscape Projects.”
- S-85.4 The last sentence in Mn/DOT 2571.2C1 Soil Additives, is revised to read as follows:
- If the Engineer approves such soil additives and if the Contractor incorporates the additives into the work, the Contractor will receive compensation based upon the submitted information as determined by the Engineer.
- S-85.5 Mn/DOT 2571.2C1i Biological Soil and Root Hormones and Inoculants, is hereby deleted and replaced with the following:
- C1i Biological Soil and Root Hormones and Inoculants
Refer to 3896.
- S-85.6 Mn/DOT 2571.2C1j Porous Ceramics and Hydrophilic Polymers, is hereby deleted and replaced with the following:
- C1j Porous Ceramics and Hydrophilic Polymers
Refer to 3896.
- S-85.7 Mn/DOT 2571.2C1k Fertilizer, is hereby deleted and replaced with the following:
- C1k Fertilizer
Refer to 3881
- S-85.8 Mn/DOT 2571.2C4 Rodent Protection, is revised to read as follows:
- Rodent protection consists of either (Option 1) galvanized wire mesh or (Option 2) high density polyethylene in accordance with the Standard Planting Details unless directed otherwise by the Engineer.

- S-85.9 The first sentence of Mn/DOT 2571.2C7 Staking and Guying, is revised to read as follows:
Staking and guying shall be as shown in the Plan and in accordance with the Standard Planting Details unless directed otherwise by the Engineer.
- S-85.10 The first sentence in Mn/DOT 2571.2C8 Seedling Tree Shelters, is revised to read as follows:
Shelters for seedling trees shall be from the approved list that is on file with the Mn/DOT Landscape Architecture Unit.
- S-85.11 The first paragraph of Mn/DOT 2571.3A General, is revised to read as follows:
A Mn/DOT Certified Landscape Specialist shall be on the Project site at all times to perform or directly supervise the plant installation and establishment, together with all other incidental work. The certification is obtained by completing a 1-day Mn/DOT Landscape Project Installation, Inspection, and Administration training class and passing a take-home test provided by the Mn/DOT Landscape Architecture Unit. The certification is valid for 3 years. At least one owner or operations manager of the general contracting firm shall hold a valid Mn/DOT Certified Landscape Specialist certification. The landscape subcontracting firm must also hold valid Mn/DOT Certified Landscape Specialist certification. The Contractor shall provide experienced crews working under the direct supervision of the certified specialist. Work performed without direct on-site supervision by a Mn/DOT Certified Landscape Specialist shall be considered unauthorized work.
- S-85.12 The last paragraph in Mn/DOT 2571.3A1a Preparatory Work, is revised to read as follows:
The Contractor shall obtain the Engineer's approval before moving equipment and supplies (including mulch and other incidental items) to the Project site and prior to performing any work on the site.
- S-85.13 The last sentence in Mn/DOT 2571.3A1e Plant Establishment Period, is revised to read as follows:
Establishment operations shall prevent rutting or include repair of rutting and other damage that may lead to soil erosion and weed infestation.
- S-85.14 Mn/DOT 2571.3A2b under Plant Layout, is revised to read as follows:
b. So that trees remain outside of the safety clear zones, safety sight corners, and sight lines, all in accordance with the Plan and as directed by the Engineer.
- S-85.15 The following is added to the end of the second paragraph of Mn/DOT 2571.3A4 Start of Operations:
Work performed otherwise shall be considered unauthorized work.

S-85.16 The first sentence in the third paragraph of Mn/DOT 2571.3A5 Notices by Contractor, is revised to read as follows:

The Contractor shall give the notice in writing unless otherwise directed by the Engineer.

S-85.17 Mn/DOT 2571.3B1 Weed Control and Cultivation, is hereby deleted and replaced with the following:

B1 Weed Control and Cultivation

The Contractor shall use the following method.

S-85.18 Mn/DOT 2571.3B1a Method 1 – Herbicide Application, is hereby deleted and replaced with the following:

B1a Herbicide Application

Herbicide application may begin in spring or fall and shall be applied to actively growing vegetation. Before cultivating isolated plant locations and plant beds, the Contractor shall kill turf and weed growth within the areas that will receive mulch in accordance with the following steps.

Step 1 The Contractor shall demonstrate proper methods and equipment in a competence test for this operation as specified in 2571.3B3. Work performed otherwise shall be considered unauthorized work.

Step 2 Mow existing vegetation to no less than 3 inches at least one week prior to any herbicide spraying. Remove the cuttings. The vegetation shall be allowed to re-grow to a height of at least 4 inches and no more than 8 inches prior to applying the herbicide.

Step 3 At least 3 days prior to the proposed application date, submit labels of all intended herbicides and a copy of a valid pesticide applicator license (Categories A and J) to the Engineer for review and approval.

Step 4 Spray any regrowth and kill all vegetation (top growth and roots) using a non-selective, non-residual post emergence herbicide containing 41% glyphosate as the active ingredient. Personnel licensed by the Minnesota Department of Agriculture and experienced in the use of chemical pesticides shall perform the work in accordance with the manufacturer's recommendations. The herbicide shall be applied to dry foliage on actively growing vegetation. The application shall be made in August or September preceding fall or spring planting, or in May if August or September application is not possible. If precipitation occurs within 6 hours after spraying, the Contractor shall respray. Additional herbicides may be applied on a prescriptive basis if approved by the Engineer.

- Step 5 Prior to placing any specified soil additives, deep cultivate the planting holes and beds by thoroughly loosening the soil to a minimum depth of 12 inches, as measured from the existing grade elevation of the soil. Operations (in this step and the following step) shall not result in soil compaction due to excessively wet soil conditions (field capacity or wetter) or improper methods. Use of a spading machine shall be required to loosen and till the soil while minimizing soil compaction. The Contractor shall demonstrate proper methods and equipment in a competency test for this operation as specified in 2571.3B3.
- Step 6 Unless otherwise specified, add soil additives and thoroughly incorporate them into the previously deep-cultivated soil to a minimum depth of 12 inches, as measured from the finished grade elevation of the soil. The equipment and methods shall be in conformance with 2571.3B3 (Competence Test).
- Step 7 Use a compaction tester to verify that planing areas have been loosened to less than 200 psi at the initial minimum cultivation depth of 12 inches plus the depth of added soil additives.
- Step 8 Beds that are left open constitute exposed soil. Temporary erosion control measures must be applied in accordance with 1717.2A2. Type 6 wood chip used as temporary erosion control shall not be used as final planting mulch if it is contaminated with soil.
- S-85.19 Mn/DOT 2571.3B1b Method 2 – Cultivate-Fallow-Disk, is hereby deleted in its entirety.
- S-85.20 The first sentence in the second paragraph of Mn/DOT 2571.3E Pruning – Top Growth and Roots, is revised to read as follows:
When pruning any woody vegetation, the Contractor shall use good horticultural practices, as shown in the current edition of the “Inspection and Contract Administration Manual for Mn/DOT Landscape Projects”.
- S-85.21 The third sentence in the second paragraph of Mn/DOT 2571.3F1 General, is revised to read as follows:
Plants with less than 100 mm (**4 inches**) of excess soil over the root flare may be accepted if the excess soil can be removed without damaging the plant. Plants shall be installed plumb and set so that after installation and backfill consolidation, the bottom of the root flare is at the finished soil elevation, as shown in the Plan and the current edition of the “Inspection and Contract Administration Manual for Mn/DOT Landscape Projects.”
- S-85.22 The second paragraph of Mn/DOT 2571.3F2 Balled and Burlaped Stock, is revised to read as follows:

If desired or necessary, staking and guying may be used to provide additional support for the stem and root ball in accordance with the Standard Planting Detail. In the case of trees, especially conifers, with light textured soil balls and/or exposure to high winds, steep slopes, and wet soils, it is recommended that the Contractor install staking and guying prior to removing the twine, wire baskets, burlap, and nails. Plants with broken soil balls shall be rejected. Staking and guying shall be installed in accordance with 2571.3J1.

- S-85.23 Mn/DOT 2571.3F6(c) under Seeding Stock, is revised to read as follows:
(c) Set the root collar to the depth shown in the Plan and current edition of the “Inspection and Contract Administration Manual for Mn/DOT Landscape Projects.”
- S-85.24 Mn/DOT 2571.3F6(f) under Seedling Stock, is revised to read as follows:
(f) Protect seedlings with seedling tree shelters according to the Plan and Standard Planting Details.
- S-85.25 Mn/DOT 2571.3F7 Preparing Planting Holes and Planting Beds by Plant Type, is hereby deleted and replaced with the following:
F7 Vine Planting Locations (Preparing Planting Holes and Beds)
The Contractor shall use the Herbicide Application Method (2571.3B1a) to control undesirable turf and weed growth. Spray to kill a continuous area 2 feet wide that extends 5 feet beyond the terminal vines. For each vine, loosen the soil to the Planting Hole Dimensions specified in the Plan. A dead turf strip shall remain between prepared planting holes. Mulch to continuously cover all sprayed and loosened areas along the planted side of walls.
- S-85.26 Mn/DOT 2571.3J2 Rodent Protection, is revised to read as follows:
The Contractor shall place rodent protection around all deciduous, pine, and larch trees in accordance with the Plan and Standard Planting Details unless specified otherwise.
- S-85.27 Mn/DOT 2571.3N Acceptance of Work, is revised to read as follows:
For acceptance at full payment, plants shall meet all requirements including the criteria listed in the current edition of the “Inspection and Contract Administration manual for Mn/DOT Landscape Projects,” published by the Mn/DOT Landscape Architecture Unit. The plants shall be healthy, vigorous, and structurally sound.
- S-85.28 The installation of all plant species shall be in accordance with the dates specified for Zone 3 in the "Optimum Planting Date Zones in Minnesota" detail in the Plans OR the attached Standard Planting Details. The following plant species shall be installed during the spring installation period only (unless otherwise authorized by the Engineer):

S-85.29 Soil excavation and preparation may be completed prior to the appropriate plant installation period.

S-85.30 Add the following to Mn/DOT 2571.3A2 "Plant Layout":

The Engineer reserves the right to modify the plant locations to other areas within the project limits.

S-85.31 Section 2571.5D (Bonus Payment) is hereby deleted from the Contract.

S-85.32 Unless otherwise provided for with separate Contract pay items, all materials and work listed in Mn/DOT 2571.2C shall be provided and performed as required in the Contract or as directed by the Engineer as incidental costs to the plant installation pay items included in the Contract.

S-86 (2572) PROTECTION AND RESTORATION OF VEGETATION

This work consists of protecting and preserving vegetation from damage in accordance with the provisions of Mn/DOT 2572, as directed by the Engineer, and the following. It also consists of the use of temporary fence as a conspicuous barrier in areas where fences are to be relocated, where retaining walls are to be constructed, between work sites and pedestrian facilities open for public use, and in other locations as determined and directed by the Engineer.

This work shall consist of protection for existing trees as directed by the Engineer and the following:

S-86.1 The first paragraph after Mn/DOT 2572.3A(5) under Protecting and Preserving, is revised to read as follows:

The Contractor shall not place temporary structures, store material, or conduct unnecessary construction activities within a distance of 26 feet outside the drip line of trees designed to be preserved without approval from the Engineer.

S-86.2 The second paragraph of Mn/DOT 2572.3A2 Clean Root Cutting is revised to read as follows:

The Contractor shall immediately and cleanly cut damaged and exposed roots. Trees designated for protection shall have damaged roots cut back to sound healthy tissue and shall have topsoil immediately placed over the exposed roots. The Contractor shall immediately cover root ends that are exposed by excavating activities with 6 inches of topsoil as measured outward from the cut root ends. Exposed cut oak roots shall be immediately (within 5 minutes) treated with a wound dressing material consisting of latex paint or shellac. The Contractor shall limit cutting to a minimum depth necessary for construction and shall use a vibratory plow or other approved root cutter prior to excavation.

S-86.3 The third sentence of Mn/DOT 2572.3A8 Destroyed or Disfigured Vegetation, is revised to read:

The Engineer will assess damages of trees and landscaping at not less than the appraisal damages as determined by the current edition of the “Guide for Plant Appraisal – Council of Tree and Landscape Appraisers” published by the International Society of Arboriculture.

- S-86.4 Post installations and spacing shall be adequate to support and maintain all temporary fences in upright positions at all times to maximize their effectiveness.
- S-86.5 The Contractor shall furnish, install, maintain, and remove snow fencing or other approved fencing at locations as directed by The Engineer.
- S-86.6 The fencing shall be 4 foot high (nominal) fencing placed 10 to 12 feet from the base of the trees, or as directed by the Engineer. The Tree Protection shall be in place before any work is performed in the vicinity of the trees to be protected.
- S-86.7 Measurement will be made of the number of rolls (50 linear feet per roll) of fencing placed. Payment will be made under Item 2571.602 (Tree Protection Type I) at the Contract bid price per each, which shall be compensation in full for furnishing, installing, maintaining and removing fencing.
- S-86.8 The provisions of Mn/DOT 2572.5B(1) are hereby deleted. The Contract unit price for Item 2572.501 Temporary Fence shall be the unit price contained in the bid of the successful bidder. Payment at the Contract unit price per linear foot shall be compensation in full for all costs necessary to furnish, install, maintain, and remove the temporary fence as specified and as directed by the Engineer.

S-87 (2573) STORM WATER MANAGEMENT

The provisions of Mn/DOT 2573 are supplemented and/or modified with the following:

- S-87.1 2573.1 DESCRIPTION is hereby modified as follows:

This work shall include furnishing, installing, maintaining and removing erosion or sediment control devices as required in the Plans, Special Provisions, Storm Water Pollution Prevention Plan (SWPPP), the attached “Minnesota Pollution Control Agency General Permit, Authorization to Discharge Storm Water”, other applicable permits, and as directed by the Engineer.
- S-87.2 The County of Hennepin has applied for and received coverage under the above mentioned permit by signing both the Owner's and Contractor's certification blanks on the permit application. The County shall retain a photocopy of the original permit application. Upon award of the Contract, the County and the Contractor shall execute the Storm Water Permit Transfer Modification Application form (attached to these Special Provisions) and submit it along with a photocopy of the original

application to the Minnesota Pollution Control Agency. The Minnesota Pollution Control Agency, upon receipt of the Storm Water Permit Transfer Modification Application, will amend it to the original permit application thereby making both the County and the Contractor co-permittees for the requirements of the General Permit, "Authorization to Discharge Storm Water."

S-87.3 The following are hereby added to the list of Standard Specification references listed in Mn/DOT 2573.2 MATERIALS:

L	Fiber Log.....	3895
M	Seed	3876
O	Fertilizer	3881

The mulching material used for Type 1 Mulch (Temporary) shall be grain straw, unless otherwise approved by the Engineer.

The following paragraphs are hereby added to the end of Mn/DOT 2573.3A:

The Contractor shall be required to maintain, at all times on the project site, a supply of the erosion control devices included in the Contract. The Contractor shall replenish the supply as the items are used to maintain on-hand materials regardless of the percentage of the estimated quantity previously incorporated into the project, unless otherwise directed by the Engineer.

S-87.4 The following are hereby added to TABLE 2573-1 contained in Mn/DOT 2573.3Q:

Item	Corrective action required when
Seeding	Not uniform placement Not seeded with drill when required Depth of seed incorrect No seedbed firming Incorrect rate of seed application Less than 3 inches tillage Not mulched within 24 hours
Fertilizer	Incorrect rate of application Not uniform placement Not incorporated properly
Mulch Material	Incorrect rate of application Not uniform placement
Disc anchoring	Insufficient depth of mulch anchoring Not done immediately after mulch placement

Erosion control blankets and mats	Inadequate soil loosening or preparation Upgrade ends not embedded on slopes Improper overlaps and joints Wrong staples used Insufficient number of staples Improper stapling pattern No embedment of joints in drainage ways
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- S-87.5 All silt fences used on this Project shall be orange in color.
- S-87.6 The first sentence of Mn/DOT 2573.3E2 is revised to read as follows:
 The bio roll shall be installed and anchored with wood stakes. The stakes shall be at a minimum nominally 1 inch x 2 inch and a minimum of 16 inches long with a pointed end.
- S-87.7 The first sentence of Mn/DOT 2573.3E2 is revised to read as follows:
 The bioroll shall be installed and anchored with wood stakes. The stakes shall be at a minimum nominally 25 mm x 50 mm (**1 inch x 2 inch**) and a minimum of 400 mm (**16 inches**) long with a pointed end.
- S-87.8 The first paragraph of Mn/DOT 2573.3J Filter Log Installation, is revised to read as follows:

J Filter Log Installation

Filter logs shall be placed in accordance with the Plan. Straw and wood fiber filter logs shall be staked in place with wood stakes. Wood stakes shall be at a minimum 1 x 2 inch nominal size by 16 inches long. The stakes shall be driven through the back half of the log at an angle of approximately 45 degrees with the top of the stake pointing upstream. When more than one log is needed for length, the ends shall be overlapped 6 inches with both ends staked. Staking shall be every 1 foot along the log unless precluded by paved surface or rock.

- S-87.9 Mn/DOT 2573.5A Acceptance of Work is hereby replaced with the following:
 Upon satisfactory installation of temporary control devices, the Engineer may authorize partial payment not exceeding 65% percent of the Contract bid price for the appropriate pay item. The remaining percentage will be paid after the devices are removed, provided they have been continuously maintained to the satisfaction of the Engineering throughout the time they were in-place.
- S-87.10 Mn/DOT 2573.5 Basis of Payment, is revised to read as follows:
 Payment for storm water management, sediment control, and temporary erosion control items shall be compensation in full for all labor, materials, equipment, and other incidentals necessary to complete the work as specified. This shall include but not be limited to the costs of

maintenance, removal of temporary erosion control items, and all non-emergency mobilization that may be necessary to fully perform all temporary items as required by the Contract. The Contractor will receive compensation at the appropriate Contract prices, or in the absence of a Contract bid price, according to the following unit prices, or in the absence of a Contract price and unit price, as Extra Work. The provisions of 1903 are modified to the extent that the County will not make a price adjustment in the event of increased or decreased quantities of temporary erosion control items.

All sediment removal from erosion control devices and sediment basins, as specified herein and required by the Engineer, shall be completed by the Contractor as an incidental expense to erosion control pay items included in the plans. No direct payment will be made by the County for sediment removal.

The provisions of Mn/DOT 2573.3 A1 are supplemented and/or modified with the following:

S-88 **(2575) RAPID STABILIZATION SPECIFICATIONS**

This work shall consist of operations necessary to rapidly stabilize small critical areas, to prevent off site sedimentation and/or to comply with permit requirements. The work may be performed at any time during the contract and will be conducted on small areas that may or may not be accessible with normal equipment. This work shall be done in accordance with the applicable Mn/DOT Standard Specifications, the details shown in the Plan, and the following:

S-88.1 **BASIS OF PAYMENT**

In the absence of a Contract bid price, the County will pay the following unit prices for Rapidly Stabilizing Small Scattered Critical Areas directly abutting Waters of the State during rough grading and as required in the NPDES permit. These unit prices shall be construed to include mobilizations for this activity.

Rapid Stabilization	Pre-Approve Prices	
Method 1	\$400/acre	Approved price reflects small quantities. Quantities installed per Project visit are assumed to require approximately 1 to 2 acres of coverage.
Method 2	\$898/acre	Approved price reflects small quantities. Quantities installed per Project visit are assumed to require approximately 1 to 2 acres of coverage.

Method 3	\$566/M gallon	Approved price reflects small quantities. Quantities installed per Project visit are assumed to require approximately 3000 to 9000 gallons of product slurry.
Method 4	\$2.50/SY	Approved price reflects small quantities. Quantities installed per Project visit are assumed to require approximately 200 to 800 SY of coverage.
Method 5	\$45/ton	Approved price reflects small quantities. Quantities installed per Project visit are assumed to require approximately 10 to 20 tons of riprap.

S-89 **(2575) CONTROLLING EROSION AND ESTABLISHING VEGETATION**

This work shall be constructed in accordance with the provisions of Mn/DOT 2575 and as modified as follows:

S-89.1 Delete the second sentence of the third paragraph of Mn/DOT 2575.3L1 from the Contract and substitute the following therefor:

All replacement sod shall be maintained for an additional 30 growing days after replacement in the same manner provided above for the original installation. Upon expiration of the maintenance period or any replacement maintenance periods, the Engineer will make a final inspection and accept all sod which is in a normal healthy growing condition. No payment will be made for sod which is not in an acceptable condition at the time of the final inspection.

S-89.2 Add the following to Mn/DOT 2575.4C:

The quantity of seeding for which payment will be made shall be the quantity shown in the bid schedule, provided, however; that payment will be made on the basis of the actual quantity instead of plan quantity if and to the extent that any area changes are established through remeasurement of the seeding areas as provided for herein. Either the Engineer or the Contractor may cause remeasurement of any area, in which case the final quantity will be adjusted on the basis of final measurements.

The Contractor may cause remeasurement of seeding areas by submitting a written request to the Engineer stating the specific locations in which he feels changes were made or the planned quantity was in error.

If, within 7 days after completion of all seeding, there has been no request submitted, the Contractor shall have waived his right to dispute the planned quantity for final payment for seeding under the Contract.

S-89.3 The mulching material to be used for the Type 1 mulch shall be grain straw.

S-89.4 METHOD OF MEASUREMENT

Seeding, Disk Anchoring, and Mulch Material Type Special shall all be measured by the Square Yard of area over which Seed and Mulch Materials are placed.

S-90 (2575) SEEDING

This work shall be constructed in accordance with the provisions of Mn/DOT 2575 and as modified as follows:

S-90.1 This work shall be for temporary erosion control and permanent establishment of native grasses in areas identified in the plans. Work includes furnishing, if necessary, and finish-grading 6" topsoil (minimum) then applying to the designated areas of Seed Mixture Specials 1 and 2. Seed Mixture Special shall be as defined on the Temporary Erosion Control Plan. Seed mixtures on the Planting Plan/Turf Establishment plan shall be defined as follows:

ITEM	DESCRIPTIONS	RATE	UNIT	QTY
SEED MIXTURE SPECIAL 1: Prairie Restorations Savanna Grass Mix	34% Little bluestem, 16% Side oats grama, 5% Big bluestem, 3% Indian grass, 2% Canada wild rye by PLS weight, 30% Kalm's brome, 4% June grass, 3% Bottlebrush grass, 3% Silky wild rye by bulk weight	3 lbs/10,000 SF	LB	1.5
SEED MIXTURE SPECIAL 2: Prairie Restorations Savanna Wildflower Mix	17% Hoary vervain, 15% Purple prairie clover, 10% Black-eyed Suan, 7% White prairie clover, 5% Fragrant giant hyssop, 5% Leadplant, 5% Azure aster, 4% Bush clover, 3% Stiff tickseed, 3% Gray goldenrod, 3% Golden Alexander, 2% Prairie onion, 2% Wild bergamot, 2% Showy penstemon, 2% Shrubby cinquefoil, 2% Missouri goldenrod 2% Upland goldenrod, 2% Stiff goldenrod, 2% Showy goldnerod, 2% Western spiderwort, 1% Yarrow, 1% Heath aster, 1% Canada tick trefoil, 1% Golden aster, 1% Prairie rose, all by bulk weights.	1 lb/10,000 SF	LB	0.25

Seed shall be lightly raked into the soil after application. Seeded areas are to be mulched or covered with erosion control blankets under a separate pay item.

S-90.2 Payment for each special seed mixture will be made under Item No. 2575.608 “Seed Mixture Special”, “Seed Mixture Special 1”, and “Seed Mixture Special 2” at the Contract unit price per square yard and shall be compensation in full for all costs of performing the work as specified including but not limited to finish grading the topsoil, furnishing and applying the seed, and all labor and materials associated with this work.

S-91 (2581) REMOVABLE PREFORMED PLASTIC MASK (BLACK)

This work shall consist of furnishing, placing and removing temporary pavement marking material over in-place pavement markings when traffic control must be temporarily changed. This work shall be in accordance with the provisions of Mn/DOT 2581, as modified below. The removable preformed plastic pavement marking material shall conform to the requirements of Mn/DOT 3355.

S-91.1 The 2nd paragraph of Mn/DOT 2581.4 is changed to read as follows:

The measurement is based on a **6 inch** wide marking tape. Broken line marking will be measured by the actual length of material used and will not include the gap between the broken lines.

S-91.2 Payment for pavement markings of each type will be made in accordance with the schedule set forth below at the appropriate Contract bid price for the specified unit of measure. Such payment, in each instance, shall be compensation for all costs of furnishing, placing, maintaining, replacing, and removing the Marking.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
2581.603	Removable Preformed Plastic Mask (Black).....	linear foot

S-92 (2582) PERMANENT PAVEMENT MARKINGS

The provisions of Mn/DOT 2582 are hereby modified and/or supplemented with the following:

S-92.1 The provisions of Mn/DOT 2582.2 are hereby deleted and replaced with the following:

- A. Preformed Plastic Markings for Permanent Traffic Lane Delineation and Legends..... 3354
- B. Epoxy Resin Pavement Markings (Free of Toxic Heavy Metals)..... 3590

Qualified materials can be found on Mn/DOT’s Qualified Products List on the Office of Traffic, Security and Operations website. Other materials may be used on a provisional basis as detailed in the QPL process and as approved by the Engineer. Type of material used will be as specified by Contract Documents.

S-92.2 The following is hereby added to Mn/DOT 2582.3B, Application:

Any pavement markings to be grooved in shall be placed in accordance with manufacturer’s instructions.

S-92.3 The provisions of Mn/DOT 2582.5 are hereby deleted and replaced with the following:

2582.5 BASIS OF PAYMENT

Payment for pavement markings installed at contract prices per unit of material shall be compensation in full for all costs incurred in materials, traffic control, installation, surface preparation, use of primers, in accordance to contract documents or as approved by the Engineer.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
2582.501	Pavement Message (1) (2)	Each
2582.502	___ inch width (3) (4) (2).....	linear foot

- (1) Specify Message
- (2) Specify Material
- (3) Specified Type of Line (Solid, Broken or Dotted)
- (4) Specify Color

S-93 (2582) POLYMER PREFORMED PAVEMENT MARKINGS

This work shall consist of furnishing and applying durable reflectorized pavement markings for control and guidance of traffic, as part of the final striping items. Pavement markings shall be furnished and applied in accordance with the lines, dimensions, details, and notes in the Plans, the attached "Specification No. 1 Improved Patterned Polymer Pavement Marking Tape for Lines and Selected Symbols and Legends" and "Specification No. 3 High Durability Preformed Pavement Markings", the specifications are available on the following website: <http://www.dot.state.mn.us/products/>, as directed by the Engineer, and the following:

S-93.1 The Contractor shall give the Engineer a minimum of 36 hours advance notice of the need for establishment of control points required for the application of pavement markings.

S-93.2 Measurement
 Center and lane lines, of each type and width, will be measured separately by length of each type constructed complete in place as specified. Broken lines will be measured by the actual length of line marked and will not include the gap between the broken lines. Pavement messages of each type will be measured separately by the number thereof constructed as specified.

S-93.3 Basis of Payment
 Payment for pavement markings shall be as outlined in the attachment, for each type in accordance with the schedule set forth below at the appropriate Contract price for the specified unit of measure. Such payment, in each instance, shall be compensation for all costs incidental thereto including, but not limited to: (1) all costs of preparing the surface,

(2) controlling and protecting traffic, and (3) maintaining the work, together with any other expenses incurred in completing the work that are not specifically included for payment under other Contract items.

<u>Item No.</u>	<u>Description</u>	<u>Unit</u>
2582.501	Pavement Message, (Left Arrow) Poly Preformed	Each
2582.502	6 inch Solid Line White – Poly Preformed (Ground In)	Linear Foot
2582.502	12 inch Solid Line White – Poly Preformed (Ground In)	Linear Foot
2582.502	4 inch Double Solid Line Yellow - Poly Preformed (Ground In)	Linear Foot

S-94 (2582) EPOXY PAVEMENT MARKINGS

This work shall consist of furnishing and applying epoxy resin pavement markings with "beads-on" as permanent (final) pavement markings for the control and guidance of traffic in accordance with the details and notes in the Plans, the attached "Specification for Epoxy Resin Pavement Markings", the specifications are available on the following website <http://www.dot.state.mn.us/products/> and the following:

- S-94.1 Line pavement markings will be measured separately by length of each type placed as specified. Broken lines will be measured by the actual length of line placed and will not include the gap between the skip marks.
- S-94.2 The epoxy pavement marking thicknesses shall be increased from 15 mil to 20 mil on all 2360 SUPERPAVE wearing courses.
- S-94.3 All epoxy pavement markings shall be placed within 3 Working Days of the completion of the wearing course mixture.
- S-94.4 Payment for pavement markings of each type and width will be made in accordance with the schedule set forth below at the appropriate Contract bid price for the specified unit of measure. Such payment, in each instance, shall be compensation in full for all costs incidental thereto including, but not limited to: (1) all costs of preparing the surface, (2) controlling and protecting traffic, and (3) maintaining the work, together with any other expenses incurred in completing the work that is not specifically included for payment under other Contract items.

<u>Item No.</u>	<u>Description</u>	<u>Unit</u>
2582.502	4 inch Solid Line White Epoxy	Linear Foot
2582.502	4 inch Solid Line Yellow Epoxy	Linear Foot
2582.502	24 inch Solid Line Yellow Epoxy	Linear Foot

S-95 (3101) PORTLAND CEMENT

Mn/DOT 3101 is hereby deleted and replaced with the following:

Cement shall be from certified sources only. Portland cement furnished under this Specification shall conform to AASHTO M 85 for the type specified except as herein modified:

- 1) Fineness shall be measured by the Air permeability test.

**Fineness, Specific Surface
 Air Permeability Test
 (all cement types except Type III):**

	Square Meter per Kilogram
Average value, min.....	360.0
Min. value, any one sample.....	340.0
Average value, max.....	420.0
Max. value, any one sample.....	440.0

The average value shall be determined on the last five samples from a source.

- 2) When the specifications require that low alkali cement be used, the total alkalis in the Portland cement ($\text{Na}_2\text{O} + 0.658 \text{K}_2\text{O}$) shall not exceed 0.60 percent. The total alkalis in the cementitious material shall not exceed 3.0 kg/m³ [**5.0 pounds per cubic yard**].
- 3) A maximum of 5.0% limestone by mass (**weight**) may be interground with the cement provided that the chemical and physical requirements are met. Only inter-grind limestone that is naturally occurring, consisting of at least 70% by mass of one or more of the mineral forms of calcium carbonate. Calculate and report the limestone content in Portland cement on the Test Mill Report as described in ASTM C 150, Annex A1. Include the CO₂ content of the Portland cement on the Test Mill Report. Determine the CO₂ content in accordance with ASTM C 114. When any quantity of limestone is added, report the C₃S as calculated in ASTM C150, Annex A1, using the actual CO₂ value.
- 4) All delivery invoices shall include a standardized Cement Certification Statement which is as follows: **(insert company name) certifies that the cement produced at (insert plant and location) conforms to AASHTO and Mn/DOT Specifications for Type (insert Type) cement.** The change of source or color, or both, of cement on a Project shall not be permitted without the written approval of the Concrete Engineer.

S-96

(3103) PORTLAND-POZZOLAN CEMENT

Mn/DOT 3103 is hereby deleted and replaced with the following:

Portland-Pozzolan cement shall be from certified sources only. Portland-Pozzolan cement furnished under this Specification shall conform to AASHTO M 240, Type IS, Type I(SM), Type IP, Type I(PM), Type IP-A or any other portland-pozzolan cement as approved by the Concrete Engineer, except as modified by the following:

- (1) The fly ash constituent of the interground cement shall not exceed 20 percent.
- (2) The fly ash constituent of blended cement shall not exceed 15 percent.
- (3) The ground granulated blast furnace slag constituent of the interground cement shall not exceed 35 percent.
- (4) The ground granulated blast furnace slag constituent of blended cement shall not exceed 35 percent.

All delivery invoices shall include a standardized Cement Certification Statement which is as follows: (insert company name) certifies that the cement produced at (insert plant and location) conforms to AASHTO and Mn/DOT Specifications for Type (insert Type) cement. The change of source or color, or both, of cement on a Project will not be permitted without the written approval of the Concrete Engineer.

S-97 (3137) COARSE AGGREGATE FOR PORTLAND CEMENT CONCRETE

The provisions of Mn/DOT 3137 are supplemented and/or modified with the following:

- S-97.1 Mn/DOT 3137.2B1 shall be modified with the following:
Class A aggregate may contain no more than 4.0% non-Class A aggregate. This recognizes that some quarries may contain small pockets of non-Class A aggregate within that source. Intentional blending or addition of non-Class A aggregate is strictly prohibited.
- S-97.2 Mn/DOT 3137.2D1(h) shall be deleted and replaced with the following:
 - (h) Flat or Elongated Pieces (maximum thickness less than 25 percent of the maximum width, or maximum length more than 3 times the maximum width) 15%
- S-97.3 Mn/DOT 3137.2D1(i) shall be deleted and replaced with the following:
 - (i) At the point immediately preceding introduction into the concrete:
Class A and Class B aggregates, as long as the material passing the 75 µm sieve (#200) for each individual fraction consists of dust from the fracture and is essentially free from clay or shale 1.5%
Class C and D aggregates, the material passing the 75 µm sieve (#200) for each individual fraction 1.0%
- S-97.4 Mn/DOT 3137.2D1(k) shall be deleted.
- S-97.5 Mn/DOT 3137.2D2 shall be modified with the following:
Aggregates used in precast concrete panel facings for Mechanically Stabilized Earth (MSE) walls shall be Class A or shall meet the requirements of 3137.2D2.

- S-97.6 Mn/DOT 3137.2D2(c), 3137.2D2(g) and 3137.2D2(h) shall be deleted and replaced with the following:
- (c) Total Spall Materials (includes items a and b percentages of the above, plus other iron oxide particles, unsound cherts, pyrite, and other materials having similar characteristics). Retained on the 4.75 mm (#4) sieve as a percentage of the total material 0.5%
 - (g) Class C and Class D aggregates with a maximum carbonate by mass (weight)..... 30.0%
 - (h) Class B aggregate with a maximum absorption 1.75%

S-97.7 Mn/DOT 3137.2D3 shall be modified to include the following:
Concrete pavement shall include bridge approach panels and concrete pavement rehabilitation.

- S-97.8 Mn/DOT 3137.2D3(c) shall be deleted and replaced with the following:
- (c) Class C aggregate with a maximum carbonate by mass (weight) 30.0%

S-97.9 Mn/DOT 3137.2E shall be deleted and replaced with the following:
Coarse aggregate shall be the uniform product of the plant producing it, unless it is necessary to remove some of the sizes in order to meet the following gradation requirements. Unless otherwise specified, coarse aggregate shall contain all of the sizes included within the specified limits. Broken or noncontiguous gradations will not be permitted.

The gradations required, or which will be permitted at the Contractor's option, will be specified in the concrete mix number unless modified in the Special Provisions of the Contract.

The requirements of these gradations are listed in Table 3137-2. Whenever the size of coarse aggregate selected for use has less than 100 percent passing the 25.0 mm (1 inch) sieve, the coarse aggregate shall be produced, furnished, and proportioned for the work in at least two fractions. The Contractor shall maintain a uniform gradation in each size of coarse aggregate used during the handling and batching operations.

When all of the coarse aggregate is from the same source, the Contractor may choose to screen aggregates into separate proportions to aid in controlling the gradation of the material. Compliance with gradation and quality requirements is determined based on the composite values of the combined aggregates.

When coarse aggregate comes from multiple sources, the Contractor may combine these sources to meet gradation requirements but each individual aggregate fraction shall meet quality requirements prior to blending unless otherwise allowed by the Concrete Engineer on a case-by-case basis.

S-98 (3139) GRADED AGGREGATE FOR BITUMINOUS MIXTURES

Mn/DOT 3139 is hereby deleted and replaced with the following:

3139 Graded Aggregate for Bituminous Mixtures

3139.1 Scope

Provide graded aggregate for use in bituminous mixtures.

3139.2 PLANT MIXED ASPHALT Requirements

A Composition

Provide graded aggregate composed of any combination of the following sound durable particles as described in 3139.2B.

Do not use graded aggregate containing objectionable materials including:

- (1) Metal,
- (2) Glass,
- (3) Wood,
- (4) Plastic,
- (5) Brick, or
- (6) Rubber.

Provide coarse aggregate free of coatings of clay and silt.

Do not add soil materials such as clay, loam, or silt to compensate for a lack of fines in the aggregate.

Do not blend overburden soil into the aggregate.

Feed each material or size of material from an individual storage unit at a uniform rate.

Do not place blended materials from different sources, or for different classes, types, or sizes together in one stockpile unless approved by the Engineer as a Class E aggregate.

B Classification

B.1 Class A

Provide crushed igneous bedrock consisting of basalt, gabbro, granite, gneiss, rhyolite, diorite, and andosite. Rock from the Sioux Quartzite Formation may contain no greater than 4.0 percent non-Class A aggregate. Do not blend or add non-Class A aggregate to Class A aggregate.

B.2 Class B

Provide crushed rock from other bedrock sources such as carbonate and metamorphic rocks (Schist).

B.3 Class C

Provide natural or partly crushed natural gravel obtained from a natural gravel deposit.

B.4 Class D

Provide 100 percent crushed natural gravel produced from material retained on a square mesh sieve with an opening at least twice as large as Table 3139-2 allows for the maximum size of the aggregate in the composite asphalt mixture. Ensure the amount of carryover, material finer than the selected sieve, no greater than 10 percent of the Class D aggregate by weight.

B.5 Class E

Provide a mixture consisting of at least two of the following classes of approved aggregate:

- (1) Class A,
- (2) Class B, and
- (3) Class D.

B.6 Steel Slag

Steel slag cannot exceed 25% of the total mixture aggregate and be free from metallic and other mill waste. The Engineer will accept stockpiles if the total expansion is no greater than 0.5 percent as determined by ASTM D 4792

B.7 Taconite Tailings

Obtain taconite tailings from ore mined westerly of a north-south line located east of Biwabik, Minnesota (R15W-R16W) or from ore mined in southwestern Wisconsin.

B.8 Recycled Asphalt Shingles (RAS)

Provide recycled asphalt shingles manufactured from waste scrap asphalt shingles (MWSS) or from tear-off scrap asphalt shingles (TOSS). Consider the percentage of RAS used as part of the maximum allowable Recycled Asphalt Pavement (RAP) percentage. See Table 3139-3.

B.8.A RAS Gradation Mn/DOT Laboratory Procedure 1801

Provide RAS in accordance with the following gradation requirements:

Table 3139-1 RAS Gradation	
Sieve size	Percent passing
½ in [12.5 mm]	100
No. 4 [4.75 mm]	90

B.8.B Binder Content

Determine the binder content using chemical extraction meeting the requirements of Mn/DOT Lab Procedure 1851 or 1852.

B.8.C Bulk Specific Gravity

The Contractor may use an aggregate bulk specific gravity (Gsb) of 2.650 in lieu of determining the shingle aggregate Gsb in accordance with Mn/DOT Lab Procedure 1205.

B.8.D Waste Materials

Do not allow extraneous materials including metals, glass, rubber, nails, soil, brick, tars, paper, wood, and plastics greater than 0.5 percent by weight of the graded aggregate as determined by material retained on the No. 4 [4.75 mm] sieve as specified in Mn/DOT Laboratory Procedure 1801.

B.8.E Stockpile

Do not blend an RAS stockpile with other salvage material. Do not blend MWSS and TOSS. The Contractor may blend virgin sand material with RAS to minimize agglomeration if the Contractor accounts for the blended sand in the final mixture gradation.

B.8.F Certification

Ensure the processor provides RAS certification on the following Department form “Scrap Asphalt Shingles from Manufacture Waste” or “Tear-Off Scrap Asphalt Shingles” at www.dot.state.mn.us/materials/bituminous.html

B.9 Crushed Concrete and Salvaged Aggregate

The Contractor may incorporate no greater than 50 percent of crushed concrete and salvaged aggregate in non-wear mixtures. Do not use crushed concrete in wearing courses.

B.10 Ash

Sewage sludge ash and waste incinerator ash are allowed as an aggregate source at a maximum of 5% of the total weight of the mixture. Only use sewage sludge ash meeting the requirements of the Tier II hazard evaluation criteria as approved by the Engineer with concurrence with Mn/DOT’s Environmental Assessment Engineer in the mixture. Only use waste incinerator ash sources approved by the Engineer with concurrence with Mn/DOT’s Environmental Assessment Engineer.

B.11 Recycled Asphalt Pavement (RAP)

B.11.A Aggregate Angularity

Provide combined RAP and virgin aggregates that meet the composite coarse and fine aggregate angularity for the mixture being produced.

B.11.B Objectionable Material

Do not use RAP containing objectionable materials including metal, glass, wood, plastic, brick, or rubber.

B.11.C Asphalt Binder Content

Determine the asphalt binder content using the Mn/DOT Lab Manual Method 1851 and 1852.

B.11.D Bulk Specific Gravity

Determine the bulk specific gravity in accordance with Mn/DOT Laboratory Procedure 1205 or 1815.

C Quality

C.1 Los Angeles Rattler Test Mn/DOT Laboratory Procedure 1210

Ensure a coarse aggregate loss no greater than 40 percent.

C.2 Soundness (Magnesium Sulfate)Mn/DOT Laboratory Procedure 1219

Maximum loss after 5 cycles on the coarse aggregate fraction (material retained on No. 4 [4.75 mm] sieve for any individual source within the mix) as follows:

- (1) Percent passing the $\frac{3}{4}$ in [19 mm] sieve to percent retained on the $\frac{1}{2}$ in [12.5 mm] sieve, $\leq 14\%$,
- (2) Percent passing the $\frac{1}{2}$ in [12.5 mm] sieve to percent retained on the $\frac{3}{8}$ in [9.5 mm] sieve, $\leq 18\%$,
- (3) Percent passing the $\frac{3}{8}$ in [9.5 mm] sieve to percent retained on the No. 4 [4.75 mm] sieve, $\leq 23\%$,
- (4) For the composite if all three size fractions are tested, the composite loss $\leq 18\%$, and acceptance will be granted if:
 - (4.1) If the Contractor meets the composite requirement, but fails to meet at least one of the individual components, the Engineer may accept the source if each individual component is no greater than 110 percent of the requirement for that component.
 - (4.2) If the Contractor meets each individual component requirement, but fails to meet the composite, the Engineer may accept the source if the composite is no greater than 110 percent of the requirement for the composite.

Coarse aggregate that exceeds the requirements in this section for material passing the No. 4 [4.75 mm] sieve cannot be used.

C.3 Spall Materials and Lumps Mn/DOT Laboratory Procedure 1219

Stop asphalt production if the percent of spall or lumps measured in the stockpile or cold feed exceeds the values listed in Table 3139-3.
Determine lump compliance by dry batching.

C.4 Insoluble Residue Test..... Mn/DOT Laboratory Procedure 1221

If using Class B carbonate materials ensure the portion of the insoluble residue passing the No. 200 [75 µm] sieve is no greater than 10 percent.

Blending of sources and/or beds with an insoluble residue up to 15% is allowed to meet the 10% insoluble residue requirement. Individual beds thinner than 150 mm [6 inches] up to 5% of the total face height, are exempt from the 15% maximum insoluble residue requirement. However, the aggregate producer shall practice good quality control at all times and exclude poor quality stone to the extent practical, regardless of the bed thickness and/or pocket size and location.

No carbonate quarry rock from the Platteville Geological Formation is allowed.

D Gradation

Ensure the aggregate gradation broad bands meet the following requirements in accordance with AASHTO T-11 (passing the No. 200 [75 µm] wash) and AASHTO T-27.

Table 3139-2 Aggregate Gradation Broad Bands (percent passing of total washed gradation)				
Sieve size	A	B	C	D
1 in [25.0 mm]	—	—	100	—
¾ in [19.0 mm]	—	100*	85 – 100	—
½ in [12.5 mm]	100*	85 – 100	45 – 90	—
¾ in [9.5 mm]	85 – 100	35 – 90	—	100
No. 4 [4.75 mm]	25 – 90	30 – 80	30 – 75	65 – 95
No. 8 [2.36 mm]	20 – 70	25 – 65	25 – 60	45 – 80
No. 200 [0.075 mm]	2.0 – 7.0	2.0 – 7.0	2.0 – 7.0	3.0 – 8.0
* The Contractor may reduce the gradation broadband for the maximum aggregate size to 97 percent passing for mixtures containing RAP, if the oversize material originates from the RAP source. Ensure the virgin material meets the requirement of 100 percent passing the maximum aggregate sieve size.				

S-99 (3236) REINFORCED CONCRETE PIPE

The provisions of Mn/DOT 3236 are modified and/or supplemented with the following:

- S-99.1 Manufacturers of reinforced concrete pipe may produce an alternate “offset joint” on the spigot end of the pipe. This type of offset joint is to be used with the profile or prelubricated pipe seal systems. See Mn/DOT Standard Plate 3006.
- S-99.2 The first paragraph of Mn/DOT 3236.2A3 is hereby deleted and replaced with the following:

Cement substitutions as addressed in 2461.3D are hereby modified as follows to allow:

- (a) 30 percent Class F or Class C fly ash by weight
- (b) 35 percent ground granulated blast furnace slag by weight
- (c) 35 percent substitution with a combination of ground granulated blast furnace slag and Type F or Type C fly ash by weight.

All other provisions of 2461.3D shall apply. The use of admixtures shall conform to 2461.3E.

S-100 **(3301) REINFORCEMENT BARS**

The third to the last paragraph of Mn/DOT 3301.2 is hereby deleted and replaced with the following:

When epoxy coated reinforcement bars are specified, coating shall be in conformance with AASHTO M 284M/M 284-06. Application of epoxy coating shall be made in a fusion bonded epoxy coating plant that has been granted "Certification" by the Concrete Reinforcing Steel Institute, or an organization approved by the Materials Engineer.

S-101 **(3302) DOWEL BARS**

Mn/DOT 3302 is hereby deleted and replaced with the following:

Dowel bars shall be fabricated from Grade 40 or 60 steel in accordance with AASHTO M31 and be epoxy coated in conformance with AASHTO M254. The ends of the dowel bars may be epoxy coated at the discretion of the fabricator. Application of epoxy coating shall be made in a fusion bonded epoxy coating plant that has been granted "Certification" by the Concrete Reinforcing Steel Institute, or an organization approved by the Materials Engineer.

The plant's quality control office shall maintain documentation containing the data required by certification. This documentation shall contain test data and measurements taken at times and locations approved by the Engineer, ensuring that monitoring, by personnel not directly involved in production, is sufficient for compliance with approved procedures.

All dowel bars shall be stored and protected in accordance with 2472.

Shearing will be permitted provided the coating is not damaged and subject to permissible deformation. Any deformation larger than true shape shall not exceed 1 mm (**0.04 inch**) increase in diameter or thickness and shall not extend more than 10 mm (**0.40 inch**) from the dowel end.

S-102 **(3310) HIGH STRENGTH LOW ALLOY COLUMBIUM-VANADIUM STEEL**

The second paragraph of Mn/DOT 3310.2 is hereby deleted and replaced with the following:

Sheet and strip supplied to this Specification shall conform to ASTM A 1011/A 1011M, Grade 340 (50), Class 1; ASTM A 1018/A 1018M, Grade 340 (50), Class 1; and 3308.

S-103 **(3352) SIGNS AND MARKERS**

Traffic signs and markers used on this project shall be fabricated in accordance with the provisions of Mn/DOT 3352 and the following:

S-103.1 All sign panels provided shall meet the requirements of Mn/DOT 3352.2A1a and the following:

The panel thickness for all signs with the length of the longest side equal to or less than 18 inches shall be 0.080 inch ± 0.004 inch.

S-103.2 In addition to the requirements of Mn/DOT 3352.2B1, all signs shall show careful, finished workmanship in all particulars. Corner radii shall meet each edge of the sign at a tangent point with a smooth junction. Surfaces and edges of the sign shall be smooth and free from defects. Mounting holes shall be smooth and free from defects. Material surrounding holes shall be flat and free of burrs or sharp edges. Signs showing poor workmanship will be rejected.

S-104 **(3355) REMOVABLE PREFORMED PLASTIC PAVEMENT MARKINGS FOR TRAFFIC LANE DELINEATION AND LEGENDS**

The provisions of Mn/DOT 3355 are hereby modified and/or supplemented with the following:

S-104.1 The third sentence of the first paragraph of Mn/DOT 3355.2 is hereby deleted and replaced with the following:

The markings shall be precoated with a pressure sensitive adhesive and shall be capable of adhering to asphalt concrete and Portland cement concrete surfaces in accordance with manufacturer's instructions and shall be immediately ready for traffic after application.

S-104.2 The Qualified Product List is located at: <http://www.dot.state.mn.us/products/>.

S-105 **(3401) FLANGED CHANNEL SIGN POSTS**

The provisions of Mn/DOT 3401 are hereby modified and/or supplemented with the following:

S-105.1 The last sentence of Mn/DOT 3401.2A Material, is hereby revised to read as follows:

The steel shall conform to the mechanical requirements of ASTM A 499, Grade 420 (**60**) and to the chemical requirements of ASTM A 1 for rails having nominal mass of 45 kg per m [**91 pounds per yard**] of length or heavier.

S-105.2 Mn/DOT 3401.2C Mass, is hereby deleted and the following substituted therefore:

C Mass (Weight)

The nominal mass (**weight**) of the posts shall be as specified in the Plans, 3.0, 3.7, 4.1, 4.5, or 6.0 kg/m (**2.0, 2.5, 2.75, 3.0, or 4.0 pounds per foot**) of length, before punching and exclusive of galvanizing, anchor plates, and other attachments. A variation up to 5 percent under the specified mass (**weight**) will be permitted.

S-105.3 Mn/DOT 3401.2D, Shape and Dimensions, is hereby deleted and the following substituted therefore:

D Shape and Dimensions

The posts shall be of channel section design with flanges against which the sign will be placed. The front face of the flanges shall be flat and in the same plane so as to provide smooth, uniform bearing for the sign. The back of the flanges and the posts shall be flat and parallel to the front. The cross section of the posts shall be symmetrical about the central axis perpendicular to the front and back.

The posts shall be straight, free from excessive bow, twist, and other injurious or unsightly defects.

S-105.4 Table 3401-1 is hereby deleted and the following substituted therefore:

TABLE 3401-1					
NOMINAL DIMENSIONS					
Mass per Unit of Length	3.0 kg (2.0 pound)	3.7 kg (2.5 pound)	4.1 kg (2.75 pound)	4.5 kg (3.0 pound)	6.0 kg (4.0 pound)
Wide overall across front	76 mm (3 inches)	76 mm (3 inches)	76 mm (3 inches)	83 mm (3¼ inches)	89 mm (3½ inches)
back surface	25 mm (1 inch)	25 mm (1 inch)	25 mm (1 inch)	32 mm (1¼ inch)	32 mm (1½ inch)
flanges (bearing surface)	13 mm (½ inch)	13 mm (½ inch)	13 mm (½ inch)	16 mm (⅝ inch)	19 mm (¾ inch)
Depth overall, front to back	35 mm (1⅜ inches)	35 mm (1⅜ inches)	38 mm (1½ inch)	38 mm (1½ inch)	43 mm (1.7 inch)
Thickness of Metal, Flanges & Back	3 mm (1/8 inch)	3 mm (1/8 inch)	5 mm (3/16 inch)	4 mm (0.16 inch)	5 mm (0.20 inch)
Sides	3 mm (1/10 inch)	3 mm (1/8 inch)	3 mm (1/8 inch)	4 mm (0.15 inch)	4 mm (0.15 inch)

NOTE: Dimension requirements are for flat flange sections.

S-106 (3590) EPOXY RESIN PAVEMENT MARKINGS (FREE OF TOXIC HEAVY METALS)

The provisions of Mn/DOT 3590.3 are hereby deleted and replaced with the following:

3590.3 SPECIFIC REQUIREMENTS

A Epoxy Resin Material

The material shall be composed of epoxy resins and pigments only. No solvents are to be given off to the environment upon application to a pavement surface.

The composition shall be within the tolerance permitted for the product tested and approved by Mn/DOT. Type II material shall be completely free of TMPTA (Tri-Methyol Propane Tri-Acrylate) and other multi-functional monomers.

All materials shall be free of lead, cadmium, mercury, hexavalent chromium and other toxic heavy metals as defined by the United States Environmental Protection Agency.

Color:

The color of the white epoxy shall be a pure flat white, free of tints. The color of the yellow epoxy shall closely match Color Number 33538 of Federal Standard 595 and shall conform to the following CIE Chromaticity limits using illuminant "C":

x | 0.470 | 0.485 | 0.520 | 0.480
y | 0.440 | 0.460 | 0.450 | 0.420

Daylight Directional Reflectance (Y), white, minimum 83
Daylight Directional Reflectance (Y), yellow, minimum 50

Testing will be according to:

Daylight Directional Reflectance.....ASTM D 2805
ColorASTM D 2805

Adhesion Capabilities:

When the adhesion of the material to Portland cement concrete (the concrete shall have a minimum of 2 070 kPa [**300 psi**] tensile strength) is tested according to American Concrete Institute Committee 403 testing procedure, the failure of the system must take place in the concrete. The concrete shall be 32°C [**0°F**] when the material is applied, after which the material shall be allowed to cure for 72 hours at 23 ± 2°C [**73 ± 36° F**].

Abrasion Resistance:

When the abrasion resistance of the material is tested according to ASTM C 501 with a CS-17 wheel under a load of 1000 grams for 1000 cycles, the wear index shall be no greater than 82. (The wear

index is the weight in milligrams that is abraded from the sample under the test conditions).

Hardness:

The Type D durometer hardness of the material shall be not less than 75 nor more than 90 when tested according to ASTM D2240 after the material has cured for 72 hours at $23 \pm 2^\circ\text{C}$ [$73 \pm 36^\circ\text{F}$].

Tensile Strength:

The tensile strength of the material, when tested according to ASTM D 638, shall not be less than 41 370 kPa [**6,000 psi**] after 72 hours cure at $23 \pm 2^\circ\text{C}$ [$73 \pm 36^\circ\text{F}$].

Compressive Strength:

The compressive strength of the material, when tested according to ASTM D 695, shall not be less than 82,700 kPa [**12,000 psi**] after 72 hours cure at $23 \pm 2^\circ\text{C}$ [$73 \pm 36^\circ\text{F}$].

Thickness:

The epoxy pavement marking wet film thicknesses shall be a minimum of $380\ \mu\text{m}$ [**15 mil**] on all pavement surfaces. For the Spec 2360 SUPERPAVE wearing courses the epoxy pavement marking wet film thicknesses shall be increased from a minimum of $380\ \mu\text{m}$ [**15 mil**] to a minimum thickness of $508\ \mu\text{m}$ [**20 mil**] wet film.

B Glass Beads

Glass beads shall meet the requirements of AASHTO M247, Type 1, and:

- a. Coatings - - the beads shall be treated according to the manufacturers recommendations and meet the requirements of Section 4.4.2 of M247, and
- b. Roundness - - the beads shall have a roundness of at least 80%.

For $380\ \mu\text{m}$ [**15 mil**] applications, glass beads shall be applied at a rate of at least $3.0\ \text{kg/L}$ [**25 pounds per gallon**]. A greater bead application rate may be necessary for meeting the performance criteria (minimum levels of retro-reflectivity). This will require contractors to consult with all the materials manufacturers.

Time to No-Track:

Type 1 material shall be in “no-tracking” condition in 15 minutes or less and within 45 minutes for Type II material. The “no-tracking” condition shall be determined on an application of specified thickness to the pavement and covered with glass beads

at the rate of at least 3.0 kg/L [**25 pounds per gallon**]. The lines for this test shall be applied with striping equipment operated so as to have the material at manufacturer's recommended application temperature. This maximum "no-tracking" time shall not be exceeded when the pavement temperature varies from 10 to 49° C [**50 to 120° F**] and under all humidity conditions, providing the pavement is dry. The no-tracking time shall be determined by passing over the line with a passenger car or pickup truck at a speed of 40 to 55 km/hr [**25 to 35 mph**] in a simulated passing maneuver. A line showing no visual deposition of the material to the pavement surface when viewed from a distance of 15 m [**50 feet**] shall be considered as showing "no-tracking" and conforming to this requirement for time to "no-track."

S-107 (3754) MEMBRANE CURING COMPOUND

The provisions of Mn/DOT 3754 are supplemented and/or modified with the following:

S-107.1 Mn/DOT 3754.2A shall be deleted and replaced with the following:

Only Mn/DOT approved membrane curing compounds will be allowed for use. Mn/DOT shall pre-approve all curing compounds. The most current approved lots and batches with product expiration dates are available from the Mn/DOT Products website. All curing compounds shall comply with the requirements of the Mn/DOT Curing Compound Manufacturer Approval Program, including pre-testing of all materials by the manufacturer.

All membrane curing compound materials shall conform to ASTM C309 for the type specified in the Contract. The concrete curing compound furnished shall be white pigmented Type 2, Class B. A Type 1-D curing compound shall be used on any colored concrete or architectural concrete where a finished white surface is not desired. The use of Type 1-D curing compound may be allowed in other concrete applications by special provisions or at the discretion of the Engineer.

These membrane curing compounds must be protected from freezing prior to application. This material shall be tested at an application rate of 5 m² per liter (**200 square feet per gallon**).

All membrane curing compound materials shall be formulated so as to maintain the specified properties for a minimum of 1 year from date of manufacture. The Engineer may require additional testing before use to determine compliance with these specifications if the compound has not been used within one year or whenever the Engineer has reason to believe the compound is no longer satisfactory.

S-107.2 Mn/DOT 3754.2B shall be modified with the following:

The curing compound meeting the requirements of 3754.2B shall be used on concrete bridge applications unless otherwise directed by the Special Provisions of the Contract or by the Engineer.

S-108 **(3861) PLANT STOCK**

The provisions of Mn/DOT 3861 are supplemented and/or modified with the following:

S-108.1 The third to last paragraph of Mn/DOT 3861.3 Sampling and Inspection, is revised to read as follows:

During the spring planting season, coniferous plants that have candled out (put out new growth) while being stored in a holding bin may be planted, however, coniferous plants that are dug after candling out will be rejected. Coniferous trees not fully branched from bottom to top will be rejected. Only coniferous trees with buds or new growth at the terminal ends of branches shall be accepted, provided the tree meets the dimensional requirements defined in the current edition of the “Inspection and Contract Administration Manual for Mn/DOT Landscape Projects”. Sheared or previously de-budded conifers may have enlarged trunk growth that is out of balance with a typical transplanted root system that is now too small. Therefore, previously sheared or de-budded coniferous trees will be subject to the minimum trunk caliper to root ball size relationship for deciduous trees as defined in the current edition of the “Inspection and Contract Administration Manual for Mn/DOT Landscape Projects”. Pine trees shall have a terminal leader bud and terminal leaders shorter than 500 mm (**18 inches**) in length. A new central leader must be trained in conifers delivered with multiple or missing leaders.

S-109 **(3876) SEED**

The provisions of Mn/DOT 3876 are supplemented and/or modified with the following:

S-109.1 The second paragraph of Mn/DOT 3876.1 is hereby deleted and replaced with the following:

Pure live seed (PLS) is the percent of seed germination plus dormant and/or hard seed times the percent of seed purity of each species divided by 100.

S-109.2 Mn/DOT 3876.2A General Requirements is hereby deleted and replaced with the following:

F. GENERAL REQUIREMENTS

All seed lots shall conform to the latest seed law of the State (Minnesota Statutes 21.80-21.91, last revised 8/2/06), and any applicable federal regulations, including those governing labeling and weed seed tolerances. Seed lots sold or offered for sale in the State of Minnesota are subject to inspection, sampling, and testing for verification of label claims and compliance with the Minnesota

Seed Law by the Department of Agriculture (M.S. 18J.04). Tolerances for germination and purity factors will be applied as established in Rules 1510.0050, 1510.0060, 1510.0070, 1510.0080, 1510.0090 and 1510.0100 to seed lots sampled and tested by official methods. For all seed used in Mn/DOT mixes or projects, tests for viability (including germination and TZ tests) are valid for 12 months from the test date, exclusive of the month the test was completed. Seed shall be installed while tests are still valid.

All legume seed, including native legumes, shall have been pre-inoculated with the proper bacterial culture for the species being inoculated and with the bacteria culture designed for this purpose (pre-inoculation), in the manner and within the time specified by the manufacturer.

A1 Labeling

Contractor shall supply seed that is labeled according to the labeling requirements for agricultural seed as set forth in the Minnesota Seed Law, section 21.82. The contractor shall supply seed that also contains the following information:

- a) County of genetic origin for each native component (List at least two counties for germplasm comprising accessions from multiple counties)
- b) PLS percent for each mix component (Purity x Total Germination and Hard or Dormant Seed/100) for each mix component (**For PLS component of mix's**)
- c) Total PLS weight for the bag. The tag shall identify this as the pay item. (**For PLS component of mix's**)
- d) Total bulk weight for the bag
- e) Area covered by the amount of seed in the bag when applied at the rate specified for the mix
- f) All information pertaining to individual components in a mix is required for all components, including those that constitute less than 5% of the total mix.

Tags must not be hand written. If any of the above mentioned information is not included on the tag the material will be subject to specification 1503. When multiple bags are required to keep certain species or groups of species separate for the purpose of seeding those bags may be placed inside of a larger bag as long as each bag is labeled separately and the outer bag is labeled with the name of the mix.

Each package of seed must include a "Certified Vendor" tag that is issued by Mn/DOT Erosion Control unit. This will indicate that the

seed has come from a Mn/DOT Approved Seed Vendor as described in 3876.3.

A2 Seed Cleaning

Contractor shall use seed that has been cleaned to an extent sufficient to allow its passage through appropriate seeding equipment. Seed of introduced species must be suitable for use in conventional seeders. Seed of native species must be suitable for use in native seed drills without plugging up the boxes, drop tubes, or planting units of the seed drills. Contractor shall not use seed that has been conditioned so much that it suffers reduced viability as a result.

A3 Substitutions

Alternate species or germplasm may only be used by requesting permission from the County. Requests for permission must include written proof from three potential suppliers that the specified germplasm is not available. Approved substitutions will be named in a memo at the time they are approved. Use of germplasm not listed herein will be considered unacceptable and will be subject to 1503.

A4 Requirements for seed of native species

Contractor shall supply and plant all seed in the native species mixes (Seed Mixture Special 1 and 2) as pure live seed (PLS). This includes the cover crop, grass, sedge, and forb components. All seed in the cover crop component of native mixes must be certified by the Minnesota Crop Improvement Association (MCIA) or the appropriate seed certifying agency in the seed's state of origin, if other than Minnesota.

All native seed used in mixes in the native mixes shall be certified by the Minnesota Crop Improvement Association (MCIA) in the Source Identified class. The genetic origin for this seed shall be within Minnesota or eastern North Dakota, eastern South Dakota, northern Iowa, or western Wisconsin.

Source Identified seed shall be accompanied by the appropriate quality mark documentation from the MCIA, in the form of a MCIA-labeled yellow tag or certification certificate. County of genetic origin shall be clearly identified on the seed label for all native seed. Selected class and Tested class germplasm of native species listed in Table 3876-1 located on the website of the Office of Environmental Services Erosion Control unit may be used in 100 and 200 series seed mixtures.

If a specified species or germplasm is not available, substitutions will be granted for native seed in the 300 series mixes according to the following order of preference:

- 1) First preference, MCIA certified Source Identified class with a genetic origin in Minnesota or eastern North Dakota, eastern South Dakota, northern Iowa, or western Wisconsin
- 2) Second Preference: Source Identified seed certified by a seed certifying agency other than MCIA but with a genetic origin in Minnesota or eastern North Dakota, eastern South Dakota, northern Iowa, or western Wisconsin
- 3) Third Preference: Certified seed of varieties/germplasm listed in Table 3876-1.
- 4) Fourth Preference: Wild Type from Minnesota or eastern North Dakota, eastern South Dakota, northern Iowa, or western Wisconsin. Wild type seed is defined as seed of a local or regional ecotype that has originated from remnant native stands and that has not undergone any intentional selection process.

S-109.3 Mn/DOT Table 3876-1 is hereby deleted and replaced with the following:

**TABLE 3876-1
NATIVE GRASSES
SEED COUNTS AND ACCEPTABLE GERmplasm**

Trade Name	Scientific Name+	Acceptable Varieties/Germplasm*	Seeds Per Pound
Big Bluestem	<i>Andropogon gerardi</i>	Bonilla, Bison	131,200
Sideoats Grama	<i>Bouteloua curtipendula</i>		96,000
Blue Grama	<i>Bouteloua gracilis</i>		640,000
Fringed Brome	<i>Bromus ciliatus</i>		160,000
Kalm's Brome	<i>Bromus kalmii</i>		128,000
Hairy wood chess	<i>Bromus purgans</i>		121,600
Buffalo grass	<i>Buchloe dactyloides</i>		51,200
Blue-joint grass	<i>Calamagrostis Canadensis</i>		3,360,000
Bottle Brush Sedge	<i>Carex comosa</i>		384,000
Tussock Sedge	<i>Carex stricta</i>		848,000
Fox Sedge	<i>Carex vulpinoidea</i>		1,440,000
Canada Wild Rye	<i>Elymus canadensis</i>	Mandan	67,200
Bottle brush grass	<i>Elymus hystrix</i>		75,200
Slender Wheat Grass	<i>Elymus trachycaulus</i>	Revenue	135,000
Virginia Wild Rye	<i>Elymus virginicus</i>		62,400
Western Wheat Grass	<i>Elytrigia smithii</i>		113,600
Reed Manna Grass	<i>Glyceria grandis</i>		1,280,000
Fowl Manna Grass	<i>Glyceria striata</i>		2,560,000
Common rush	<i>Juncus effusus</i>		16,000,000
June Grass	<i>Koeleria macrantha</i>		2,400,000
Switch Grass	<i>Panicum virgatum</i>	Forestburg, Dacotah	224,000
Fowl Bluegrass	<i>Poa palustris</i>		2,080,000
Canada Bluegrass	<i>Poa compressa</i>		2,400,000
Little Bluestem	<i>Schizachyrium scoparium</i>	Itasca Germplasm	140,800
Green Bulrush	<i>Scirpus atrovirens</i>		2,240,000
Wool-grass	<i>Scirpus cyperinus</i>		2,880,000
Soft-stem Bulrush	<i>Scirpus validus</i>		496,000
Indian Grass	<i>Sorghastrum nutans</i>	Tomahawk	132,800
Prairie Cordgrass	<i>Spartina pectinata</i>	Red River Germplasm	105,600
Rough Dropseed	<i>Sporobolus asper</i>		480,000
Sand Dropseed	<i>Sporobolus cryptandrus</i>		3,200,000
Prairie Dropseed	<i>Sporobolus heterolepis</i>		224,000
Green Needle Grass	<i>Stipa viridula</i>		120,000

* Varieties listed are approved for use in 100 and 200 series mixes. Their substitution for MCI A Source Identified seed in 300 series mixes is only allowed upon satisfaction of the requirements of 3876.2 A5. When multiple varieties are listed for a single species, they are listed in order of preference.

- S-109.4 Delete Mn/DOT 3876.2B Requirements for Native Grasses, Sedges, Rushes (label and paragraphs) and replace with:
B Requirements for Native Grasses, Sedges, and Rushes Table 3876-1
(Keep table 3876-1)
- S-109.5 Delete Mn/DOT 3876.2E Requirements for Native Forbs (Wildflowers): (label and paragraphs) and replace with:
E Requirements for Native Forbs (Wildflowers) Table 3876-4
(Keep table 3876-4)
- S-110 (3891) STORM DRAIN INLET PROTECTION**
The provisions of Mn/DOT 3891 are supplemented and/or modified with the following:
- S-110.1 Mn/DOT 3891.3A Rock Log, is revised to read as follows:
Rock logs shall meet the requirements of 3897.2 Filter Log Type Rock Log.
- S-110.2 Mn/DOT 3891.3B Compost Log, is revised to read as follows:
Compost logs shall meet the requirements of 3897.2 Filter Log Type Compost Log.
- S-111 UTILITY AGREEMENTS, PERMITS AND ORDERS**
Bidders are advised that for informational purposes, Agreements, Permits and Orders with utility companies covering the relocation of their facilities may be on file at the City of Minneapolis Transportation Division, 300 Border Avenue North all of which may be examined by prospective bidders upon request.
It is expressly understood that the foregoing reference to said Agreements, Permits and Orders does not make them a part of this Contract.
Furthermore, the County, City, and State make no warranty, express or implied, that the utility companies will relocate their facilities in accordance with the terms of said Agreements, Permits or Orders.
The Contractor may be required to work in and around utility properties and has considered this fact in preparing its proposal.
The above shall not be construed as being a modification of any of the Provisions of 1507.
- S-112 TRUCK ROUTES**
The Contractor may use all the City of Minneapolis approved truck routes. Any alternate routes must have the written approval of the City of Minneapolis Department of Public Works, City Traffic Engineer, prior to their use.