

**DIVISION I
GENERAL REQUIREMENTS AND COVENANTS**

**1101
Abbreviations**

Wherever these Specifications, the Plans, or other Contract documents use the following abbreviations, these abbreviations have the following meaning:

1101.1	GLOSSARY OF ABBREVIATIONS
AAN	American Association of Nurserymen
AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
AITC	American Institute of Timber Construction
AC	Alternating Current
ACI	American Concrete Institute
AGC	Associated General Contractors of America, Inc.
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ANSI	American National Standards Institute
ARA	American Railway Association
AREA	American Railway Engineering Association
ASCE	American Society of Civil Engineers
ASLA	American Society of Landscape Architects
ASME	American Society of Mechanical Engineers
ASTM	American Society of Testing and Materials
ATR	Automatic Traffic Recorder
AWPA	American Wood Preservers Association
AWS	American Welding Society
AWG	American Wire Gauge
AWWA	American Water Works Association
CCTV	Closed Circuit Television
CMP	Communications Plenum Cable or Corrugated Metal Pipe
CMS	Changeable Message Sign
COAX	Radio Frequency Transmission Cable (Coaxial Cable)
CRSI	Concrete Reinforcing Steel Institute
CV	Compacted Volume
DBE	Disadvantage Business Enterprise

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EEO	Equal Employment Opportunity
EV	Excavated Volume
EVP	Emergency Vehicle Pre-emption
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration, U.S.Department of Transportation
FSS	Federal Specifications and Standards, General Services Administration
FTA	Federal Transit Administration
GFI	Ground Fault Interrupter
HH	Handhole
IEEE	Institute of Electrical and Electronics Engineers
IES	Illuminating Engineers Society
ICEA	Insulated Cable Engineers Association
IMC	Intermediate Metal Conduit
ISO	International Standards Organization
IPS	Iron Pipe Size
ITC	Information Transmission Capacity
ITE	Institute of Transportation Engineers
JMF	Job Mix Formula used in the Bituminous Specifications.
KVA	Kilovolt Ampere
LV	Loose Volume for Measurements, or Leveling Course for Bituminous
MGal	1000 Gallons
MN MUTCD	Minnesota Manual on Uniform Traffic Control Devices
Mn/DOT	Minnesota Department of Transportation
MN Statutes	Minnesota Statutes
MPCA	Minnesota Pollution Control Agency
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NMC	Non-Metallic Conduit
No.	When reference is to wire, it is the AWG gauge number.
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Safety & Health Administration
(P)	(Defined in 1103)
PCI	Prestressed Concrete Institute
PIV	Peak Invert Voltage
PLS	Pure Live Seed
PVC	Polyvinyl Chloride

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QA	Quality Assurance
QC	Quality Control
RCS	Ramp Control Signal
REA	Rural Electrification Association
RF	Radio Frequency
RHW	Moisture and Heat Resistant or Cross Linked Synthetic Polymer
RMS	Root Mean Square
RSC	Rigid Steel Conduit
SAE	Society of Automotive Engineers
SI	International System of Units (The Modernized Metric System)
SPDT	Single Pole Double Throw
SPST	Single Pole Single Throw
SSPC	Society for Protective Coatings
SV	Stockpiled Volume
SWPPP	Storm Water Pollution Prevention Plan
TH	Trunk Highway
TMC	Traffic Management Center
TMS	Traffic Management System
TSM	Traffic System Management
UL	Underwriters Laboratories, Inc.
USD	United States Department of Agriculture
UV	Ultra Violet
VAC	Volt Alternating Current (60 Hz)
VDC	Volt Direct Current
XHHW	Moisture and Heat Resistant Cross Linked Synthetic Polymer

1101.2 METRIC UNITS

The International System of Units (SI) (the Modernized Metric System) according to ASTM E 380 are used in these Specifications. ASTM E 380 also provides conversion factors and commentary.

Metric Prefix and Magnitude

M	mega (10^6)
k	kilo (10^3)
m	milli (10^{-3})
μ	micro (10^{-6})
n	nano (10^{-9})
p	pico (10^{-12})

Metric Symbols

A	ampere (electric current)
cd	candela (luminous intensity)

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F	farad (electric capacitance)
g	gram (mass)
H	henry (inductance)
ha	hectare (area)
Hz	hertz (frequency - cycles or impulses per second)
J	joule (energy)
km/h	kilometer per hour (velocity)
km ²	square kilometer (area)
L	liter (volume)
m/s	meters per second (velocity)
m	meter (length)
m ²	square meter (area)
m ³	cubic meter (volume)
m ³ /s	cubic meters per second (flow rate)
N	newton (force)
N•m	newton meter (torque)
Pa	pascal (pressure, stress)
s	second (time)
S	siemens (electrical conductance)
t	metric ton (mass)
V	volt (electric potential)
W	watt (power)
Ω	ohm (electric resistance)
°C	degree Celsius (temperature)

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Definitions

Unless another intention clearly appears, words and phrases (including technical words and phrases and such others as have acquired a special meaning) shall be construed according to rules of grammar and according to general usage.

Wherever the following terms, or pronouns in place of them, are used in these Specifications, the Plans, or other Contract documents, the intent and meaning shall be interpreted as follows:

ADDENDUM

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

ADVERTISEMENT FOR BIDS

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

AGGREGATE

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

AUXILIARY LANE

The portion of the roadway adjoining the traveled way for parking, speed-change, or other purposes supplementary to through traffic movement.

AWARD

The acceptance by the Contracting Authority of a bid, subject to execution and approval of the Contract.

BID SCHEDULE

A listing of Contract items in the proposal form showing quantities and units of measurement that provides for the bidder to insert unit bid prices.

BIDDER

An individual, firm, or corporation submitting a Proposal for the advertised work.

BRIDGE

A structure, including supports, erected over a depression or an obstruction, such as a water course, highway, or railway, and having a track or passageway for carrying traffic or other moving loads. Traffic or other moving loads are carried directly on the upper portion of the superstructure (called the bridge deck).

BRUSH

Shrubs, trees, and other plant life having a diameter of 100 mm (**4 inches**) or less at a point 600 mm (**12 inches**) above ground surface as well as fallen trees and branches. above ground surface as well as fallen trees and branches.

CALENDAR DAY

Every day shown on the calendar.

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CARBONATE

Sedimentary rock composed primarily of carbonate minerals, including dolostone (dolomite, $\text{CaMg}(\text{CO}_3)_2$), limestone (calcite, CaCO_3) and mixtures of dolostone and limestone.

CERTIFICATE OF COMPLIANCE

A certification provided by a manufacturer, producer, or supplier of a product that the product, as furnished to the Contractor, complies with the pertinent specification or Contract requirements. The certification shall be signed by a person who is authorized to bind the company supplying the material covered by the certification.

CERTIFIED TEST REPORT

A test report provided by a manufacturer, producer, or supplier of a product indicating actual results of tests or analyses, covering elements of the specification requirements for the product or workmanship, and including validated certification.

CERTIFIED CCTV TECHNICIAN

An individual certified by the Contractor and approved by the Engineer to perform all work associated with a CCTV system.

CHANGE ORDER

A written order issued by the Engineer to the Contractor covering permissible adjustments, minor Plan changes or corrections, and rulings with respect to omissions, discrepancies, and intent of the Plans and Specifications, but not including any Extra Work or other alterations that are required to be covered by Supplemental Agreement.

Orders issued to implement changes made by mutual agreement shall not become effective until signed by the Contractor and returned to the Engineer.

CHANGED CONDITION

The Contract clause (1402) that provides for adjustment of Contract terms for site conditions that differ from those in the Contract, for suspension of work ordered by the Department, and for significant changes in the character of the work.

CITY, VILLAGE, TOWNSHIP, TOWN, OR BOROUGH

A subdivision of the county used to designate or identify the location of the proposed work.

COMMISSIONER

The Commissioner of the Minnesota Department of Transportation, or the chief executive of the department or agency constituted for administration of Contract work within its jurisdiction.

CONTRACT

The written agreement between the Contracting Authority and the Contractor setting forth their obligations, including, but not limited to, the performance of the work, the furnishing of labor and materials, the basis of payment, and other requirements contained in the Contract documents.

The Contract documents include the advertisement for bids, Proposal, Contract form, Contract bond, these Specifications, supplemental Specifications, Special Provisions, general and detailed Plans, notice to proceed, and orders and agreements that are required to complete the construction of the work in an acceptable manner, including authorized extensions, all of which constitute one instrument.

CONTRACT BOND

The approved form of security executed by the Contractor and Surety or Sureties, guaranteeing complete execution of the Contract and all Supplemental Agreements pertaining thereto and the payment of all legal debts pertaining to construction of the Project.

CONTRACT ITEM (Pay Item)

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

CONTRACT TIME

The completion date, number of working days, or number of calendar days allowed for completion of the Contract, including authorized time extensions.

Completion date and calendar day Contracts shall be completed on or before the day indicated even where that date is a Saturday, Sunday, or holiday.

CONTRACTING AUTHORITY

The political subdivision, governmental body, board, department, commission, or officer making the award and execution of Contract as the party of the first part.

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CONTRACTOR

The individual, firm, or corporation contracting for and undertaking prosecution of the prescribed work; the party of the second part to the Contract, acting directly or through a duly authorized representative.

COUNTY

The county in which the prescribed work is to be done; a subdivision of the State, acting through its duly elected Board of County Commissioners.

CULVERT

A structure constructed entirely below the elevation of the roadway surface and not a part of the roadway surface, which provides an opening under the roadway for the passage of water or traffic.

DEPARTMENT

The Department of Transportation of the State of Minnesota, or the political subdivision, governmental body, board, commission, office, department, division, or agency constituted for administration of the Contract work within its jurisdiction.

DETOUR

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

DIVIDED HIGHWAY

A highway with separated traveled ways for traffic in opposite directions.

DORMANT SEEDING

Seeding allowed in the late fall when the ground temperature is too low to cause seed germination so that the seed remains in a dormant condition until spring.

DORMANT SODDING

Sodding allowed in the late fall when the ground temperature is too low so that normal rooting does not take place until spring.

EASEMENT

A right acquired by public authority to use or control property for a designated highway purpose.

ENGINEER

The duly authorized engineering representative of the Contracting Authority, acting directly or through the designated representatives who have been delegated responsibility for engineering supervision of the construction, each acting within the delegated scope of duties and authority.

EQUIPMENT

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

EROSION CONTROL SCHEDULE

An oral commitment or written document by the Contractor illustrating construction sequences and proposed methods to control erosion.

EXTRA WORK

Any work not required by the Contract as awarded, but which is authorized and performed by Supplemental Agreement, either at negotiated prices or on a Force Account basis as provided elsewhere in these Specifications.

FRONTAGE ROAD (OR STREET)

A local road or street auxiliary to and located on the side of a highway for service to abutting property and adjacent areas and for control of access.

GRADE SEPARATION

A bridge with its approaches that provides for highway or pedestrian traffic to pass without interruption over or under a railway, highway, road, or street.

GRAVEL

Naturally occurring rock or mineral particles produced by glacial and water action. Particle size ranges from 76 mm (**3 inches**) diameter to the size retained on a 2.0 mm diameter (**# 10 sieve**).

GUARANTEED ANALYSIS

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

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HIGHWAY, STREET, OR ROAD

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

HOLIDAYS

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

INCIDENTAL

Whenever the word “incidental “ is used in the plan or special provisions it shall mean no direct compensation will be made.

INDUSTRY STANDARD

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

INSPECTOR

The Engineer's authorized representative assigned to make detailed inspections of Contract performance.

INTERCHANGE

A grade-separated intersection with one or more turning roadways for travel between intersection legs.

INTERSECTION

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

LIMESTONE

See Carbonate

LOOP

A one-way turning roadway that curves about 270 degrees to the right, primarily to accommodate a left-turning movement, but which may also include provisions for another turning movement.

MATERIALS

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

MATERIALS LABORATORY

The Mn/DOT Central Materials Laboratory and, for those tests so authorized, a Mn/DOT District Materials Laboratory.

MAXIMUM DENSITY

The maximum density of a particular soil as determined by the method prescribed in the Mn/DOT Grading and Base Manual.

METRIC

The International System of Units (SI) (the Modernized Metric System) according to ASTM E 380 are used in these Specifications. ASTM E 380 also provides conversion factors and commentary.

METRIC TON (t)

A mass of 1000 kg.

MINOR EXTRA WORK

Extra Work ordered by the Engineer and required to complete the project as originally intended and authorized in writing, (Work Order/Minor Extra Work), as specified in 1403.

MGal

1000 Gallons

NOMINAL

The intended, named, or stated value, as opposed to the actual value. The nominal value of something is the value that it is supposed or intended to have, or the value by which it is commonly known. The actual value may differ from these statements by a greater or lesser amount depending on the accuracy and precision of the process used to determine the actual value.

NOTICE TO PROCEED

Written notice to the Contractor to proceed with the Contract work including, when applicable, the date of beginning of Contract time.

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NPDES PERMIT

The general permit issued by the MPCA that authorized the discharge of storm water associated with construction activity under the National Pollutant Discharge Elimination System Program.

OPTIMUM MOISTURE

The moisture content of a particular soil at maximum dry density as determined by the method prescribed in the Mn/DOT Grading and Base Manual.

(P)

A designation in the summary of quantities in the Plan meaning that the Plan quantity will be the quantity for payment. Measurement or recomputation will not be made except as provided in 1901.

PAY ITEM (Contract Item)

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

PAVEMENT STRUCTURE

The combination of subbase, base course, and surface course placed on a subgrade to support the traffic load and distribute it to the roadbed.

PERMANENT EROSION CONTROL MEASURES

Soil-erosion control measures such as curbing, culvert aprons, riprap, flumes, sodding, erosion mats, and other means to permanently minimize erosion on the completed Project.

PLAN

The Plan, profiles, typical cross-sections, and supplemental drawings that show the locations, character, dimensions, and details of the work to be done.

PLAN QUANTITY

The quantity listed in the summary of quantities in the Plan. The summary of quantities will usually be titled Statement of Estimated Quantities, Schedule of Quantities for Entire Bridge, or Schedule of Quantities.

PROFILE GRADE

The trace of a vertical plane intersecting the top surface of the roadbed or pavement structure, usually along the longitudinal centerline

of the traveled way. Profile grade means either elevation or gradient of such trace according to the context.

PROJECT

The specific section of the highway, the location, or the type of work together with all appurtenances and construction to be performed under the Contract.

PROPOSAL

The offer of a bidder on the prescribed Proposal form to perform the work and furnish the labor and materials at the prices quoted.

PROPOSAL FORM

The approved form on which the Contracting Authority requires bids to be prepared and submitted for the work.

PROPOSAL GUARANTY

The security furnished with a bid to guarantee that the bidder will enter into the Contract if the bid is accepted.

PURE LIVE SEED (Percentage)

A percentage determined by the percent of seed germination times the percent of seed purity.

QUALITY ASSURANCE (QA)

The activities performed by the Department that have to do with making sure the quality of a product is what it should be.

QUALITY COMPACTION

A compaction method as defined in 2105.3F2.

QUALITY CONTROL (QC)

The activities performed by the Contractor that have to do with making the quality of a product what it should be.

QUESTIONNAIRE

The specified forms on which a bidder may be required to furnish information as to ability to perform and finance the work.

RAMP

A connecting roadway for travel between intersection legs at or leading to an interchange.

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RIGHT OF WAY

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

ROAD

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

ROADBED

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

ROADWAY

The portion of a highway within limits of construction.

SCALE

A device used to measure the mass or the proportion of a liquid or solid. This definition includes metering devices.

SHOULDER

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

SIDEWALK

That portion of the roadway primarily constructed for the use of pedestrians.

SIEVE

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

SPECIAL PROVISIONS

Additions and revisions to the standard and supplemental Specifications covering conditions peculiar to an individual Project.

SPECIFICATIONS

A general term applied to all directions, provisions, and requirements pertaining to performance of the work.

SPECIFIED COMPLETION DATE

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

SPECIMEN TREE

Historic or otherwise significant tree indicated in the Contract or determined by the Engineer.

STATE

The State of Minnesota acting through its elected officials and their authorized representatives.

STREET

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

STRUCTURES

Bridges, culverts, catch basins, drop inlets, retaining walls, cribbing, manholes, endwalls, buildings, sewers, service pipes, underdrains, foundation drains, and other man-made features.

SUBCONTRACTOR

An individual, firm, or corporation to whom the Contractor sublets part of the Contract.

SUBGRADE

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

SUBSTRUCTURE

The part of a bridge below the bearings of simple and continuous spans, skewbacks, or arches and tops of footings for rigid frames, together with the backwalls, wingwalls, and wing protection railings.

SUPERINTENDENT

The Contractor's authorized representative in responsible charge of the work.

SUPERSTRUCTURE

The entire bridge except the substructure.

SUPPLEMENTAL AGREEMENT

A written agreement between the Contracting Authority and the Contractor, executed on the prescribed form and approved as required

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by law, covering the performance of Extra Work or other alterations or adjustments as provided for within the general scope of the Contract, but which Extra Work or Change Order constitutes a modification of the Contract as originally executed and approved.

SUPPLEMENTAL DRAWINGS

An approved set of drawings consisting of standard plates or plans showing the details of design and construction for various structures and products for which standards have been developed. These standard plates and plans shall govern by reference as identified and supplemented or amended in the general Plans and Specifications.

SUPPLEMENTAL SPECIFICATIONS

Additions and revisions to the standard Specifications that are approved subsequent to issuance of the printed book of standard Specifications.

SURETY

The Corporation, partnership, or individual, other than the Contractor, executing a bond furnished by the Contractor.

TEMPORARY BY-PASS

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

TEMPORARY EROSION CONTROL MEASURES

Soil-erosion control measures such as bale checks, silt curtains, sediment traps, and other means to temporarily protect the Project from erosion before and during the installation of permanent erosion control measures. Temporary erosion control measures may also be used to supplement the permanent measures.

TRAFFIC LANE

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

TRAVELED WAY

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

TURN LANE

An auxiliary lane for left or right turning vehicles.

WORK

The furnishing of all labor, materials, equipment, and other incidentals necessary or convenient to the successful completion of the Project and the carrying out of all the duties and obligations imposed by the Contract upon the Contractor. Also used to indicate the construction required or completed by the Contractor.

WORKING DAY

A calendar day, exclusive of Saturdays, Sundays, and State recognized legal holidays, on which weather and other conditions not under the control of the Contractor will permit construction operations to proceed for at least 2 hours, with the normal working force engaged in performing the progress-controlling operations.

WORKING DRAWINGS

Stress sheets, shop drawings, erection plans, falsework plans, framework plans, cofferdam plans, bending diagrams for reinforcing steel, or any other supplementary plans or similar data that the Contractor is required to furnish and submit to the Engineer.

WORK ORDER

A written order signed by the Engineer of a contractual status requiring performance or other action by the Contractor without negotiation of any sort.

WORK ORDER/MINOR EXTRA WORK

A written order signed by the Engineer requiring performance of Minor Extra Work.

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Bidding Requirements and Conditions

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Prequalification of Bidders

No prequalification requirements are imposed prior to submitting a bid; however, each bidder is advised that a written statement may be required prior to consideration of bids, showing the experience, certifications, and necessary licenses of the bidder and the amount of capital and equipment available for performance of the proposed work.

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Contents of Proposal Form

The Proposal form will state the location and description of the contemplated construction, and will include a schedule of items showing the estimated quantities of the various kinds and classes of work for which bid prices are invited. The proposal form will state the time in which the work must be completed, the amount and nature of the Proposal Guaranty required, and the date, time and place of the opening of Proposals.

Bound within the proposal forms will be any Special Provisions and other supplementary requirements. All papers bound with or attached to the Proposal form are essential parts of the Proposal and shall not be detached or altered without specific authorization. The Plans, Specifications, and other documents designated in the Proposal are also a part of the Proposal.

1203

Issuance of Proposal Forms

Proposal forms will be issued to prospective bidders upon request and payment of the fee stated in the Advertisement for Bids.

1204

Interpretation of Quantities in Bid Schedule

The Department will use the quantities appearing in the bid schedule as the basis for comparison of bids. The quantities in the bid schedule are to be considered approximate only, and each may be increased, decreased, or omitted as provided in 1402. Payment will be based on the quantities of work performed according to 1901, or as otherwise stated.

1205**Examination of Plans, Specifications,
Special Provisions, and Site of Work**

Plans, Specifications, and Special Provisions for the proposed work are on file at the office of the Contracting Authority where they may be examined without charge, or where copies may be purchased at the stipulated fees.

The bidder is expected to carefully examine the site of the proposed work, Plans, Specifications, Special Provisions, Proposal, and other Contract documents before submitting a Proposal. Submission of a Proposal shall be conclusive evidence that the bidder has investigated the site and the Contract documents, and is satisfied with the conditions to be encountered in performing the work and the Contract requirements.

The Department will make available for examination at its office any information on file regarding subsurface explorations and utility arrangements that are not included in the Contract documents. The bidder shall understand that the records, reports, and documents so examined are not a part of the Contract, but are shown only for the convenience of bidders. The bidder is solely responsible for all assumptions, deductions, and conclusions that the bidder may reach. The bidder shall understand that no warranty is made or implied as to the accuracy, sufficiency, or reliability of the information made available.

When test borings are taken on the Project, the Department may or may not indicate the test boring information on the Plans. The Department takes borings by ordinary and conventional methods and with care deemed adequate for the Department's design purposes. The logs of the borings may have been edited or abridged and may not reveal all information that might be useful or of interest to the Contractor. Consequently, the Department will make the field logs and laboratory logs relating to the borings available to the bidders (or Contractor) at the Department's office. Since some borings may not have been taken to gather information relating to the construction of the Project, the data noted in the field and recorded on logs may not necessarily be that which a Contractor would desire. Therefore, while the Department believes that the information as to the conditions and materials reported within each test hole was accurate at the time the boring was taken, it does not warrant that the information is necessarily complete. Since subsurface conditions outside of each individual test hole are unknown to the Department, and soil, rock, and water conditions cannot be relied upon to be consistent and uniform, the Department does not warrant that conditions adjacent to test borings

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will necessarily be the same as shown on the logs. Furthermore, the Department will not be responsible for any interpretations made by the Contractor. The absence of notations on the logs regarding water does not necessarily mean that the borings were dry or that the Contractor will not encounter subsurface water during the course of construction.

1206

Preparation of Proposal

1206.1 PREPARATION

The bidder shall submit a Proposal upon the bid schedule forms furnished by the Department.

The bidder shall:

- (a) Specify a unit price in figures for each pay item for which a quantity is given, (for all items with a quantity of "Lump Sum" a numeric quantity of "1" shall be assumed) except as not required in the case of alternative items, and
- (b) Show the products of the respective unit prices and quantities in figures in the column provided for that purpose, and
- (c) Show the total amount of the Proposal obtained by adding the amounts of the several items.

All figures shall be in ink, typed or computer printed. In the case of a discrepancy between a unit bid price and the extension, the unit price will govern.

When an item in the **Proposal** contains a choice to be made by the bidder, the bidder shall indicate the choice in accordance with the Specifications for that item, and thereafter, no further choice will be permitted.

The bidders Proposal shall be signed with ink by the individual, by one or more members or officers of each firm representing a joint venture, or by one or more officers of a corporation. If the **Proposal** is made by an individual, the name and post office address shall be shown; by a partnership, the name and post office address of each partner shall be shown; as a joint venture, the name and post office address of each member or officer of the firms represented by the joint venture shall be shown; by corporation, the State in which it is chartered, and the business address of its corporate officials shall be shown.

1206.2 ALTERATIONS

The bidder's attention is directed to MN Statute § 16C.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:

- (a) The alteration or erasure must be crossed out and the correction printed in ink, typewritten or computer printed adjacent to it,

and

- (b) The correction must be initialed in ink by the person signing the bid proposal.

Any alteration or erasure made by the bidder in the Proposal in accordance with a specific instruction contained in an "Addendum" will not be considered to be an "alteration or erasure" within the meaning of the Statute.

1206.3 ALLOWABLE SUBSTITUTIONS

If the proposal permits, in lieu of using the Department's bid schedule, the bidder may use one of the following methods:

- (A) The bidder may submit a substitute computer printed bid schedule WITH THE PROPOSAL. A substitute bid schedule shall be in a format conforming to the guidelines contained in the proposal.
- (B) A 3 ½ inch floppy disk containing the bid schedule may be submitted WITH THE PROPOSAL. The diskette must be labeled with the company name and the Project Number. A printed copy of the bid schedule file must also be submitted with the Proposal. In the case of a discrepancy, the hard copy will prevail. The EBS files and the AASHTO program "Expedite Bid" MUST be used to create the disk.
- (C) The bidder may utilize "Two Way Electronic" bidding. The electronic bid must be submitted in accordance with the requirements of AASHTO "Expedite Bid" software and the "Bid Express" Web site (www.bidx.com). A hard copy of the Proposal and/or the "Schedule of Prices" is NOT required when submitting a bid utilizing "Two Way Electronic" bidding. If a hard copy of the Proposal is submitted with a "Two Way Electronic Bid", the Hard Copy Will Govern.

When the bid is submitted using "Two Way Electronic Bidding", the bidder must sign his bid in conformance with MN Statue § 161.32, subd. 1b. The bid must also comply with the requirements of the "Expedite Bid" software and the "Bid Express" Web site (www.bidx.com).

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Irregular Proposals

Proposals will be considered irregular and may be rejected for any of the following reasons:

- (1) If the Proposal is on a form other than that allowed in 1206, or if the form is altered or any part is detached.
- (2) If there are unauthorized additions, conditional or alternate bids, or irregularities of any kind that may tend to make the Proposal incomplete, indefinite, or ambiguous as to its meaning.

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- (3) If the bidder adds any unauthorized provisions reserving the right to accept or reject an award, or to enter into a Contract pursuant to an award.
- (4) If the Proposal does not contain a unit price for each pay item listed except in the case of authorized alternate pay items.
- (5) If any unit prices are obviously unbalanced, either in excess of or below the reasonable cost analysis values.

1208

Proposal Guaranty

Each Proposal shall be accompanied by a separate guaranty of the character and in an amount not less than that indicated in the Proposal form. The guaranty shall be either a certified check or an acceptable bond made payable to the Contracting Authority. Bonds shall be issued by corporations authorized to contract as a surety in the State of Minnesota. Bonds shall be conditioned on execution of the Contract, Contract Bond, and prescribed Noncollusion Affidavit, with the penal sum being expressed either as a lump sum or as a percentage of the total amount of the bid.

1209

Delivery of Proposals

Each proposal, together with the proposal guaranty, shall be delivered in a sealed envelope marked clearly with the name of the bidder, type of work, and Project number. A special envelope may be furnished for this purpose by the Contracting Authority. When sent by mail, the envelope shall be addressed to the Contracting Authority at the address and in care of the official in whose office the bids are to be received. All proposals shall be filed prior to the time and at the place specified in the Advertisement for Bids. Proposals received after the time set for opening of bids will be returned to the bidder unopened.

If the Contracting Authority allows for "Two Way Electronic" bid submittals, each bid submitted in this manner shall:

- (a) Include a Proposal Guaranty.
- (b) Be submitted in accordance with requirements of the AASHTO "Expedite Bid" software, and the "Bid Express" Web site (www.bidx.com).
- (c) Be filed prior to the time specified in the Advertisement for Bids.

1210**Withdrawal or Revision of Proposals**

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 Department 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 courier service 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.

1211**Combination or Conditional Proposals**

No combination or conditional Proposals will be allowed other than those specifically set up in the Special Provisions, with the exception that any bidder may limit the amount of work accepted at one time. When bids are submitted on more work than is desired, the bidder may complete and include the following statement with each of the Proposals:

"This bidder will not accept awards totaling more than \$_____, and hereby authorizes the Contracting Agency to determine which bids will be disqualified."

The Department reserves the right to make awards on combination or conditional Proposals to its best advantage. In each stipulation allowed, the bidder shall provide all information called for and include the "Project Number" identification. In the case of multiple projects, the lowest Project Number shown on the Proposal shall be used for this identification.

1212

1212

Public Opening of Proposals

Proposals will be opened and read publicly at the time and place indicated in the Advertisement for Bids. Bidders, their authorized agents, and other interested parties are invited to be present.

1213

Disqualification of Bidders

Either of the following reasons may be considered sufficient cause for disqualification of a bidder and the rejection of its Proposals:

- (1) More than one Proposal for the same work from an individual, firm, or corporation under the same or different name. Substitute bid schedules shall be governed by 1206.
- (2) Evidence of collusion among bidders. Participants in collusion will receive no recognition as bidders on future work until they have been reinstated as responsible bidders.

Bidding Requirements and Covenants**1301****Consideration of Proposals**

After the Proposals are opened and read, they will be compared on the basis of the correct summation of the products of the scheduled quantities and unit bid prices. If the successful bidder has submitted prices on more than one alternate, the Department reserves the right to determine which alternate will be accepted. In case of a discrepancy between a unit bid price and the extension, the unit bid price shall govern.

Proposals that are not accompanied by a satisfactory Proposal guaranty will not be considered. Any bidder may be required to furnish evidence of competency in performing the proposed work, as provided for in 1201.

The right is reserved to reject any or all Proposals, to waive defects and technicalities, or to advertise for new Proposals, if in the judgment of the Contracting Authority its best interest will be promoted thereby.

1302**Award of Contract**

The award of Contract, if it be awarded, will be made within 30 Calendar Days after the opening of Proposals to the lowest responsible bidder who complies with all prescribed requirements. The successful bidder will be notified by letter, mailed to the address shown on the Proposal, that the bid has been accepted subject to execution and approval of the Contract as required by law.

As a condition precedent to approval of a Contract, a foreign or nonresident corporation to whom a Contract is awarded shall furnish proof that it has met all legal requirements for transacting business in the State of Minnesota.

As a condition precedent to approval of a Contract, a sworn statement shall be filed with the Department stating that the persons, firm, association, or corporation to whom the Contract is awarded has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with the Contract. This sworn statement shall be in the form of an affidavit executed by, or on behalf of, and sworn to by the successful bidder before a person who is authorized by the laws of this State to administer oaths. The forms for this affidavit will be furnished to the successful bidder and they shall be properly executed and returned within the period prescribed.

1303

1303

Cancellation of Award

The Department reserves the right to cancel the award of any Contract at any time before the execution of said Contract by all parties without any liability against the Contracting Authority.

1304

Return of Proposal Guaranty

All Proposal guaranties, except those of the two lowest bidders, will be returned or released immediately following the opening and checking of Proposals. The Proposal guaranties of the two lowest bidders will be retained until the Contract has been executed and approved as required by law, at which time they will be released, except in the case of forfeiture as provided for in 1307. Upon release, certified checks will be returned to the bidder, but surety bonds will be destroyed, unless their return is specifically requested.

1305

Requirement of Contract Bond

The successful bidder shall furnish a payment bond equal to the Contract amount as required by MN Statute § 574.26. The surety and form of the bond shall be acceptable to the Contracting Authority. The Contracting Authority shall require that the surety possess bonding capacity as follows: The minimum bonding capacity on contract equal to or less than \$5,000,000.00 (five million dollars) shall be the total of the two bonds. The minimum bonding capacity on contracts in excess of \$5,000,000.00 (five million dollars) shall be the contract amount.

1306

Execution and Approval of Contract

The Contract shall be signed by the successful bidder and returned, together with the Contract bond, within 10 days after the forms have been mailed to the bidder. If the successful bidder fails to return the executed Contract documents within 10 days, and the Contract Time under 1806 is specified as a number of working day, the Department reserves the right to reduce the Contract Time to reflect the delay caused by the Contractor. If the Contract Time is specified as a completion date, the Contractor's delay in returning the executed Contract documents is an avoidable delay under 1806.1A and shall not entitle the Contractor to an Extension of the Contract Time. If return of the executed forms within the specified time is impossible due to the absence of one or more of the required signers, an extension of

1307

time may be granted by the Department provided satisfactory evidence is furnished that the forms will be executed.

All members of a partnership, and the President or Vice President and the Secretary or Treasurer of each corporation shall sign the Contract and bond. In the case of joint ventures, signature requirements shall apply to each firm represented.

Notice of approval or disapproval of the Contract and bond will be given the successful bidder within 10 days after the forms have been properly executed and returned to the Contracting Authority. No award shall be considered binding nor shall any Contract become effective until the Contract form has been fully executed and approved as required by law.

1307

Failure to Execute Contract

Failure on the part of the successful bidder, within the time allowed, to execute the Contract, furnish an acceptable bond, or comply with any other requirements imposed precedent to approval of the Contract, shall be considered just cause for cancellation of the award and forfeiture of the Proposal guaranty, not as a penalty, but in liquidation of damages sustained. Award may then be made to the next lowest responsible bidder, or the work may be readvertised or otherwise performed as the Department may decide.

1401

Scope of Work

1401

Intent of Contract

The intent of the Contract is to provide for construction of the Project and compensation for the work, according to the Contract documents. The titles and headings of the various sections and subsections of the Contract are intended for convenience of reference.

The Contractor shall construct and complete the Project in every detail as described in the Plans, Specifications, Special Provisions, and supplemental drawings. It is also intended and will be expected that the work be prosecuted diligently and pressed vigorously to completion. The Contractor shall consider the public interests, as well as the obligations and rights of all other parties concerned. The Contractor assumes full responsibility for performance of the work and agrees to furnish all labor, materials, equipment, tools, supplies, transportation, and other incidentals necessary or convenient for successful completion of the Project.

The Contract may not fully describe every detail or make specific allowances for all probable exceptions and contingencies. The Engineer has authority to administer the Contract, rule on apparent discrepancies, fulfill intentions, and allow for construction needs in the performance and completion of the work. When the Contract is silent or omits a detailed description, only the best general practice is to prevail and materials and workmanship shall be of first quality. Failure to itemize every allowable exception or condition does not mean that the governing provisions will be enforced equally under all conditions or on all parts of the work. The Engineer will decide all discretionary matters as they arise.

In constructing temporary facilities that do not become a part of the permanent improvement, the Engineer may waive requirements that the Engineer considers unnecessary in fulfilling the intended service or function of the facility. The Engineer may allow alternative designs from those specified for temporary construction provided that costs to the Department do not exceed those that would be incurred with the specified design.

If operational controls or restrictions are found to be unnecessary or to result in unjustified expense, the Engineer may alter or waive those provisions when it is in the best interests of the Department to permit earlier completion of the work, take advantage of improved designs and materials, make use of improved techniques or the most efficient practices, or otherwise facilitate progress or completion of the work.

1402.1

Changes that alter acceptance or payment provisions of the Contract can only be made effective by mutual agreement.

By proceeding without authority or in violation of any restriction imposed by the Contract, the Contractor assumes the risks of performing unauthorized work, and thereby relieves the Department of any associated risk or loss. The Contractor may be held liable for the reimbursement of any additional costs incurred by the Department in providing for the inspection or acceptance of work performed in violation of the terms of the Contract.

1402

Alteration of the Work and Changed Condition

An Alteration of the Work and a Changed Condition are addressed by separate procedures.

1402.1 ALTERATION OF THE WORK

The Department may alter the details of construction as necessary for proper completion of the Project and as desired for reasons of public interest. Alterations may be made at any time during the progress of the work, but will not involve added work beyond the limitations imposed by law, nor beyond the termini of the proposed construction except as may be necessary to satisfactorily complete the Project.

A Altered Work

The work as altered may:

- (1) Require performance of increased or decreased quantities,
- (2) Include alterations in the grade or alignment of the road or structures,
- (3) Require performance of additional work not required by the original Contract, or
- (4) Eliminate unnecessary Contract items, subject to 1905.

The Engineer will inform the Contractor in writing of all alterations having any material effect on the terms of the Contract. The Contractor shall perform the altered work the same as if it had been a part of the original Contract, and its performance shall not in any way invalidate the Contract nor release the Surety.

B Compensation

The Contractor will receive payment for altered work in accordance with the payment provisions of the Specifications and as provided for in 1403, 1903, 1904, 1905, and 1907. No allowance, except as specifically provided by the payment provisions of the Contract, will be made for any increased expenses, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor, whether resulting directly from alterations in the work or indirectly from

1402.1

unbalanced allocation of overhead expenses among the Contract items or from any other cause.

The Contractor shall not make a claim for any increased expenses, loss of expected reimbursement, or loss of anticipated profit because of alterations in the work or by reason of any variation between the quantities in the bid schedule and the actual quantities ordered and performed.

If the altered work is of sufficient magnitude to require additional time in which to complete the Project, a time extension may be granted in accordance with 1806.

1402.2 CHANGED CONDITION

Either party to the Contract may claim a Changed Condition of the Contract. Changed Conditions are limited to differing site conditions, suspensions of work, and significant changes in the character of work. A Supplemental Agreement must be executed before performance of the work for which a Changed Condition is claimed.

A Differing Site Conditions

During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the Contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the Contract, are encountered at the site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions before they are disturbed and before the affected work is performed.

Upon written notification, the Engineer will investigate the conditions. If the Engineer determines that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the Contract, an adjustment, excluding loss of anticipated profits, will be made and the Contract modified in writing accordingly. The Engineer will notify the Contractor of the determination whether or not an adjustment of the Contract is warranted.

No Contract adjustment that results in a benefit to the Contractor will be allowed unless the Contractor has provided the required written notice.

B Suspensions Of Work Ordered By The Engineer

If the performance of all or any portion of the work is suspended or delayed by the Engineer in writing for an unreasonable period of time not originally anticipated, customary, or inherent to the construction industry) and the Contractor believes that additional compensation, or Contract time, or both are due as a result of such suspension or delay,

1402.2

the Contractor shall submit to the Engineer in writing a request for adjustment within 7 calendar days of receipt of notice to resume work. The request shall set forth the reasons and support for such adjustment.

Upon receipt, the Engineer will evaluate the Contractor's request. If the Engineer agrees that the cost, or time required for the performance of the Contract, or both have increased as a result of such suspension and the suspension was caused by conditions beyond the control of and not the fault of the Contractor, its suppliers, or subcontractors approved under 1801, and not caused by weather, the Engineer will make an adjustment (excluding profit) and modify the Contract in writing accordingly. The Engineer will notify the Contractor of the determination whether or not an adjustment of the Contract is warranted.

No Contract adjustment will be allowed unless the Contractor has submitted the request for adjustment within the time prescribed.

No Contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided for or excluded under any other term or condition of this Contract.

C Significant Changes In The Character Of Work

The Engineer reserves the right to make, in writing, at any time during the progress of the work, such changes in quantities and such alterations in the work as are necessary to satisfactorily complete the Project. Such changes in quantities and alterations shall not invalidate the Contract nor release the Surety, and the Contractor agrees to perform the work as altered.

If the alterations or changes in quantities significantly change the character of the work under Contract, whether those alterations or changes are in themselves significant changes to the character of the work or, by affecting other work, cause such other work to become significantly different in character, an adjustment, excluding loss of anticipated profits, will be made to the Contract. The basis for an adjustment shall be agreed upon in writing before the performance of the work. If a basis cannot be agreed upon, then an adjustment will be made either for or against the Contractor in such amount as the Engineer may determine to be fair and equitable.

If the alterations or changes in quantities do not significantly change the character of the work under the Contract, the altered work will be paid for as provided elsewhere in the Contract.

1402.2

The term "significant change" shall be construed to apply only to the following circumstances:

- (1) When the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction, or
- (2) When a major Contract item of work is increased in excess of 125 percent or decreased below 75 percent of the original Contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 125 percent of original Contract item quantity, and in case of a decrease below 75 percent, to the actual amount of work performed.

1403

Extra Work

The Contractor shall perform unforeseen work not included under or covered by the Contract items whenever it is deemed necessary to fully complete the Project as contemplated. Any such work ordered by the Engineer, in the absence of other payment provisions or prices stipulated in the Contract, will be classified and paid for as Extra Work in accordance with 1904, provided a Supplemental Agreement is executed and approved, specifying the location and nature of the work to be performed and establishing the basis of payment. However, the Engineer may order Minor Extra Work without the execution and approval of a Supplemental Agreement, provided the Engineer's order is in writing (Work Order/Minor Extra Work) and specifies the location and nature of the work.

Minor Extra Work shall not exceed \$50,000 per individual occurrence, Minor Extra Work exceeding \$25,000 per individual occurrence requires the approval of the Construction Assistant District Engineer.

Extra Work shall be performed in accordance with these Specifications as they apply to the particular class of work involved, unless otherwise stipulated in the agreement authorizing the Extra Work. The Supplemental Agreement, authorizing Extra Work, shall not become effective until it has been fully executed and approved as required by law.

Any Extra Work or Minor Extra Work performed without written authorization will be subject to 1512.

1404**Maintenance of Traffic****1404.1 GENERAL**

Unless otherwise provided, a road undergoing improvements shall be kept open to all traffic by and at the expense of the Contractor. Where so provided in the Contract or when ordered by the Engineer, traffic shall be directed over an approved detour route.

The Contractor shall keep the portions of the Project being used by public traffic, whether it be through or local traffic, in such condition that the traffic will be adequately accommodated at all times. The Contractor shall provide and maintain temporary approaches, crossings, and intersections with trails, roads, streets, businesses, parking lots, residences, garages, farms, and other abutting property in acceptable condition, but will not be required to remove snow.

1404.2 PLANNED DETOURS

When the Plans, Special Provisions, or orders from the Engineer provide for closure of the Project or specified portions thereof to through traffic, the Department will maintain those detour roads established by the Commissioner to provide such closures, without any expense to the Contractor.

1404.3 CONTRACTOR'S REQUEST FOR DETOUR

The Contractor may request that through traffic be detoured. The request shall contain all information needed for justification and shall specify the routes to be established. If arrangements can be made that are satisfactory to the agencies having jurisdiction over the roads to be used, the Contracting Authority may then at its sole discretion establish an approved detour subject to the following conditions:

- (a) The Department, at the Contractor's expense, will design, provide, install, maintain, and remove all the necessary traffic control devices on the detour roads.
- (b) The Contractor shall reimburse the Contracting Authority for all expenses incurred in maintaining and restoring the detour roads, except for snow removal.
- (c) The Contractor shall fulfill the obligations for maintenance of local traffic by furnishing, placing, and maintaining all traffic control devices and other traffic protection measures required on the roads undergoing improvement.

1404.4 TEMPORARY BY-PASSES

Construction, maintenance, and removal of all temporary by-pass facilities provided for in the Plans or Special Provisions or when ordered by the Engineer will be paid for at Contract prices or as Extra Work. All other temporary by-pass facilities requested by the

1404.4

Contractor and approved by the Engineer shall be constructed, maintained, and removed at the Contractor's expense.

1404.5 SPECIAL MAINTENANCE DIRECTED BY THE ENGINEER

If the Engineer directs the Contractor to perform special maintenance work for the benefit of the public or to provide dust control solely for the benefit of the public, then the Contractor will be paid for that work at Contract prices or as Extra Work, except on Contractor requested detours and Contractor-selected haul roads. The Engineer shall be the sole judge of work to be classified as special maintenance.

1404.6 CONTRACTOR'S USE OF CROSSOVERS

Subject to all pertinent traffic laws and regulations, the Contractor may use freeway or expressway maintenance crossovers in and near the construction area for changing the direction of travel of the equipment during construction of the Project. However, such use of the crossovers may be prohibited at any time by the Engineer.

1404.7 WINTER SUSPENSION

On those sections of the Project where through traffic has been excluded, the Contractor shall, at no expense to the Department, make passable and shall open the road to all traffic during periods of authorized winter suspension, if ordered by the Engineer to eliminate the need to maintain the detour roads during the suspension period.

During periods of authorized winter suspension, the Department will, at its expense, perform routine maintenance on the roads undergoing improvement. The Department will be responsible for the maintenance of all traffic control devices thereon as required by 1710. 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 a credit to the Contract in the amount of the value of the traffic control device as determined by the Engineer.

The Contractor shall not suspend operations for the winter until fulfilling the requirements of 1710 and 1803.4.

When work is resumed after winter suspension, the Contractor shall replace or renew any work lost or damaged during the suspension; and shall remove, to the extent directed by the Engineer, any temporary construction or materials used in the maintenance thereof by the Department. Any such restoration work performed by the Contractor will be paid for at Contract prices or as Extra Work. The Contractor shall then complete the Project in every respect as though its prosecution had been continuous and without interference.

1405**Use of Materials Found on the Project**

Materials found on the Right of Way or on other land acquired for the Project shall not be destroyed or used by the Contractor for any other purposes than those specified in the Contract without the consent of the Engineer.

The Engineer may authorize the Contractor to make temporary use of materials salvaged for the Department from existing structures. The Contractor, however, is responsible for all damages to the materials so used. The Contractor shall repair, replace, or otherwise make good by acceptable means the materials damaged by this use, or the Department will deduct from any moneys due or becoming due, an amount equivalent to the reasonable value or replacement cost of the material.

The Engineer may authorize the use of acceptable material found on the Project as a substitute for material that would otherwise have to be furnished by the Contractor from outside sources. Authorization to remove and use the substitute material for unspecified purposes to the Contractor's advantage will be at the sole discretion of the Engineer and will be subject to the conditions imposed by the Engineer as well as to all other provisions of the Contract. The material is made available for use to best advantage and without charge to the Contractor in the interest of providing maximum utilization of materials existing on the Project, but with the understanding that no additional costs shall be incurred by the Department as a result of its use. The Contractor shall furnish, at no expense to the Department, replacement material acceptable to the Engineer if the material used is needed for other construction purposes or is obtained from areas where backfill of the excavation is necessary. The Department will not make payment under the excavation or removal item for the quantity of material obtained if its removal would not otherwise be necessary.

1406**Preservation of Historical Objects**

Where historical objects of archeological or paleontological nature are discovered within the area on which the Contractor's operations are in progress, the Contractor shall restrict or suspend operations in the immediate area of the discovery as necessary to preserve the discovered objects until the Engineer has made arrangements for their disposition or has recorded the desired relevant data.

The Contractor shall immediately notify the Engineer of any historical objects the Contractor discovers or becomes aware of as the work progresses. The Contractor shall aid in the preservation and salvage program decided upon, as requested or ordered by the Engineer.

1406

The Contractor shall not perform work the Contractor considers to be Extra Work without the written authorization of the Engineer.

The Department may restrict or suspend the Contractor's operations in the immediate area where historical objects are discovered for a period not to exceed 72 hours, without claim being made by the Contractor for any damages suffered as a result. The Department's imposed restrictions will not remain in effect for more than 72 hours unless mutually agreed to in writing.

1407

Final Cleanup

Before final acceptance, the Contractor shall remove from the Right of Way and from other ground occupied in connection with the work all surplus and discarded materials, equipment, rubbish, and temporary structures. The Contractor shall leave all parts of the work, including borrow pits, in a condition acceptable to the Engineer. The Contractor will consider the cost of final cleanup as incidental to other items.

1408

Value Engineering Incentive

These value engineering provisions apply as an incentive to the Contractor to initiate, develop, and present to the Department for consideration any cost reduction proposals involving changes in the drawings, designs, specifications, or other requirements of the Contract.

These provisions do not apply unless the proposal submitted is specifically identified by the Contractor as being presented for consideration as a Value Engineering Proposal.

The cost reduction proposals contemplated are those that would produce a net savings to the Contract by providing less costly items or methods than those specified in the Contract without impairing essential functions and characteristics such as service life, reliability, economy of operation, ease of maintenance, and necessary standardized features.

Value Engineering submittals shall be in sufficient detail to enable the Department to effectively evaluate the proposed modifications and the resulting cost reduction. The following minimum information must accompany each proposal.

- 1) A statement that the proposal is submitted as a Value Engineering Proposal.
- 2) A description of the proposal.
- 3) An itemization of the requirements of the Contract that must be changed, and a recommendation of how to make each change.
- 4) An estimate of the reduction in performance costs that will result from adoption of the proposal.

- 5) A prediction of any effects the proposed changes would have on other costs to the Department.
- 6) A Statement of the time by which an agreement for adoption of the proposal must be executed to obtain the maximum cost reduction during the remainder of the Contract, and the reasoning for this time schedule.
- 7) The dates of any previous submissions of the proposal, including Contract numbers and the actions of the Department.
- 8) A statement as to the effect the proposal would have on the time for completion of the Contract.

The Department will not be liable for any delay in acting upon any proposal submitted. The Contractor may withdraw, in whole or in part, any value engineering proposal not accepted by the Department within the period specified in the proposal. The decision of the Department as to the acceptance or rejection of value engineering proposals shall be final and not subject 1517.

The Contractor will be notified in writing of the Department's decision to accept or reject each value engineering proposal submitted under these provisions-unless and until a proposal is effected by such Contract modification, the contractor shall remain obligated to perform in accordance with the existing Contract. If the proposal is accepted, a Supplemental Agreement shall be executed setting forth the terms, conditions and costs of the proposal. Any work performed in accordance with the value engineering proposal prior to execution of the Supplemental Agreement will be considered unauthorized work in accordance with 1512.

The Supplemental Agreement effecting the necessary contract modifications shall establish the net saving agreed upon. The net savings will be calculated as follows:

A= Contractor's cost for performing the work

B= Original cost of performing the work.

B-A= Net Savings

The Contractor shall receive 50 percent of the net savings as a lump sum payment for its shares of the Value Engineering Incentive, and this amount will not be subject to revision as a result of final quantities accepted. The Department reserves the right to include in the agreement any conditions it deems appropriate for consideration, approval, and implementation of the cost reduction proposal.

The Contractor is solely responsible for its costs incurred in the design and development of the proposal.

Costs incurred by the Department for reviewing, approving and implementing the proposal will not be considered for net savings calculations.

1408

Upon acceptance of a cost reduction proposal, any restrictions imposed by the Contractor on its use or disclosure of the information submitted shall be void, and the Department shall thereafter have the right to use, duplicate, and disclose in whole or in part any data necessary to use the proposal.

1501.3

Control of Work

1501

Authority of the Engineer

1501.1 DECIDING QUESTIONS

The Engineer will decide all questions regarding:

- (a) Quality and acceptability of materials furnished and work performed.
- (b) Manner of performance and rate of progress of the work.
- (c) Interpretation of the Plans, Specifications, and Special Provisions.
- (d) Measurement, control of quantities, and the amount of any deductions or adjustments to be made in payment.
- (e) Acceptable fulfillment of all Contract provisions on the part of the Contractor.

1501.2 SUSPENDING WORK

The Engineer may suspend the work, either wholly or in part, due to failure of the Contractor to:

- (a) Correct conditions unsafe for the workmen or the general public,
- (b) Carry out provisions of the Contract, or
- (c) Carry out orders
- (d) Comply with the requirements of all permits for the project.

The Engineer may also suspend work for such periods as deems necessary due to unsuitable weather, for conditions considered unsuitable for prosecution of the work, or for any other conditions or reasons deemed to be in the public interest.

1501.3 BASIS OF DECISION

In all matters requiring a ruling by the Engineer, the Engineer's decision will be based on engineering judgment, taking into consideration:

- (a) Facts and inferences.
- (b) Inherent variations of materials and processes.
- (c) Risks associated with drawing inferences from test results on small samples that may not be truly characteristic of the material or workmanship represented.
- (d) Past experiences relating to the question at issue.
- (e) Regulations, instructions, and guide lines established by the Department for administration of the Contract work.
- (f) Other factors bearing on the issue.

Where practicable, additional tests may be made to provide a statistically sound basis for judgment. Satisfactory evidence of proper and adequate process control may be accepted in lieu of test results if it is impractical to measure the end result characteristics as specified.

1502

1502

Plans and Working Drawings

The Contracting Authority will furnish Plans for the Project, showing details and directions to provide a comprehensive description of the construction contemplated, but will not provide all necessary detail drawings for structures. The Plans prepared specifically for the Project under Contract will include a summary of all Contract items and will show general features, typical cross sections, alignment and grades, structure locations and dimensions, layout diagrams, and special details. Supplemental drawings in the form of standard plates or standard plans will be furnished separately from the general Plans. Earthwork cross sections and contours may or may not be furnished with the Plans.

Prior to performance of the work, the Contractor shall prepare and submit, to the Engineer, schedules, documents, and working drawings necessary to complete the work. The Contractor shall allow sufficient time for the Engineer to review and comment on the submittal and for the Contractor to respond to the comments, prior to performance of the work involved. The Engineer may require additional information including permits, detail drawings, and calculations as needed to complete the Engineer's review. The Contractor shall furnish as many copies of the submittals as the Engineer requires for review and subsequent inspection of the work. The Contractor shall not change the submittals without the Engineer's written consent. Upon completion of the work, reproducible copies suitable for microfilming shall be furnished to the Engineer if requested. The price bid for the Contract items includes the cost of preparing and furnishing the submittals.

The Engineer's review of the submittals does not relieve the Contractor of responsibility for:

- (1) Accuracy of dimensions and details,
- (2) Agreement and conformity with the Contract.
- (3) Successful completion of the work.
- (4) Proper and safe design done by the Contractor.
- (5) Proper and safe construction of the work.

1503

Conformity with Plans and Specifications

All work performed and all materials furnished shall be in conformance with the lines, grades, cross sections, dimensions, and material requirements, including tolerances, shown in the Plans or indicated in the Specifications. If the Engineer finds that the material, or the finished product in which the material is used, is not in conformance with the Plans and Specifications, the Engineer will

decide whether the nonconforming work will be allowed to remain in place as it is or whether it must be removed and replaced or otherwise corrected as a condition for acceptance.

Plan dimensions and Specification values are to be considered as the target value to be strived for and complied with as the design value from which deviations (within tolerances) are allowed. If any Plan or Specification changes are ordered or authorized, the revised values shall govern. It is the intent of the Specifications that the materials and workmanship shall be uniform in character and shall conform to the prescribed target value or to the middle portion of the tolerance range. The purpose of the tolerance range is to accommodate occasional minor variations from the median zone that are unavoidable for practical reasons. When a maximum or minimum value is specified, the production and processing of material and the performance of the work shall be so controlled that the material or workmanship will not be of borderline quality or dimension. The Engineer will allow an industry standard tolerance where working tolerances are not specified.

When no other basis for acceptance is set forth in the Contract covering work that is not fully acceptable but that is allowed to remain in place, the Engineer will document the basis of acceptance and payment by Contract modification or change order, which will provide for an appropriate adjustment in payment for the nonconforming work as justified by the Department's engineering determinations of the reasonable value of the work performed.

1504

Coordination of Plans and Specifications

These Standard Specifications, the Plans, Special Provisions, supplemental Specifications, and all supplementary documents are essential parts of the Contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work.

In case of discrepancy, calculated dimensions will govern over scaled dimensions; Special Provisions will govern over Standard and supplemental Specifications and Plans; Plans will govern over Standard and supplemental Specifications; supplemental Specifications will govern over Standard Specifications.

The Engineer will decide all issues concerning errors and omissions that are not otherwise resolved by logical conclusion or Contract modification. Both parties to the Contract shall inform each other as to any discrepancies they uncover, and neither the Contractor nor the Engineer shall take advantage of any error or omission.

1504

In the interest of avoiding repetitious wording in the Specifications, certain words and phrases have been omitted where reference is clearly related by expressions of authority or intention. Where certain words and terms appear, they are to be construed with reference to the definitions, abbreviations, heading, titles, item names, and other pertinent provisions of the Contract documents, as may be implied.

1505

Cooperation by Contractors

The Contractor shall cooperate with the Engineer, utility owners, and other contractors, in the mutual interest of all parties doing work on the Project and as may be in the public interest to have the work of certain contracts and agencies performed concurrently rather than consecutively.

The Contractor shall coordinate work with that of utility owners so that removal and rearrangement operations may progress in a reasonable manner, duplication of work may be reduced to a minimum, and services rendered by those parties will not be unnecessarily interrupted.

When separate Contracts are let within the limits of any one Project, each Contractor shall conduct work so as not to interfere with or hinder the progress or completion of the work being performed by other contractors. Contractors working on the same Project shall cooperate with each other as directed. Each Contractor shall assume all liability, financial or otherwise, in connection with the Contract and shall save the Department harmless from all damages and claims arising from any delay, inconvenience, or loss experienced because of the presence and operations of other contractors working within the limits of the same Project.

Should a dispute arise between contractors or other agencies doing work on the Project as to their mutual rights or obligations, the Engineer will act as referee when requested to do so or upon the Engineer's own motion. The Engineer's decision as to the rights and obligations of the interested parties shall be final.

1506

Supervision by Contractor

The Contractor shall have a complete set of Plans and Specifications available on the Project at all times while the work is in progress, shall assume full responsibility for supervision of the work irrespective of the quantity of work subcontracted, and shall give the work the attention necessary to facilitate satisfactory progress and to ensure completion in accordance with the terms of the Contract.

1506.1 COMPETENT SUPERINTENDENT

During the life of the Contract, the Contractor shall provide and have at all times a competent Superintendent in charge of the overall Project who will be personally available at the site of the work within 24 hours notice. This Superintendent may be either the Contractor himself or a responsible employee who has been authorized to act in the Contractor's behalf. This individual shall be fully authorized to:

- (a) Conduct all business with the subcontractors.
- (b) Negotiate and execute all Supplemental Agreements.
- (c) Execute the orders and directions of the Engineer without delay.
- (d) Promptly supply the materials, equipment, tools, labor, and incidentals necessary for prosecution of the work.

1506.2 COMPETENT INDIVIDUAL

At all times while work is actually being performed, the Contractor shall have at the site of the work a competent individual who is:

- (a) Authorized and fully capable of managing, directing, and coordinating the work in progress.
- (b) Thoroughly experienced in the type of work being performed.
- (c) Capable of reading and thoroughly understanding the Plans and Specifications.
- (d) Authorized to receive instructions from the Engineer.

If this individual is an employee of someone other than the Contractor, the Contractor shall provide the individual with written authorization to act in the supervisory capacity stated above. This individual and the Superintendent having overall responsibility for the Project may be one and the same person if constantly available in person on the Project and fully qualified in all other respects.

1507**Utility Property and Service**

The Contract indicates the approximate location of known utilities on the Project. The Contractor shall relocate and adjust the utilities as stated in the Contract. The Engineer, however, will make the final decision on the location of all relocated and adjusted utilities.

During the design process, the Department has notified public and private utilities that their properties (such as pole lines, conduits, gas pipes, water pipes, sewers, and tile lines) must be removed or relocated to complete the Project. However, the Department makes no expressed or implied warranty, guarantee, promise, or representation to bidders or to the Contractor that the utility owners will adjust, remove, or relocate their properties prior to commencement of construction operations or in

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sufficient time or manner to prevent interference with the Contractor's operations.

The Contractor is responsible for contacting all utility owners and to ascertain the location of all existing underground utilities, if any, before performing excavation operations. The Contractor shall conduct operations in the vicinity of existing underground utilities in a manner that will prevent damage to any of them.

1507.1 NOTIFICATION

A Known Utilities

The Contractor shall give notice to the owners of all known utilities at least 48 hours before starting operations affecting those properties.

B Gopher State One Call

The Contractor shall:

- (1) Mark the proposed excavation in accordance with the Minnesota State Statute 216D color code before contacting "Gopher State One Call."
- (2) Call "Gopher State One Call" at least 48 hours (excluding Saturdays, Sundays, and holidays) before starting excavation operations.

C Discovered Utilities

If the Contractor discovers utility property whose existence was not known, the Contractor shall immediately notify the utility owner and the Engineer.

1507.2 BLANK

1507.3 CONSTRUCTION REQUIREMENTS

A Construction Cooperation 1505

When the Contractor works near electrical power lines, the Contractor may:

- (1) Work with the lines energized if the work can be done safely, or
- (2) Make arrangements with the power company, at no expense to the Department, to:
 - (a) Temporarily shut off the power,
 - (b) Temporarily insulate the line(s),
 - (c) Bypass the power from the work area, or
 - (d) Make other arrangements necessary for a safe work place.

The Department does not make any warranty, guarantee, promise, or representation as to whether the utility will temporarily shut off power, insulate its line(s), or charge the Contractor a fee for preparing a safe work area for the Contractor.

The Contractor shall not start construction operations adjacent to utility properties until arrangements, satisfactory to the utility owner, have been made by the Contractor for the protection of the utility's property and continuation of service. Should the Contractor's

equipment come in contact with or damage utility property in any way, even though there may be no apparent evidence of breakage or harm, the Contractor shall promptly notify the proper authorities and cooperate with them in determining damage and restoring interrupted services as may be needed. Where contact is made with a utility, the Contractor shall suspend operations immediately and vacate the site until it has been determined by the utility owner that it is safe to resume operations.

The Contractor shall employ special equipment or construction methods, and hand labor if necessary, to accomplish the planned work adjacent to utility properties without damaging them. At no time shall the Contractor interfere with persons engaged in protecting or moving utility property or in operating the utility.

B Payment

It is understood and agreed that the Contractor has considered in the bid all of the permanent and temporary utilities in their present and relocated positions as shown in the Contract. The Contractor will not receive additional compensation for delays, inconveniences, or damages due to interference from those utilities or the operations of adjusting, working around, or moving them.

If the Contractor is required to perform special work or use special construction methods in prosecuting work adjacent to underground utility property whose existence was not indicated in the Contract, the Department will pay for the work so performed as Extra Work.

C Liability

The Contractor is fully responsible for reimbursing the utility owners for damages caused by the Contractor's operations to utility properties whose existence and approximate locations were made known before the damage was done. Nothing in these Specifications shall make the Contractor liable for damage to utility property located below the ground surface, in the absence of negligence, if the owner of the property, after reasonable notice from the Contractor, fails to advise the Contractor of its location and approximate depth below the ground surface.

Construction Stakes, Lines, and Grades

The Engineer will set construction stakes establishing lines, slopes, elevations, and continuous profile grades for grading, base, and pavement construction as the Engineer deems necessary for proper control of the work, and will set all necessary stakes establishing location, line, and grade controls for drainage facilities, traffic control

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and protection devices, and other accessory structures and appurtenances.

For bridge construction, the Engineer will set stakes for the control points and the working points as shown on the Bridge Layout sheet in the Plans. The Engineer will also set one or more bench marks in the vicinity of each substructure unit for the Contractor's reference when excavating for these units, and will set grade points for the substructure and superstructure forms and furnish beam stool heights as deemed necessary for proper performance of the work.

The stakes and marks established by the Engineer shall constitute the field control by and in accordance with which the Contractor shall establish other necessary controls, detail dimensions, and measurements required for proper layout and performance of the work. The Contractor shall assume full responsibility for all measurements made from the stakes and marks so established.

The Contractor shall be responsible for the preservation of all stakes and marks. If any of the construction stakes or marks have been carelessly or willfully destroyed or disturbed by the Contractor, the cost of replacing them will be charged against the Contractor and will be deducted from the payment for the work.

The Department will be responsible for the accuracy of lines, slopes, grades, and other engineering work performed by its personnel as set forth herein, provided the Contractor does not knowingly take advantage of errors or omissions. The Contractor shall report any discovered errors or omissions to the Engineer as soon as possible.

1509

Authority and Duties of the Project Engineer

The Project Engineer is the Engineer with:

- (1) Immediate charge of the engineering details of the construction Project.
- (2) Responsibility for the administration and satisfactory completion of the Project.
- (3) Authority commensurate with the duties delegated to the Engineer.
- (4) Authority to reject defective material and to suspend any work that is being improperly performed.

1510**Authority and Duties of the Inspector**

Inspectors employed by the Department will be authorized to inspect all work done and materials furnished. The inspectors will not be authorized to alter or waive the provisions of the Contract, to issue instructions contrary to the Contract, or to act for the Contractor.

As a representative of the Engineer, the inspector will report progress and acceptability of the work being performed, and will call to the attention of the Contractor any failures and infringements on the part of the Contractor. Should any dispute arise as to the materials or work performance, the inspector may reject materials and suspend operations until the question at issue can be referred to and be decided by the Engineer.

1511**Inspection of Work**

All materials and each part and detail of the work shall be subject to inspection. Inspectors shall be allowed access to all parts of the work, including the preparation, fabrication, or manufacture of materials to be used. Such inspection, however, shall not relieve the Contractor from any obligation to perform all of the work strictly in accordance with the requirements of the Contract. The Contractor shall furnish information and assistance as the Engineer directs in making a complete and detailed inspection, including assistance as needed in checking the accuracy of calibrated measuring equipment (scales, meters, dispensers, etc.) and in making quantity control checks (bituminous spot checks, yield determinations, cement usage cutoffs, etc.).

If the Engineer so directs at any time before acceptance of the work, the Contractor shall remove or uncover portions of the work as required to permit examination of parts that are not visible. After examination, the Contractor shall restore those portions of the work to the standard required by the Specifications. Should the work thus exposed and examined prove acceptable, the uncovering, removing, and restoration work will be paid for as Extra Work; but should the work so exposed and examined prove unacceptable, the uncovering, removing, and restoration work shall be at the Contractor's expense.

Any work done or materials used without approval or inspection by the Department may be ordered removed and replaced at the Contractor's expense.

When any unit of government or political subdivision or any railroad corporation is to pay a portion of the cost of the work covered by the Contract, its respective representatives shall have the right to

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inspect the work. Such inspection shall in no sense make any unit of government or political subdivision or any railroad corporation a party to the Contract, and shall in no way interfere with the rights of either the Department or the Contractor.

1512

Unacceptable and Unauthorized Work

All work that does not conform to the requirements of the Contract will be considered as unacceptable work unless otherwise determined in accordance with 1503.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed and replaced or otherwise corrected acceptably, immediately upon receipt of written order to do so.

Work done contrary to instructions of the Engineer, and any work done beyond that which is specified or ordered, will be considered as unauthorized work and will not be paid for under the provisions of the Contract. Unauthorized work shall be removed by the Contractor, at no expense to the Department, upon receipt of written order to do so.

Work done without lines or grades having been given or with materials that have not been given the required inspection, work done prior to approval of the Contract as required by law, and any Extra Work done prior to approval of a Supplemental Agreement therefor, and any Minor Extra Work done prior to issuance of a Work Order/Minor Extra Work therefor, may be considered as unauthorized work and as having been done at the Contractor's expense. Compensation for such work will be made only in the event that the Engineer determines it to be acceptable. No compensation will be made for work that has not been authorized in the Contract, by Supplemental Agreement, or by Work Order/Minor Extra Work.

Upon failure on the part of the Contractor to comply immediately with any order issued by the Engineer in accordance with this Specification, the Engineer will have authority to cause unacceptable work to be remedied or removed and replaced, to have unauthorized work removed, and to deduct the costs from moneys due or becoming due to the Contractor.

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Restrictions on Movement of Heavy Loads and
Equipment

The hauling of materials and the movement 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 materials and moving equipment over 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 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 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.

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Maintenance During Construction

The Contractor shall maintain the Project and construction work until expressly relieved of this obligation by the Department. When a base or surface course is to be placed upon a subgrade constructed by others under a previous Contract, the Contractor shall maintain that subgrade from the date the Contractor starts hauling materials over it or starts the operations of subgrade preparation on it, whichever is the earlier.

Maintenance during construction shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces to the end that all roadways and structures are kept in satisfactory condition at all times. Except for work that is specified to be done at the Department's expense, the Contractor shall bear all costs of maintaining the work as required during construction and until final acceptance of the work, with no compensation being made in addition to that provided by the Contract prices.

If, at any time, the Contractor fails to comply with these provisions, the Engineer will notify the Contractor of the deficiencies. If the Contractor fails to remedy unsatisfactory maintenance within 24 hours after receipt of written notice to do so, the Department may immediately proceed to maintain the work and deduct the entire cost of this maintenance from moneys due or becoming due to the Contractor.

1515

Control of Haul Roads

The Contractor shall provide the necessary Right of Way for haul roads between natural material sources and public roads, together with the construction and maintenance of those haul roads, without any direct compensation being made other than the payment received for Contract items.

Unless the public roads and streets over which materials are hauled have been officially designated as detour roads or haul roads, in accordance with 1404 and 2051 respectively, the Contracting Authority has no jurisdiction over the use of roads, other than its own, and any controls in effect are those of the road authority having jurisdiction. If the Contract does not provide for the maintenance and restoration of haul roads, the Contractor shall make all necessary arrangements concerning the use of the roads not under the jurisdiction of the Department, and shall be fully responsible to the road authority in used by the hauling operations, as well as for any other conditions created or imposed.

1516**Acceptance of Work****1516.1 PARTIAL ACCEPTANCE**

Upon completion of a substantial portion of work, such as a major structure, an interchange, or a section of road or pavement, the Contractor may request inspection and acceptance of that portion. If the Engineer finds, upon inspection, that a substantial portion of the work has been satisfactorily completed in compliance with the Contract, the Engineer may accept the completed portion and relieve the Contractor of further responsibility for its maintenance. Partial acceptance of work shall not become effective until it has been made in writing, and this acceptance shall not in any way invalidate or alter any of the terms of the Contract.

1516.2 FINAL ACCEPTANCE

Upon due notice from the Contractor that all work has been completed, the Engineer will make an inspection of the entire Project. If any work is found to be unsatisfactory or incomplete, instructions for correction will be issued and another inspection will be made after the Engineer receives notice that the instructions have been carried out.

When final inspection reveals that all work has been completed in accordance with the terms of the Contract, the Engineer will so notify the Contractor in writing on the date of the final inspection. The materials and workmanship will then be accepted forthwith, relieving the Contractor of further responsibility therefor.

Acceptance of work, as provided for herein, shall not relieve the Contractor of any financial liabilities imposed on the Contractor by statute, nor shall it constitute final acceptance of the Contract. Final acceptance of the Contract will not be made until the Contractor has executed and returned the "Certificate of Final Acceptance," contained on the final voucher.

1517**Claims for Compensation Adjustment**

If the Contractor deems that additional compensation is due for work or materials not clearly covered in the Contract or not ordered as extra work, the Contractor shall notify the Engineer in writing of the intention to make claim for additional compensation before beginning or continuing the work on which the claim is based.

If the notification is not given as required, or if the Engineer is not afforded proper facilities by the Contractor for keeping strict account of actual costs, then the Contractor waives all claims for the additional compensation in connection with the work already performed.

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Notification of a claim or the Engineer's account of the costs involved will not in any way prove or substantiate the validity of a claim. If, upon the Department's consideration of a claim, additional compensation is found to be due, it will be allowed and paid for as Extra Work.

A Claim Submittals

Claim submittals shall be in sufficient detail to enable the Engineer to determine the basis for entitlement and the resulting costs. The following minimum information must accompany each claim submitted:

1. Detailed factual statement of the claim providing all necessary dates, locations, and items of work affected by the claim.
2. The date actions resulting in the claim occurred or conditions resulting in the claim became evident.
3. A copy of the "Notice of Potential Claim", filed by the Contractor for the specific claim.
4. The name, title, and activity of each Department employee knowledgeable about facts that gave rise to such claim.
5. The name, title, and activity of each Contractor employee knowledgeable about facts that gave rise to such claim.
6. The specific provisions of the Contract that support the claim, and a statement why the provisions support the claim.
7. The identification of any pertinent documents, and the substance of any material oral communication relating to the claim.
8. A statement whether the additional compensation or extension of time is based on the provisions of the Contract or an alleged breach of Contract.
9. If an extension of time is also sought, the specific days for which it is sought and the basis for such claim as determined by an analysis of the construction schedule.
10. The amount of additional compensation sought and a breakdown of the amount.

B Required Certification of Claims

The claim submittal shall include the Contractor's written certification, under oath, attesting to the following:

1. The claim is made in good faith.
2. Supportive data is accurate and complete to the Contractor's best knowledge and belief.
3. The amount of the claim accurately reflects the Contractor's actual cost incurred.

In complying with this requirement, the Contractor's claim must include the following fully executed certification:

Under the penalty of law for perjury or falsification, the undersigned,

_____,
 (Name)
 _____ of
 (Title)

 (Company)

hereby certifies that the claim for extra compensation and time, if any, made herein for work on this Contract is a true statement of the actual costs incurred and time sought, and is fully documented and supported under the Contract between the parties.

Dated _____ /s/ _____

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

Notary Public _____

My commission Expires _____

C Review of Claims

All claims filed will be subject to review by the department at any time following the claim filing, whether or not the claim is part of a suit pending in the courts of this State. The review may begin on 10 calendar days written notice. The Contractor, Subcontractor(s), or Supplier(s) shall cooperate with the Department and shall provide at a minimum, access to the following documents:

1. Daily time sheets and foreman's daily reports.
2. Union agreements, if any.
3. Insurance, welfare, and benefits records.
4. Payroll register.
5. Earnings records.
6. Payroll tax returns.
7. Material invoices, purchase orders, and all material and supply requisition Contracts.
8. Material cost distribution worksheets.
9. Equipment records (list of company equipment, rates, etc.).
10. Vendor rental agreements, and subcontractor invoices.
11. Subcontractor payment certificates.
12. Canceled checks (payroll and vendors).
13. Job cost report.
14. Job payroll ledger.
15. General ledger, general journal, (if used) and all subsidiary ledgers and journals together with all supporting documentation pertinent to entries made in these ledgers and journals.
16. Cash disbursements journal.

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17. Financial statements for all years reflecting the operations on this Project.
18. Income tax returns whether such records are maintained by the company involved, its accountant, or others.
19. Depreciation records on all company equipment.
20. All other documents used to develop costs for the Contractor's internal purposes in establishing the actual cost of owning and operating equipment.
21. All documents that reflect the Contractor's actual profit and overhead during the time the Project was being performed and for each of the five years prior to the commencement of this Project.
22. All documents related to the preparation of the Contractor's bid including the final calculations on which the bid was based unless the documents are placed in escrow as a provision of the Contract.
23. Worksheets used to prepare the claim, establishing the cost components for items of the claim, including, but not limited to, labor, benefits and insurance, materials, equipment, subcontractors, and all documents that establish the time periods, individuals involved, the hours and the rates for the individuals.

Control of Material

1601

Source of Supply and Quality

All materials required for the work shall be furnished from reliable sources capable of producing and delivering uniformly acceptable products in accordance with the approved progress schedule. The Contractor shall notify the Engineer of intended sources of supply as soon as possible after award of the Contract and in sufficient time to permit the required inspection and testing prior to delivery or use.

Unless otherwise specifically provided for, all materials furnished for incorporation in the work shall be new and of the specified grade and type or kind.

The use of any one kind or class of material from more than one source is prohibited without permission from the Engineer. Permission, if granted, will set forth the conditions under which the change of source is allowed.

If it is found after trial that sources of supply for previously approved materials do not produce uniformly acceptable products, or that conditions require extraordinary inspection and testing to prevent delivery of unacceptable material, the Contractor shall furnish the material from other sources capable of producing uniformly acceptable material, or shall arrange for plant alterations as may be necessary and satisfactory to the Engineer.

1602

Natural Material Sources

The Department may list possible sources of natural materials in the Contract, but no warranty is made or implied that sufficient quantities of acceptable material are available in those sources, as any source indicated may also be listed as a possible source for other existing or future contracts. It shall also be understood that it is not feasible to ascertain from samples the limits for an entire deposit, and that variations shall be considered as usual and are to be expected. The Contractor shall determine the equipment and work required to produce a material meeting the Specifications.

The Department may acquire and make available to the Contractor the right to take materials from those sources that are listed in the Contract, together with the right to use the property as may be specified in the lease, for plant site, stockpiling, or haul roads. Lease agreements covering any leased material sources listed in the Contract may be examined in the Department Office. Unless the Department owns the material or has an exclusive lease or permit, the Contractor may

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make separate arrangements with the owner, including payment for the material. In those listed sources where the Department has a nonexclusive lease or permit, the Contractor shall notify the Engineer in writing within 30 days after award of the Contract as to whether or not the Contractor intends to obtain material therein under the Department's lease or permit. In no case shall any material be removed until proper notice has been given.

Whenever possible sources are listed for natural materials, and the Contractor's operations necessitate the relocation, adjustment, rearrangement, or other work in connection with drainage facilities or utility properties, the work and costs incurred shall be at no expense to the Department and in accordance with written agreements between the Contractor and the owners of such property.

In all deposits where the Department owns the material or in which the Contractor elects to obtain material under the terms of a Department lease or permit, removal of the material shall be in accordance with the following requirements and conditions:

- (1) The Engineer may order procurement of material from any portion of the deposit and may reject portions of the deposit as being unacceptable.
- (2) The Contractor shall do such blending of materials from various layers and areas within the deposit as the Engineer considers necessary, even to the extent of blending materials from the top of the deposit with those from the bottom of the deposit.
- (3) Within the areas owned or leased by the Department, the Contractor shall spread or stockpile the strippings and rejected materials where and as the Engineer directs.
- (4) The Special Provisions will state the prices that the Contractor will be required to pay for the materials removed, along with any other terms under which the Contractor will be required to operate.
- (5) Whenever a "Sand Price" is included in the Contract for securing granular or common borrow, that material shall only be taken from pit areas where the material is least suitable for production of graded aggregate as designated by the Engineer. In no case shall material suitable for the production of Class 5 or 6 base aggregate be utilized as borrow material without written consent of the Engineer.

1603.1

The Department's charge for material may be deducted from moneys due on partial and final estimates, or direct payment may be required upon furnishing the Contractor with statements showing the quantities removed to date and the amount due, but in any event full reimbursement will be required before final payment is made on the Contract. Charges will be based on the actual quantities hauled from the source, less any water and other materials added from outside sources prior to weighing.

When possible sources of natural material are not listed in the Contract, and when materials are obtained from sources other than those listed, the Contractor shall acquire the necessary rights and bear all costs of acquiring the material, including the costs of exploring and developing the sources.

The Contractor shall leave the sites from which material has been removed in a neat and presentable condition upon completion of the work. Leveling of waste piles, trimming of slopes and pit bottoms, replacing the stripping, and other cleanup work shall be done by the Contractor at no expense to the Department, unless otherwise arranged for to the satisfaction of the Engineer.

1603

Materials: Specifications, Samples, Tests, and Acceptance

1603.1 SPECIFICATIONS

All materials that are subject to definite Specification requirements will be sampled, tested, and inspected by the Department at any time prior to being incorporated permanently in the work. The appropriate material Specification is normally referenced in DIVISION II (CONSTRUCTION DETAILS), the Plans, or the Special Provisions. In the absence of such reference, the governing materials Specifications, in order of precedence, shall be DIVISION III (MATERIALS), AASHTO, ASTM, and the industry standard. Any or all tests may be performed at the Engineer's discretion, and the material will be approved or rejected on the basis of those tests made.

Unless otherwise indicated, when AASHTO, ASTM, FSS, AWS, CRSI, UL, and other similar association, society, or governmental agency specifications, standards, methods, tests, or practices are cited in these Specifications, the reference shall be to the latest available standard edition as currently amended and updated by interim or supplemental publications issued or made available prior to the date of advertisement for bids. Also, where any other citations are made, giving effect to procedures, practices, or allowances established or approved by the Department, the reference shall be to those that were most recently put into effect prior to the date of advertisement for bids.

1603.1

By mutual agreement, the referenced provisions may govern as updated to the time of application.

1603.2 SAMPLING AND TESTING

Sampling and testing of materials for all State and Federal-aid Projects will be in accordance with the Mn/DOT "Schedule for Materials Control." This schedule establishes the size of samples and the rate of testing, but in no way affects Specification requirements for the material.

The Contractor shall furnish without charge all samples required, and shall provide such facilities and assistance as the Engineer directs for collecting and forwarding the samples. When required by the Engineer, representative preliminary samples of the character and quantity prescribed shall be submitted by the Contractor or producer to the Materials Laboratory for examination and testing in accordance with the methods referred to in the Specifications.

All preliminary samples submitted by the Contractor shall be plainly labeled with the name of the Contractor, the Project number, the source of the material, the supplier's name, and the work for which the material is to be used. Samples of soils and aggregates shall also bear the legal description of the property from which the samples were taken. Special instructions for sampling will be furnished upon request.

1603.3 CERTIFICATE OF COMPLIANCE

Industry standardized products may be accepted by the Engineer by a Certificate of Compliance in lieu of the normal sampling and testing, subject to the following:

- (a) The certification shall state that the material furnished meets the Specification requirements, shall identify the Specification number, and shall identify the Project number to which the material is shipped.
- (b) The certification shall be attached to or made a part of the invoice, weigh bill, or other shipping document, and shall identify the supplier, manufacturer, the product, and the quantities covered.
- (c) The certification shall be submitted in duplicate. One copy shall be delivered with the shipment of the covered material, and the other copy shall be forwarded directly to the Mn/DOT Materials Engineer.
- (d) Certified Test Reports shall be furnished to the Materials Engineer when so requested. Otherwise, the test results shall be kept on file with the supplier and shall be made available to the Engineer for inspection upon request.
- (e) The Department reserves the right to require samples and to test the material for compliance irrespective of prior certification by the supplier.

1604.2

1603.4 ACCEPTANCE

Approval of preliminary samples shall not constitute acceptance of the material represented. Only the materials actually delivered for the work will be considered, and their acceptance or rejection will be based on the results of the tests and inspections made by the Engineer. Final inspection and acceptance of material will be made only at the site of the work, after all required tests have been met.

Materials that must meet definite Specification requirements shall not be incorporated in the work until all inspections and tests necessary for acceptance have been completed and the material is found to comply with the requirements. However, pending determination of test results, material having a satisfactory record of compliance with the test requirements may be used at the Contractor's risk, with the understanding that the provisions of 1503 and 1512 will be applied in the event that any test results are found to be failing.

1604

Plant Inspection -- Commercial Facility

1604.1 GENERAL

Plant inspection and testing of material at the source prior to delivery is an option of the Engineer, and will be undertaken when necessary to establish compliance with those test requirements and process controls that must be met at the time of production. Any approvals given prior to final inspection and acceptance of the material at the site of the work are subject to fulfillment of all test requirements and to proper handling, delivery, and storage so as to be fully acceptable at the time of incorporation in the work.

The Engineer may retest material after delivery and reject all material that fails to meet the Contract requirements upon being retested and inspected at the site of the work. Facilities and assistance furnished by the Contractor as required for inspection of materials at the source are part of the normal production costs and are included in the Contract prices applying to the work involved.

1604.2 INSPECTION PROCEDURES

In the event plant inspection is made, the following conditions shall be met:

- (a) The Contractor shall notify the Engineer sufficiently in advance of the date and place of production to allow for arrangements for the plant inspection. The Engineer shall be notified of the production schedule and other related information concerning inspection arrangements.
- (b) The Contractor and the producer shall cooperate with and assist the Engineer in the inspection. The Department's inspectors will not be

1604.2

required to handle the materials being inspected. The materials shall be arranged, stored, and handled by others as the inspector may request to facilitate convenient inspection.

- (c) The Contractor shall furnish the Engineer with adequate office space at commercial production plants and with all other facilities and tools required for inspection, and shall be allowed free entry to all parts of the plant that concern the manufacture or production of materials ordered.
- (d) The Contractor shall provide and maintain adequate safety measures to the satisfaction of the Engineer. Inspection at the source will be terminated if conditions are hazardous.

1604.3 FACILITIES

In the case of commercial plants producing bituminous mixture, structural concrete, or graded aggregates for State Projects, the in-plant inspection facilities shall conform with the following requirements:

- (a) Have a minimum floor area of 11 m² (**120 square feet**), weatherproof exterior construction, adequate natural lighting, and convenient accessibility.
- (b) Be equipped with at least one suitable table or workbench, at least one stool and one chair, an approved fire extinguisher, and a suitable storage cabinet with lock.
- (c) Be provided with adequate electric lighting and electrical outlets, adequate heating system, conveniently located sanitary facilities, and convenient access to running water supply.
- (d) Be furnished with at least a 3-burner natural gas or electric stove for sample drying and with effective forced-air ventilation.
- (e) Be provided with an electrically powered mechanical sieving apparatus for accurately determining particle size distribution of fine aggregate (less than 4.75 mm (#4) sieve). The apparatus shall accommodate six full height 200 mm (#75 μm) round sieves with pan and cover, that will be furnished by the Department. The apparatus will not be approved by the Materials Engineer until after verification of sieving in accordance with AASHTO T 27.

The above described facilities shall be made available to the Engineer before production is started and shall be maintained by and at the expense of the producer until production is terminated. If the facilities made available by the producer are not in substantial conformance with the above requirements, the Contractor will be ordered to furnish an equivalent field laboratory unit at the plant site at no expense to the Department.

1605**Substitute Materials**

Whenever, for separate units, courses, sections, or installations, the material to be incorporated is classified according to size, strength, type, or other design classification, the intent is to specify the minimum acceptable level of compliance, quality, or service. Such designations shall not act to prohibit the furnishing of material of higher class than specified, having better quality, longer service life, or otherwise exceeding the required test characteristics, as the Contractor may elect to provide to facilitate the work.

Also, it is not intended that the Contract be so restrictive as to preclude the substitution of similar products or materials that would satisfy the design requirements equal to those specified, even though one or more of the specified test characteristics cannot be met if there is no significant effect on overall performance of the material.

Substitutions will be allowed only as authorized by the Engineer, and any revised basis for acceptance shall be as set forth in writing. No extra compensation will be granted for the furnishing of alternate or substitute materials, regardless of any increased costs. Payment for the work will be based on the use of specified materials.

1606**Storage of Materials**

Materials shall be so stored as to ensure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Materials shall be stored in a manner that will facilitate inspection.

Approved portions of the Right of Way may be used for storage purposes and for placing of the Contractor's plant and equipment, but any additional space required shall be provided by the Contractor at no expense to the Department. All portions of the Right of Way used by the Contractor for storage or operation purposes shall be restored to acceptable condition, at no expense to the Department, prior to final acceptance of the Project.

Private property shall not be used for storage purposes without written permission of the owner or lessee. Evidence of permission shall be furnished to the Engineer upon request.

1607

1607

Handling Materials

The Contractor shall handle all materials in a manner that preserves their quality and fitness for the work. Materials shall be transported to the work in vehicles constructed to prevent loss of material after loading and measuring, in order that the quantities of materials as loaded and the quantities actually received at the place of operations are the same.

Bulk materials that would be subject to contamination or loss shall not be transported in railroad cars, trucks, or other hauling equipment that are unclean or in poor condition, nor shall the methods and equipment used in loading and hauling bulk material be such as to result in contamination or loss of material after being measured and accepted for the work.

1608

Unacceptable Materials

All materials not conforming to the Contract at the time they are used shall be considered unacceptable, and all such materials will be rejected and shall be removed immediately from the site of the work unless otherwise instructed by the Engineer. No unacceptable material, the defects of which have been corrected, shall be used until approval has been given.

1609

Department-Furnished Material

The Contractor shall furnish all materials required to complete the work except those specified to be furnished by the Department.

Material furnished by the Department will be delivered or made available at the locations specified in the Plans or Special Provisions. The cost of handling, transporting, and placing the materials shall be considered as having been included in the Contract price for the item in connection with which they are used.

The Contractor is responsible for all Department-furnished material when the material is delivered or made available to the Contractor by the Department. Deductions will be made from any moneys due the Contractor to make good any shortages and deficiencies from any causes whatsoever, for any damage that may occur after taking possession, and for any demurrage charges.

Legal Relations and Responsibilities to the Public**1701****Laws to be Observed**

The Contractor shall keep fully informed of all Federal and State laws; all local laws, ordinances, and regulations; and all orders and decrees of bodies and tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. The Contractor shall at all times observe and comply with all applicable laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the Department and its representatives against all claims and liabilities arising from or based on violations committed by the Contractor or the Contractor's employees.

The Contractor shall immediately report to the Engineer in writing any provisions in the Contract that are contrary to or inconsistent with any law, ordinance, regulation, order, or decree.

1702**Permits, Licenses, and Taxes**

The Contractor shall procure all permits and licenses; pay all charges, fees, and taxes; and give all notices necessary and incidental to the due and lawful prosecution of the work. When requested, the Contractor shall furnish the Engineer with evidence indicating compliance with the permit, license, and tax requirements.

1703**Patented Devices, Materials, and Processes**

The Contract prices shall, without exception, include compensation for all royalties and costs arising from patents, trademarks, and copyrights, that are in any way involved in the work.

If the Contractor employs any design, device, material, or process covered by letters of patent or copyright, the Contractor shall provide for its use with the patentee or owner, and shall indemnify and save harmless the Department and any political subdivision, department, or third party affected from all claims for infringement by reason of its use.

1704**Restoration of Surface Opened by Permit**

Any individual, firm, public utility, or corporation wishing to make an opening in the highway must secure a permit from the Department.

1704

The Contractor shall allow only those parties bearing valid permits to make openings in the highway, as authorized.

The Department reserves the right:

- (1) For the proper authorities of a political subdivision to construct or reconstruct any utility service in the highway at any time, and
- (2) To grant permits for the construction or reconstruction of any utility service.

The Contractor will not be entitled to any damages from the Department either for the opening up of the surface or for any related delays.

When the Engineer orders repairs that are made necessary by an opening, the Department will pay for the ordered repairs as Extra Work in the absence of other payment provisions in the Contract. The Contractor shall make ordered repairs subject to the same conditions and requirements as apply to the original work performed.

1705

Federal-Aid Provisions

When the United States Government pays all or any portion of the cost of a Project, the Federal laws and the rules and regulations made pursuant to those laws must be observed by the Contractor and his subcontractors. All work in which the Federal Government participates financially will be subject to inspection by the appropriate government agency, but this inspection will not in any sense make the Federal Government a party to the Contract, nor will it interfere in any way with the rights of either party to the Contract.

1706

Employee Health and Welfare

The Contractor shall provide and maintain all sanitary and safety accommodations for the use and protection of the Contractor's employees and suppliers as may be necessary to provide for their health and welfare. The Contractor shall be responsible to comply with all applicable Federal, State, and local safety and health codes and regulations, as well as those of other bodies and tribunals having jurisdiction. The Contractor's attention is particularly directed to the employee safety and sanitation regulations set forth in: 29 CFR 1926, Occupational Safety & Health Administration (OSHA), Construction Industry Standards; MN Statue § 182; and Minnesota Department of Labor & Industry, OSHA Division, Minnesota Rules 5205 through 5215.

All required safety and health related equipment and provisions shall conform to the applicable codes and regulations, be in operable

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condition, and allow Department personnel to perform required duties at the appropriate time. The Contractor shall furnish, install, and remove required safety and health related equipment and provisions, at no cost to the Department.

The Contractor shall not refuse entry for Federal, State, and local safety and health inspections or investigations.

1707

Public Convenience and Safety

The Contractor shall at all times conduct operations and perform the work in a manner that will ensure the least possible obstruction to traffic. The Contractor shall provide for the safety of the general public as well as the residents living beside the highway.

The Contractor shall provide temporary facilities where and when necessary to conveniently serve pedestrian travel over or through obstructions at public walkways and at other locations designated by the Engineer. Open excavations that contain water, or are hazardous for other reasons, shall be adequately fenced off and posted with conspicuous warning signs.

Whenever work is performed in a municipality, the Contractor shall give the chiefs of the local fire and police departments sufficient notice to arrange for routing of emergency vehicles before it becomes necessary to blockade a street. The Contractor shall keep them informed as to the status and removal of street blockades affecting emergency travel. Access to fire hydrants shall not be obstructed without the approval of the local fire chief.

1708

Railroad-Highway Provisions

These provisions shall apply only when the Contract requires that work be performed on the Right of Way of a railroad or that materials be hauled across the tracks of a railroad over a private crossing shown in the Plans as a designated haul road, or if materials or equipment might extend into the Railway right of way. If, under any other conditions, the Contractor desires to haul material across a railroad track over a private crossing or to encroach on railroad property for other reasons, the Contractor shall make arrangements with the railroad company involved.

The Department will secure all necessary easements to permit the hauling of materials across the tracks of a railroad over a pre-existing private crossing when required by the Contract. No compensation in addition to the Contract prices will be made to the

Contractor by the Department because of any delays or costs incurred in complying with these provisions.

Before commencing work on the Right of Way of a railroad, and before any materials are hauled across the tracks of a railroad at a private crossing, the Contractor shall satisfy the requirements of 1708 and all its subparts, and shall give the railroad at least thirty (30) days' notice in advance of the starting date.

Contractor is reminded that each Railway has its own unique requirements and Contractor is responsible for ascertaining what those requirements are prior to commencing work. While on or about Railroad property, Contractor shall fully comply with the Railway's requirements, including (but not limited to) clearance requirements and personal protective equipment requirements. Contractor shall be responsible for fully informing itself as to Railway requirements, including (but not limited to) the following:

- a) Prior to entering the Railway's property, each person providing labor, material, supervision or services connected with the work to be performed on about Railway property shall, if required by the Railway, attend a safety orientation session conducted or approved by Railway. For some Railways, this requirement can be met by going to the following Web site: www.contractororientation.com.
- b) If required by Railway, prior to entering the Railway's property, the Contractor shall prepare and implement a safety action plan acceptable to the Railway. Contractor shall audit its compliance with that plan during the course of its work. A copy of said plan and audit results shall be kept at the work site and shall be available for inspection by Railway at all reasonable times.

1708.1 GENERAL REQUIREMENTS

All work performed over, below, or adjacent to the railroad's tracks and on its Right of Way shall be performed in a manner satisfactory to the railroad and at such times as will not interfere with or endanger operations of the railroad.

No work shall be done that will infringe on the statutory clearances, set forth in MN Statutes §§ 219.45 to 219.53 until the plans have been approved by the Engineer, the railroad, and the Mn/DOT Director of Railroad Administration. No clearances less than those shown on the approved Plans will be permitted at any time.

In the event that an emergency occurs in connection with work on the railroad's Right of Way, the railroad shall have the right to do any work it deems necessary to maintain traffic. If the emergency is caused by the operations of the Contractor, the Contractor shall reimburse the railroad for the cost of the emergency work.

1708.4

Railroad-highway grade separation structures are joint undertakings with the railroad. Representatives of the railroad have the right to inspect the work at any time during its construction.

No work performed by Contractor shall cause any interference with the constant, continuous and uninterrupted use of the tracks, property and facilities of the Railway, its lessees, licensees or others, unless specifically authorized in advance by the Railway. Nothing shall be done or suffered to be done by the Contractor at any time that would in any manner impair the safety thereof. When not in use, Contractor's machinery and materials shall be kept at least 15.24 m (**50 feet**) from the centerline of Railway's nearest track, unless specifically authorized in advance by the Railway, and there shall be no vehicular crossings of Railway's track except at existing open public crossings, unless a temporary crossing has been specifically authorized in advance by the Railway.

Contractor shall be responsible to the Railway, including its affiliated railway companies and its tenants, for damages for any unscheduled delay to freight or passenger trains that are caused by the Contractor as follows:

Contractor acknowledges the serious consequences that will result from any unscheduled delay(s) that effect the Railway's operations, particularly where such delay causes the delay of freight trains. Contractor further acknowledges that such delays affect Railway's ability to fully utilize its equipment and meet customer service and contract obligations. The potential effects of such delay make it difficult to ascertain the amount of damages that would be caused.

1708.2 STRUCTURAL PLANS AND CONSTRUCTION METHODS

The Contractor shall prepare five (5) sets of plans indicating the foundation preparation methods he intends to use adjacent to the Railway's tracks or at any bridge structures that are part of the project. The detailed plans shall indicate the protective measures that will be used to safeguard railroad property, embankment, traffic, and trainmen from damage and accident during construction operations adjacent to the Railway's track and shall include provisions for the following requirements:

- a) Prior to excavating for pier footings, which are adjacent to the Railway's track, the Contractor shall construct a substantial railing between the tracks and the pier excavation and at the ends of the excavation. Details of pier excavation and protection need to be approved by the Railway.
- b) When the Contractor's method of construction includes sheeting on the sides of footings adjacent to Railway's track, the sheeting shall

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be driven before any excavation for these footings is started. Sheeting shall be cut off at or slightly below the ground level immediately after being driven. Details of sheeting installation and removal need to be approved by the Railway.

- c) The excavation at the piers adjacent to Railway tracks shall be backfilled immediately after completion of pier construction, and the railing shall remain in place until the backfill is substantially completed.
- d) At each location where the Contractor's operations encroach on the minimum horizontal clearance of 3.6 m (**12 feet**) (measured from the centerline of tracks), the Contractor shall, before any excavation is started, construct a substantial plank trainman's walk over the excavation, between these tracks and the piers. (Contractor will be permitted to construct his protective installations so as to just clear the neat lines of the footings along the track sides of those piers where his operations will encroach on the minimum Railway horizontal clearance of 3.6 m (**12 feet**).

The five (5) sets of detailed plans shall be processed in the following manner:

- a) The Contractor shall submit the plans to the Railway for approval.
- b) The Railway will return the approved plans to the Contractor.
- c) The Contractor shall transmit the plans to the Engineer for approval.
- d) The Engineer will transmit the plans to the Mn/DOT Office of Freight and Commercial Vehicle Operations, Rail Administration Section, for approval and for review of any temporary clearance less than that required by statute, and for final distribution.

When approval by an agency or individual is required, as indicated above, such approval shall be indicated on all five (5) sets of plans. When approval of the plans is contingent upon modifications, the contingencies will be noted on the plans (or on attachments referred to on the plans) by the approving agency or individual.

Final distribution of the approved plans shall be as follows:

- a) One (1) set to the Railway
- b) Two (2) sets to the Contractor
- c) One (1) set to the Project Engineer
- d) One (1) set to the Mn/DOT Office of Freight and Commercial Vehicle Operations, Railroad Administration Section.

No work shall be done which may affect Railway traffic, embankment, property and trainmen before approval of the construction methods and protective measures have been obtained from the Railway

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involved, the Engineer, and the Mn/DOT Director of Railroad Administration

All costs incurred by the Contractor resulting from compliance with this section will be considered to be incidental expenses for which no direct compensation will be made.

1708.3 LIABILITY INSURANCE

Whenever the Contract requires that work be performed on the Right of Way of a railroad or that materials be hauled across the tracks of a railroad over a private crossing, the Contractor shall provide Railroad Protective Liability Insurance in accordance with the following provisions:

- (a) The insurance shall be provided in accordance with the Standard Provisions for General Liability Policies (Railroad Protective Liability Form).
- (b) Some Railways have specific insurance requirements, different or in addition to those set forth below; therefore, Contractor has the responsibility to ascertain each Railway's specific requirements and to procure the required insurance. Unless otherwise provided in the Contract, the limits of liability shall be as follows:

Coverages	Limits of Liability
Bodily Injury Liability	
Property Damage Liability	
Physical Damage to Property	\$2,000,000 each occurrence
Bodily Injury Liability	
Property Damage Liability	
Physical Damage to Property	\$6,000,000 aggregate

- (c) The insurance shall be in full force and effect before any work is performed on the railroad's Right of Way, including the hauling of materials across the railroad's tracks over a private crossing.
- (d) The insurance shall not be canceled by the Contractor until the work for which it is required has been completed and accepted.
- (e) One true copy of the insurance policy shall be delivered to the Department and to each of the railroad companies named in the Special Provisions at least 10 days in advance of the starting date of the work for which the insurance is required.

1708.4 FLAGGING, PROTECTIVE SERVICES AND DEVICES

Whenever the Contract requires that work be performed on the Right of Way of a railroad or that materials be hauled across the tracks of a railroad over a private crossing, flagging and other protective services and devices will be provided by the railroad as it deems necessary for protection of its facilities, personnel, equipment, and traffic.

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The Contractor shall make all arrangements with the Railway to provide the necessary flagging and other protective services and devices. It shall also be the duty and responsibility of the Contractor to notify the Railway and the Engineer at least thirty (30) days in advance of the need for flagging and other protective services and devices. It shall also be the duty and responsibility of the Contractor to notify the Railway and the Engineer at least five (5) working days in advance of the date when flagging and other protective services and devices will no longer be required, so as to allow the Railway sufficient time to abolish the flagger position per union requirements. As each Railway may have time requirements different from the ones set forth above, it is the responsibility of the Contractor to ascertain what specific time limits apply for proper notification.

Flagging services will be performed by qualified Railway flaggers. In general, Railway flagger and protective services and devices will be required and furnished when Contractor's work activities are located over or under any railroad track or within 7.62 m (**25 feet**) measured horizontally from center line of the nearest track and when cranes or similar equipment positioned outside of the 7.62 m (**25 foot**) horizontal zone could foul the track in the event of a tip over or other catastrophic occurrence, but not limited thereto. Flagging and other protective services and devices shall be required under, but not limited to, the following conditions:

- a) When in the opinion of the Railway's Roadmaster, it is necessary to safeguard Railway's property, employees, trains, engines and facilities.
- b) When any excavation is performed below the bottom of tie elevation, if, in the opinion of Railway's Roadmaster, track or other Railway facilities may be subject to movement or settlement.
- c) When work in any way interferes with the safe operation of trains at timetable speeds.
- d) When any hazard is presented to Railway's track, communications, signal, electrical, or other facilities either due to persons, material, equipment, or blasting in the vicinity.
- e) Special permission must be obtained from the Railway before moving heavy or cumbersome objects or equipment, which might result in making the track impassable.

Unless otherwise specified in the Contract, the Department shall reimburse the Railway for all costs of necessary flagging and other protective services and devices that may be required to protect the Railway's facilities, personnel, equipment, and traffic.

1708.5 SPECIAL BOND REQUIREMENTS

Before commencing work on the railroad's Right of Way and before any materials are hauled across the railroad's tracks over a private crossing, the Contractor shall furnish a bond to guarantee reimbursement to the railroad for the costs of providing protective services and devices.

The bond shall name the Contracting Authority as obligee, shall be in the amount specified in the Special Provisions, and shall be issued by a corporation authorized to contract as a surety in the State of Minnesota.

The bond shall be for the use of the obligee and of any railroad furnishing flagpersons or related services for the protection of railroad traffic and property, from the time any Contract work is started on railroad Right of Way until all Contract work required on railroad Right of Way has been completed.

The bond shall be conditioned for the payment of all expenses, as they become due, that are incurred by any railroad in furnishing such flagpersons and related services; for saving the obligee and the railroad harmless from all costs and charges that may, accrue on account of furnishing flagpersons and related services; and for enforcing the terms of the bond, including reasonable attorney's fees, in case an action is successfully maintained.

The bond shall provide that no assignment, modification, or change of the Contract, or any change in the work covered thereby, nor any extension of time for completion of the Contract work shall release the sureties on the bond. The form of the bond shall be that which is on file with the Mn/DOT Director of Railroad Administration.

The bond shall be in addition to all other bonds required by the Contract and it shall be subject to the 6-year statute of limitations prescribed by MN Statutes §§ 541.05. A copy of the bond shall be furnished to the Department and to each railroad company named in the Special Provisions.

1709**Navigable Waterways**

All work on navigable waters shall be so conducted that free navigation of the waterways will not be interfered with, and so that existing navigable depths will not be impaired, except as allowed by permit issued by the proper public authority.

1710

1710

Traffic Control Devices

1710.1 GENERAL

All traffic control devices and methods shall conform to the Minnesota Manual on Uniform Traffic Control Devices (MN MUTCD), Minnesota Standard Signs Manuals Parts I and II and the appropriate Material Specifications, and the following:

- (a) Specification 3352.2A2a -- Standard No. 1 Reflective Sheeting -- White reflective sheeting, when used in conjunction with orange reflective sheeting (normally a barricade board application), shall meet all but the durability requirement.
- (b) All signs, paddles, and other traffic control devices, including those used for daytime operations, shall be reflectorized.

1710.2 PROVIDE, MAINTAIN, AND REMOVE

The Contractor shall provide and maintain all traffic control devices as deemed necessary by the Department in accordance with the Contract documents and the MN MUTCD; this includes, but is not limited to, the following:

- (a) To advise, warn, and alert the traveling public of construction in advance of the Project termini and on all roads, streets, and public trails approaching or crossing the Project.
- (b) To control and guide traffic through the Project.
- (c) To protect, warn, and exclude traffic and to protect workers at all work sites.
- (d) To provide necessary flag persons and pilot vehicles.

If, at any time, the Contractor fails to properly furnish, install, maintain, or remove any of the required traffic control devices, the Department reserves the right to properly correct the deficiency and to deduct the costs from any moneys due or becoming due to the Contractor.

1710.3 PLANNED DETOURS

The Department, at its expense, will design, provide, install, maintain, and remove all necessary traffic control devices to control and guide traffic over detours provided for in the Contract.

1710.4 DETOURS AT CONTRACTOR'S REQUEST

The Department, at the Contractor's expense, will design, provide, install, maintain, and remove all necessary traffic control devices to control and guide traffic over detours established by the Department at the Contractor's request in accordance with 1404.

1710.5 TEMPORARY BY-PASSES

- (a) The Department, at its expense, will design, provide, install, maintain, and remove all necessary traffic control devices to control

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and guide traffic over the temporary by-passes provided for in the Plans or Special Provisions or when ordered by the Engineer.

- (b) The Department, at the Contractor's expense, will design all Contractor-requested temporary by-passes, including the necessary signing thereon. The Contractor will provide, install, maintain, and remove all necessary signing and traffic control devices used to control and guide traffic over such by-passes at no expense to the Department.

1710.6 CONTRACTOR'S RESPONSIBILITY

The Contractor shall certify to the Engineer that all traffic control devices furnished to control, warn, or protect traffic, employees, and pedestrians are furnished, placed, and maintained in full compliance with the provisions hereof and all other applicable requirements.

Approval of the traffic control devices and approval of the Contractor's method of application of traffic control measures as provided for herein will not relieve the Contractor of responsibility for protecting the work, the workers, and the traveling public.

Any traffic signs not removed or relocated by the Department prior to construction shall remain in place and be protected by the Contractor for the duration of the work, except as otherwise authorized by the Engineer. Should any sign interfere with construction, it may be adjusted or removed and reset at a temporary location when so authorized by the Engineer, provided that location is not critical and the Contractor resets the signs at their permanent locations as soon as construction operations permit. In no case shall the Contractor remove or disturb a traffic sign without notifying the Engineer in advance, and then only after satisfactory arrangements have been made for its disposition. No additional compensation will be made to the Contractor for any expenses incurred in removing, protecting, and replacing traffic signs as provided for herein, nor for any delays, inconvenience, or damage sustained due to any special construction required in prosecuting the work in the presence of traffic signs.

1710.7 ENGINEER'S AUTHORITY

Acceptance or rejection, at any time, of a traffic control device provided by the Contractor but not incorporated in the final construction, will be subject to the Engineer's judgment as to acceptable day or night performance. If a traffic control device is rejected and appropriate corrective action is not taken by the Contractor to remedy the deficiency, the Engineer will take appropriate action and deduct all costs related thereto from the Contract.

The Engineer may request representative samples or remove a traffic control device for testing at no cost to the Department.

1710.8

1710.8 COMPENSATION

The Contractor will receive and accept the compensation provided for in the Contract as full payment for furnishing, placing, relocating, maintaining, and removing all traffic control devices required for the Contract for the duration of the Contract, but only when and to the extent that the Proposal contains specific items and unit prices for traffic control devices.

1711

Use of Explosives

When the use of explosives is necessary for the prosecution of the work, the Contractor shall exercise the utmost care not to endanger life or property, including new work. The Contractor shall be responsible for all damage resulting from the use of explosives.

All explosives shall be stored in a secure manner in compliance with all laws and ordinances, and all storage places shall be clearly marked. Where no local laws or ordinances apply, storage shall be provided satisfactory to the Engineer and in general not closer than 300 m (**1000 feet**) from the road or from any building or camping area or place of human occupancy.

The Contractor shall notify each public utility company having structures in proximity to the site of the work of his intention to use explosives. Such notice shall be given sufficiently in advance to enable the companies to take such steps as they may deem necessary to protect their property from injury.

The Contractor is advised of the potential hazard of premature explosion of electric blasting caps due to propagation of radio frequency energy by transmitters of radio and related services such as television, radar, and wireless communications. Operators of short wave transmitters within range of the blasting operations shall be given advance warning by the Contractor, along with any other precautions considered necessary.

1712

Protection and Restoration of Property

1712.1 PROPERTY

The Contractor is responsible for the preservation of all public and private property of any character in conducting the work.

A Monuments

The Contractor shall preserve all land and property corner monuments, Right of Way monuments, and vertical and horizontal control point monuments indicated in the Contract or noted in writing by the Engineer prior to work in the vicinity of the monument. If the

Engineer determines that a monument, which has been designated to be preserved, has been disturbed during construction activities, the Department will deduct a charge of \$1000.00 per monument from the moneys due or becoming due the Contractor. The number of monuments disturbed or destroyed will be determined by the Engineer. Where the Engineer determines that a monument must be removed to allow construction, no charge will be deducted from moneys due or becoming due the Contractor.

B Utilities..... 1507
C Protection and Restoration of Vegetation..... 2572

1712.2 ADVANCE NOTICE

The Contractor shall give advance notice to the owners of all private property that will be interfered with by the Contractor's operations, advising them of the nature of the interference, and arranging with them for the protection or disposition of their property.

1712.3 BLANK

1712.4 GENERAL LIABILITY

The Contractor is responsible for all damages to property of any character, resulting from any act, omission, neglect, or misconduct in the execution or nonexecution of the work, except for damage to underground property within the Right of Way if its existence and approximate location were not made known within the Contract. At no expense to the Department, the Contractor shall restore damaged property to a condition equal to or better than that existing before the damage was done, by repairing, rebuilding, or replacing it as directed, or otherwise making good the damage in an acceptable manner.

1713

Forest Protection

In carrying out work within or adjacent to State or National Forests, the Contractor shall comply with all regulations of the USDA Forest Service, State Fire Marshal, Department of Natural Resources, Division of Forestry, or other authority having jurisdiction, governing the protection of forests and the carrying out of work within forests, and shall observe all sanitary laws and regulations with respect to the performance of work in forest areas. The Contractor shall keep the areas in an orderly condition, dispose of all refuse, and obtain permits for the construction of field offices and other structures in accordance with the requirements of the Forest Supervisor.

The Contractor shall take all reasonable precaution to prevent and suppress forest fires and shall require employees and subcontractors to take all reasonable measures within their power to prevent and suppress forest fires. The Contractor shall make every possible effort to notify a

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Forest official at the earliest possible moment of the location and extent of fire.

1714

Responsibility for Damage Claims

The Contractor shall indemnify, defend, and save harmless the Department, its officers, and its employees from all suits, actions, and claims of any character brought because 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 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 Workers' Compensation Act, or under any other law, ordinance, order, or decree.

The Department may retain for its use money that is due the Contractor under and by virtue of the Contract, as may be necessary to cover any suits, actions, or claims arising on account of the Contractor's operations or in consequence of any act, neglect, omission, or misconduct of the Contractor; or, in case no money is due, the Contractor's Sureties may be held liable until those suits, actions, or claims have been settled and suitable evidence to that effect has been furnished to the Department. Moneys will not be withheld if the Contractor produces satisfactory evidence indicating adequate protection by public liability and property damage insurance.

1715

Opening Sections of the Project to Traffic

Opening of sections of the roadbed to traffic prior to completion of the entire Contract may be required by the Special Provisions or may be ordered by the Engineer in the event of unforeseen necessity or desire. Opening of a section of the roadbed to traffic shall not constitute acceptance of the uncompleted portions of the Project, nor shall it act to waive any provisions of the Contract.

On all sections of the roadbed that are opened to traffic prior to completion, the Contractor will not be required to assume any expense entailed in maintaining the roadbed for traffic, but shall not be relieved of responsibility for the repair of damages to the work that are not attributable to traffic. In the absence of Contract prices covering roadbed maintenance, the Department may require its performance as Extra Work or may perform it with its own forces.

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When a section of the roadbed is opened to traffic by order of the Engineer for unforeseen reasons not the fault of the Contractor, the Department will reimburse the Contractor for additional expenses incurred in completing the remaining work under traffic, and may extend the time for completion if justified, in which case an Agreement shall be executed in advance, setting forth the conditions agreed upon. On those sections of the Project that are opened to traffic prior to completion, as a requirement of the Contract, or that are opened by order of the Engineer as a result of failure or negligence on the part of the Contractor, the remaining construction operations shall be conducted so as to cause the least possible obstruction to traffic, and the Contractor shall not receive any additional compensation or extension of time due to increased costs or changed working conditions occasioned by opening of the road to traffic prior to its completion.

Nothing herein shall relieve the Contractor of obligations for maintenance of traffic over roads undergoing improvements, as provided for in 1404, nor shall anything apply to temporary use of the road by traffic during periods of winter suspension.

1716

Contractor's Responsibility for Work

The Contractor is responsible for the work until final written acceptance of the Project by the Engineer. The Contractor has the charge and care of the Project and shall take every precaution against injury or damage to any part of the Project by the action of the elements or from other cause, whether arising from the execution or from the nonexecution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occurring before final acceptance. The Contractor shall bear these expenses except as otherwise expressly provided in the Contract and except for damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane, other cataclysmic phenomenon of nature, or acts of the public enemy or of governmental authorities.

In case of suspension of work, the Contractor is responsible for the Project and shall take such precautions as may be necessary to prevent damage to the Project, provide for normal drainage, and erect necessary temporary structures, signs, or other facilities at no expense to the Department. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established plantings, seedings, and soddings furnished under the Contract, and shall take adequate

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precautions to protect new tree growth and other important vegetative growth against injury consistent with 2571, 2572, and 2575.

If the Contractor fails to comply with these provisions, the Engineer will notify the Contractor in writing of the non-compliant work. If the Contractor fails to take action as ordered, the Department may proceed to have the work performed by others and to deduct these costs from moneys due the Contractor.

1717

Air, Land, and Water Pollution

1717.1 GENERAL

The Contractor shall schedule and conduct construction operations in a manner that will prevent, control, minimize, or abate pollution of air, land, and water in accordance with 1701. The Contractor shall obtain all necessary permits in accordance with 1702 and for temporary work not shown in the Contract.

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B Water Protection

The Contractor shall take all necessary precautions and actions to prevent pollution of ground, flowing, and impounded waters of the State with any particulate or liquid matter that may be harmful to fish and wild life or detrimental to public use of the water.

The Contractor shall prevent siltation and the resulting turbidity of public waters. Water containing sediment shall not be allowed to enter public waters until its sediment content has been reduced by filtration, settlement, or other means to the appropriate standard. When turbidity standards have not been established for a public water, the turbidity of the effluent shall be not more than that of the water into which it is discharged or will eventually enter. Wash water or waste from concrete mixing operations shall not be allowed to enter streams and public waters.

The Contractor shall minimize the crossing of streams and rivers with hauling equipment. Temporary bridging shall be used where an appreciable number of crossings are necessary. The Contractor shall clear the crossings of temporary construction as soon as practical after the purpose has been fulfilled. The Contractor shall prevent water pollution from haul roads, work platforms, temporary earth fills, and other temporary construction used to facilitate bridge or culvert construction.

1717.2 Erosion Control

The Contractor shall comply with all applicable laws, ordinances, regulations, orders, and decrees pertaining to erosion control, sediment control, and storm water management affecting the conduct of the work.

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When required, the Contractor shall obtain the National Pollution Discharge Elimination System. (NPDES) permit prior to starting work. No work shall be initiated until the Minnesota Pollution Control Agency's (MPCA) letter of coverage has been posted on site by the Contractor, or the Contractor verifies to the Engineer that the permit has been applied for by registered mail to the MPCA a minimum of seven days before starting soil disturbing activities.

A General Requirements

The Contractor shall schedule and conduct construction activities in a manner that will minimize soil erosion and the resulting siltation and turbidity of surface waters. The Contractor shall comply by the requirements herein regardless whether or not an NPDES permit for the work is required.

A1 Before Construction

The Contractor shall install temporary sediment control measures in areas tributary to public waters before construction begins in a drainage area.

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, finish earth work operations, place topsoil, establish turf, and conduct other Contract work in a timely manner to minimize erosion and sedimentation.

All exposed soil areas with a continuous positive slope within 60 m (200 feet) of surface waters, including pond sides slopes, 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 within the following time frames (For the purposes of this provision, exposed soil areas do not include stockpiles or surcharge areas of sand, gravel, aggregate, concrete, or bituminous.):

<u>Type of Slope</u>	<u>Time*</u>
Steeper than 1 vertical: 3 horizontal.....	7 days
Between 1:3 and 1:10	14 days
Flatter than 1 vertical: 10 horizontal	21 days

* The maximum time an area can remain un-worked by the Contractor without temporary or permanent erosion control measures implemented.

In drainage areas contributing to Special Waters, exposed soil on slopes 1:3 or steeper must have temporary erosion protection or permanent erosion protection installed within 3 days of the soil no longer actively being worked. For all other exposed soil slopes in drainage areas contributing to Special Waters, temporary erosion

1717.2

protection or permanent erosion protection must be installed within 7 days of the soil no longer actively being worked. Special Waters are defined as those listed and referenced in the NPDES Permit. The bottom of temporary or permanent drainage ditches constructed to drain water from a construction site must be stabilized with erosion control measures within 60 m (**200 feet**) from the property edge or from the point of discharge to any surface water. Stabilization shall be completed within 24 hours of connecting the drainage ditch to a surface water, existing gutter, storm sewer inlet, drainage ditch, or other storm water conveyance system that discharges to surface waters.

Pipe outlets shall be provided with temporary or permanent energy dissipation within 24 hours of connecting the pipe to a surface water.

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.

A3 Vehicle Tracking

The Contractor shall minimize vehicle tracking of sediment or soil off site at locations where vehicles exit the construction site onto paved surfaces. In accordance with 1514 and 2051, tracked sediment shall be removed from paved surfaces, which do not drain back into the construction site, within 24 hours of discovery.

A4 Sediment Removal

The Contractor is responsible for preventing or minimizing the potential for erosion or siltation after temporary erosion or sediment control work has been performed. The Contractor shall retrieve all sediment that has left the Right of Way, to the fullest extent possible. Unless the Project has received approval or certification for depositing fill into surface waters, the Contractor shall remove all deltas and sediment deposited in drainage ways or catch basins and restabilize the areas where sediment removal results in exposed soil. The removal and stabilization shall take place within 7 calendar days of discovery unless precluded by legal, regulatory, or physical access restraints. If precluded, removal and stabilization must take place within 7 calendar days of obtaining access. The Contractor is responsible for contacting all local, regional, state, and Federal authorities before working in surface waters and obtaining applicable permits.

A5 Suspension of Grading

The Contractor shall shape exposed soil and incorporate temporary and permanent erosion control measures to the satisfaction of the Engineer before suspension of grading operations for any appreciable length of time. Prior to shutdown and ceasing grading activities for the winter, exposed soils and discharge points shall have temporary or permanent cover installed.

B Related Work

The Contractor shall control drainage and erosion on the work related to the Project including: haul roads, temporary construction, waste disposal sites, plant and storage locations, and borrow pits other than commercially operated sources. The Contractor shall maintain the area, shape the area to allow storm runoff with minimum erosion, replace topsoil, and establish vegetative cover on areas where the potential for pollution has been increased due to the Contractor's operations. The Contractor's waste disposal sites, borrow pit areas or other related work that disturbs 0.4 hectares (**1 acre**) or more of total land area and located outside of the Right-of-Way will require the Contractor's own NPDES permit.

C Quality Control

The Contractor shall be responsible for maintaining a quality control program to ensure that erosion is controlled, that is sedimentation is prevented and that provisions of permits are adhered to.

The quality control program shall consist of:

- a.) Ensuring that permit requirements related to the contractors construction activities are adhered to.
- b.) Conducting the inspections required in the NPDES permit.
- c.) Maintaining the NPDES inspection log
- d.) Ensuring that erosion control is incorporated into the work in a timely manner and that disturbed areas are stabilized with mulch/seed or vegetative cover on a section by section basis.
- e.) Ensuring in accordance with 2573.3 that temporary erosion control devices are maintained.
- f.) Ensuring in accordance with 2573.3 that temporary erosion control devices are removed when they are no longer necessary.

In accordance with 1506 the Contractor shall have a competent individual available to the Project to conduct the quality control program. The Contractors quality control and inspection procedures shall be subject to review by the Engineer. NPDES inspection records shall be maintained by the Contractor at the Project site and made available at all times for verification by the Engineer.

D Erosion Control Schedule

The Contractor shall prepare and submit a weekly schedule of proposed erosion control activities for the Engineer's approval. The Engineer may require schedules to be submitted orally or in writing. The schedule shall provide a discussion of:

1. Proposed erosion control installations and when they will be installed.

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2. Areas ready for permanent turf establishment and when it will be accomplished.
3. Grading operations and how erosion control will be incorporated into the work.
4. Repair or maintenance required on erosion control installations and when it will be accomplished.
5. Proposed erosion control measures during periods of suspension of work.

E Site Plans

The Engineer may require the Contractor to submit a site plan 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.

F Compensation

The Contractor will receive compensation for erosion control as provided for in the Contract. All other expenses incurred in complying with these provisions and 1717 shall be borne by the Contractor. The Contractor will not receive compensation for erosion control off of the Right of Way unless so specified in the Contract. Temporary and permanent erosion or pollution control measures ordered by the Engineer, which are necessitated by additional Contract work or by unforeseen failure of the original erosion or sediment control work provided for in the Contract, will be paid for at the appropriate Contract prices for like work or as Extra Work in the absence of comparable items of work.

G Withholding of Payment—Noncompliance

If the Contractor fails to install erosion or sediment control measures ordered by the Engineer, the Engineer may withhold payment from related work until the control measures are undertaken by the Contractor. When the Contractor fails to conduct the quality control program, doesn't conduct the inspections required in the NPDES permit, or fails to take action ordered by the Engineer to remedy erosion or sediment control problems: The Engineer will issue a written order to the Contractor. The Contractor shall respond within 24 hours with sufficient personnel, equipment and/or materials and conduct the required work or be subject to a \$500.00 per calendar day deduction for noncompliance.

1717.3 COMPENSATION AND TIME EXTENSION

The Contractor will not receive additional compensation or time extensions for any disruption of work or loss of time caused by any

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actions brought against the Contractor for failure to comply with air, land, and water pollution controls.

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Furnishing Right of Way

The Department will furnish all Right of Way for construction work in advance of construction needs. Any exceptions will be indicated in the Contract.

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Personal Liability of Public Officials

In carrying out the provisions of the Contract, and in exercising the powers and authorities granted to them by or within the scope thereof, there shall be no personal liability upon the Commissioner, the Engineer, or their authorized representatives, it being understood that in all matters they act solely as agents and representatives of the Contracting Authority.

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No Waiver of Legal Rights

Upon completion of the Project, the Department will expeditiously make final inspection of the work and notify the Contractor of acceptance. However, final acceptance will not preclude or stop the Department from correcting any measurement, estimate, or certificate made before or after completion and acceptance of the work. The Department will not be prevented, precluded, or stopped from recovering from the Contractor or the Contractor's Sureties any overpayments and damages it sustains by reason of the Contractor's failure to fulfill obligations under the Contract. A waiver on the part of the Department of any breach of any part of the Contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor is liable to the Department for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Department's rights under any warranty or guaranty.

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Audits

Pursuant to MN Statute § 16C.05, Subd. 5, the books, records, documents, and accounting procedures and practices of the Contractor and of any subcontractor relevant to this Contract are subject to audit and examination by the Minnesota Department of Transportation and either the Legislative Auditor or the State Auditor as may be appropriate.

1801

Prosecution and Progress

1801

Subletting of Contract

The Contractor shall not sublet, sell, transfer, assign, or otherwise dispose of the Contract or Contracts or any portion thereof, or of right, title, or interest therein, without written consent of the Engineer. In case consent is given, the Contractor will be permitted to sublet a portion thereof, but the Contractor shall perform work amounting to not less than 40 percent of the total original Contract cost. Items designated in the Contract as "specialty items" may be subcontracted and the cost of any specialty items performed by subcontract will be deducted from the total cost before computing the amount of work required to be performed by the Contractor.

On Contracts with Disadvantaged Business Enterprise (DBE) or Targeted Group Business (TGB) established goals, or both, the Contractor's organization shall perform work amounting to not less than 30 percent of the total original Contract cost. Specialty items will be deducted from the total Contract cost before computing the amount of work to be performed by the Contractor.

No subcontractor shall further sublet any portion of the work that the Engineer has agreed to allow that subcontractor to perform without the written consent of both the Contractor and the Engineer. When such consent is given, the First tier subcontractor may sublet a portion of the work, not to exceed 50 percent of the work originally sublet. Second tier subcontractors will not be permitted to sublet any portion of the work.

The Contractor shall submit requests to sublet portions of the Contract to the Engineer, on a form provided by the Department, at least 10 days in advance of the date on which the subcontractor intends to start work. The Contractor shall furnish one signed copy of each subcontract agreement to the Engineer upon request. The subcontract prices may be omitted on the Engineer's copy of the agreements.

Written consent to subcontract, assign, or otherwise dispose of any portion of the Contract shall not under any circumstances relieve the Contractor of liabilities and obligations under the Contract and Bonds. All transactions of the Engineer will be with the Contractor. Subcontractors shall be recognized only in the capacity of employees or workers and shall be subject to the same requirements as to character and competence.

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Qualifications of Workers

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Upon request by the Engineer, the Contractor shall submit satisfactory qualification evidence for any person engaged in special work requiring professional training. Any person employed by the Contractor or by any subcontractor who does not perform assigned work in a proper and skillful manner, or who is intemperate or disorderly, shall be removed from the Project forthwith by the Contractor upon written order of the Engineer, and shall not be employed again on any portion of the work without the Engineer's consent. Should the Contractor fail to remove such person, or fail to furnish suitable and sufficient personnel for the proper prosecution of the work, the Engineer may suspend the work until the Contractor has complied with the orders.

1803

Prosecution of Work

1803.1 PROGRESS SCHEDULE

At least 5 days prior to the Contract starting date, the Contractor shall furnish the Engineer with a progress schedule for approval. This schedule shall be in the form of a bar chart or critical path diagram that shows the proposed starting dates and completion times for each of the major construction operations. This schedule shall be complete, from starting date to completion date, covering all progress-controlling items of work. A progress-controlling item is one that must be completed either partially or completely to permit continuation of progress. The time intervals may be expressed as working days after the Contract starting date or as calendar dates.

The progress schedule shall reflect Contract requirements regarding the order of performing the work, and shall be based on an adequate daily working hour schedule, with sufficient materials, equipment, and labor being furnished to guarantee completion of the Project within the Contract time.

The progress schedule will be used to identify the controlling operations and as a check on the rate of progress. A controlling operation is that part of a progress-controlling item or items that must be performed before the next progress-controlling item of work can be started. For each major progress-controlling item, the schedule shall show the intended rate of production during the period such item is the controlling operation.

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Revised progress schedules shall be prepared and submitted for approval as requested by the Engineer in the event adjustments become necessary during the progress of the work. Approval of the Contractor's progress schedules by the Engineer in no way justifies the schedules, but simply indicates concurrence in their reasonableness and feasibility on the assumption that the Contractor will make every effort required to meet them. The Contractor shall have a current progress schedule approved by the Engineer before partial estimates are processed and paid.

1803.2 PROSECUTION CONTROL

The Contractor shall give the Engineer definite notice of intention to start work at least 72 hours in advance of beginning construction and at least 24 hours in advance of beginning each major construction operation. The Engineer shall be informed in advance of the daily working hour schedule and of proposed changes to the schedule. While the work is in progress, the Contractor shall notify the Engineer at least 24 hours in advance of any proposed change in equipment, forces, or sequence of operations that may require a change in the Department's engineering or inspection forces.

The Contractor shall commence and prosecute the work in accordance with the approved progress schedule, with forces and equipment adequate to complete the controlling operations on schedule. The work shall be prosecuted continuously and diligently from as many different points and in such parts and sequence as will ensure satisfactory progress.

1803.3 LIMITATION OF OPERATIONS

The Contractor shall conduct the work in a manner and sequence that will ensure the least interference with traffic, with due regard given to the location of detours and to the provisions for handling traffic. Work shall not be opened up to the prejudice or detriment of work already started. The Engineer may require the Contractor to finish a section on which work is in progress before starting work on any additional sections if the opening of that section to traffic is essential for public convenience.

No work shall be performed during hours of darkness without prior approval of the Engineer, nor shall any work be conducted at night contrary to any restriction imposed in the detailed Specifications for the particular class of work. When night work is authorized, the Contractor shall furnish sufficient artificial lighting to permit proper and safe inspection, as well as to ensure quality workmanship equal to that achievable during daylight hours.

No work shall be performed on Sundays or legal holidays of the

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State of Minnesota unless specifically allowed for in the Contract. Construction operations shall be suspended for a period of 24 hours from approximately 6:00 a.m. on each Sunday or legal holiday until 6:00 a.m. on the following day. Slight changes in these hours will be permitted, but the intent of this policy shall be complied with. Permission will not be required for the prosecution of minor operations that may be necessary to protect the Work or to maintain and protect traffic.

1803.4 TEMPORARY SUSPENSIONS

The Contractor shall make requests for temporary suspension of work to the Engineer, giving the proposed effective dates, the operations to be suspended, and the reasons for requesting suspension. The Contractor shall not suspend all or any part of the work without the Engineer's written authorization. Suspension of the work for any cause whatsoever shall not relieve the Contractor of the responsibility for maintenance of traffic, except as otherwise provided in 1404 or by written agreement.

The Contractor shall not suspend operations until: (a) the roads that are being used by traffic and any temporary approaches or crossings and intersections with trails, roads, streets, businesses, parking lots, residences, garages, and farms are in such condition that only routine maintenance will be required to adequately accommodate through and local traffic during the anticipated period of suspension; (b) the Contractor has performed such work as is necessary to protect all completed or partially completed work during the anticipated suspension period; and (c) all traffic control devices, as provided for in 1710, are in place.

Should the Contractor fail to perform any of this work prior to suspension, the Department reserves the right to have the work performed by others and to deduct its costs from any moneys due or becoming due the Contractor.

All suspension and resumption of work orders issued by the Engineer will be made in writing, giving the same basic information as required of the Contractor. Resumption of work will be ordered upon determination that conditions causing suspension no longer exist. Work that has been suspended shall not be resumed until the Engineer so orders or approves.

If a suspension of work order becomes necessary because of an action or nonaction of the Department or because of the noncompletion of work under other contracts (but through no fault of the Contractor), and if the Contractor has not been advised in the Contract that such a suspension may be necessary, equitable compensation will be made to the Contractor for any additional costs incurred.

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Failure to Maintain Satisfactory Progress

Should the Contractor fail to maintain satisfactory progress, the Engineer will require that additional forces, materials or equipment be provided as necessary to bring the Project up to schedule and maintain that level for the balance of the work. Any failure to adhere to the approved progress schedule will be considered prima facie evidence that the Contractor has failed to provide sufficient workers, equipment, or materials to ensure completion of the Project within the specified time. If the Contractor fails to adhere to the approved progress schedule or fails to take action as ordered to remedy unsatisfactory progress, a notice of default may be issued as provided for in 1808.

1805

Methods and Equipment

Sufficient equipment of proper size and good mechanical condition shall be employed to prosecute the work to full completion in a satisfactory manner and within the prescribed time. Equipment used on any portion of the Project shall be such that no damage to the roadway, adjacent property, or other highways will result from its use.

Equipment requiring calibration or measurement of its capacity shall not be used until it has been calibrated or measured to the satisfaction of the Engineer. The Contractor shall furnish any equipment and assistance the Engineer may need to make calibration tests and obtain necessary measurements.

When the methods and equipment to be used in accomplishing the construction are not prescribed in the Specifications, the Contractor is free to use any methods or equipment that demonstrates to the satisfaction of the Engineer will accomplish the Contract work in conformity with the Plans and Specifications.

When the Specifications require that construction be performed by the use of certain methods and equipment, those methods and equipment shall be used unless others are authorized by the Engineer. The Contractor may request the Engineer's approval to use a method or type of equipment other than those specified in the Contract. The request shall include a full description of the methods and equipment proposed for use and explaining the reasons for desiring the change. If approval is given, it shall be on the condition that the Contractor will be fully responsible for producing construction work in conformity with the Contract requirements.

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If, after trial use of the substituted methods or equipment, the Engineer determines that the work produced does not meet Contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining construction with the specified methods and equipment. At no expense to the Department, the Contractor shall remove unacceptable work and replace it with work of the specified quality, or shall take other corrective action as the Engineer may direct.

No change will be made in the basis of payment for the construction items involved nor in the Contract time, when a change in methods or equipment is authorized under these provisions, except as may be made in accordance with 1503.

1806

Determination and Extension of Contract Time

The Proposal will state the Contract time, as defined in 1103. The Contractor shall prosecute the work continuously and effectively, with the least possible delay, to the end that all work will be completed within the time period allowed.

The Department will not consider a plea by the Contractor that insufficient time was allowed as a valid reason for either an extension of the Contract time or revision of the working day charges. Should extension of time be granted, the extended time for completion will then be in full force and effect as though it were originally allowed.

1806.1 DETERMINATION OF CONTRACT TIME

The Engineer will furnish the Contractor a weekly statement showing the working days charged to the Project. The statement will include an accounting of all delays affecting the progress-controlling operations, as defined in 1803. Delay time will be classified as either avoidable or unavoidable.

Assessment of working day charges will begin on the Contract starting date and cease when all work has been completed except for maintenance and final cleanup operations. However, assessments will be made for work conducted prior to the Contract starting date when the operations in progress result in traffic restriction. In that case, the work causing the traffic restriction will be considered the progress-controlling operation and working days will be assessed. The Department will, under the same condition, assess working days during the inclusive period from November 15 to April 15.

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

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When the Contract time is specified as a fixed calendar completion date or calendar day, the Department 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.

A Avoidable Delays

Avoidable delays are those delays that the Contractor could foresee or had power to control or prevent. Working day charges will not be waived or reduced for avoidable delays. Avoidable delays include, but are not limited to, the following circumstances or conditions:

- (1) Delays caused by conditions on the Project, including traffic conditions, that could be foreseen or anticipated prior to time of bid opening. These conditions include the curing of concrete, drying of paint, setting of bituminous courses, and other foreseeable construction-sequencing delays.
- (2) Delays due to the Contractor's failure to provide sufficient forces and equipment to maintain satisfactory progress in completing the progress-controlling operations.
- (3) Delays due to slow delivery of materials from the supplier or fabricator when the material was available in warehouse stock, or when delivery was delayed for reasons of priority, late ordering, financial considerations, or other causes within the power of the Contractor to avoid.
- (4) Delays caused by plant and equipment failure of less than 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.

B 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:

- (1) Delays caused by failure of the Department to approve the Contract at least 8 calendar days in advance of the latest date specified for beginning construction operations.
- (2) 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.

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- (3) 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.
- (4) Delays caused by the Department or other parties, such as commercial manufacturers and fabricators, the actions or nonactions of which are not within the power of the Contractor to control or overcome.
- (5) Delays caused by noncompletion of work being done by other contractors or utility owners, or due to other unforeseeable interferences not the fault of the Contractor.
- (6) Delays directly attributable to the performance of Extra Work or increased quantities of work.
- (7) 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.

C Working Day Charges

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

- (1) One whole day for each day of work that the progress-controlling operations can be effectively prosecuted during 8 or more hours of the Contractor's daily work schedule.
- (2) A fractional day:
 - (a) When work on the progress-controlling operations can be effectively prosecuted for at least 2 hours but less than 8 hours of the daily work schedule,
 - (b) When conditions beyond the control of the Contractor and unknown to the Contractor at the time of bidding make it impossible to prosecute work on the progress-controlling operations with full efficiency for at least 8 hours of the daily work schedule, or
 - (c) When work can be prosecuted on one or more but not all of the progress-controlling operations.
- (3) No charge will be made:
 - (a) When work on the progress-controlling operations cannot be effectively prosecuted for at least 2 hours of the daily work schedule.
 - (b) On Saturdays, Sundays, and legal holidays.
 - (c) During the inclusive period from November 15 to April 15, except as stated in 1806.1.

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- (d) During periods of authorized work suspension, except when suspension is ordered for reasons of fault or negligence on the part of the Contractor.

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.

When the Contract time is specified as a fixed calendar completion date or calendar day Contract, the Engineer may grant a time extension on the basis of unavoidable delay in starting or completing the progress-controlling operations. However, the Engineer will grant an extension only when and to the extent that the Contractor documents in writing that delay time could not be overcome and the work brought back on schedule through reasonable adjustments in the progress schedule. When the Contractor makes reasonable efforts to maintain an adequate and acceptable progress schedule, the Engineer may extend a specified completion date for unavoidable delays listed in 1806.1B.

The Engineer will not allow delays caused by plant and equipment failure or delays due to unsuitable weather or resulting conditions as justification for time extension except when and only to the extent the Engineer considers justified in view of unavoidable circumstances or events. The Contractor shall allow for normal weather delays and the usual plant and equipment failures in establishing work schedules. The Engineer may grant an extension of time for delays considered to be in excess of the normal, but only when the Contractor demonstrates that the lost time could not reasonably be made up through reasonable adjustments in the Project schedule. Failure to prosecute the work continuously and effectively for the full time allowed, with adequate work force and schedule, will be cause for denial of such time extension that may otherwise be allowed.

1806.3 REVISION OF WORKING DAY CHARGES

Contentions by the Contractor as to an improper or excessive assessment of working day charges shall be in the form of a written protest to the Engineer setting forth the specific dates and justification for reduced charges. Corrected weekly statements will be issued whenever the Contractor's contentions are found to be valid or

1807.1

whenever an error is detected by the Department. In case of disagreement, the Contractor may request an administrative review of contested charges by the Department's Construction Engineer.

1807

Failure to Complete the Work on Time

The Department is entitled to damages for failure of the Contractor to complete the work within the prescribed time. In view of the difficulty in making a precise determination of actual damages incurred, the Department will deduct, from money due the Contractor, a daily charge in the amount stipulated, not as a penalty but as liquidated damages to compensate for the additional costs incurred.

In suits involving assessment or recovery of liquidated damages, the reasonableness of daily charges will be presumed and the amount assessed will be in addition to every other remedy enforceable at law, in equity, by statute, or under the Contract.

1807.1 ASSESSMENT OF LIQUIDATED DAMAGES

The Department will deduct, from money due the Contractor, a daily charge, on a calendar day basis, for each day that work remains uncompleted after expiration of the Contract time as determined and extended in accordance with 1806. The daily charge will be based on the original Contract value, and will be in the amount shown in Table 1807-1.

**TABLE 1807-1
SCHEDULE OF LIQUIDATED DAMAGES**

Original Contract Amount		Charge Per Cal Day (\$)
From More than (\$)	To and Including (\$)	
0	25,000	150
25,000	100,000	300
100,000	500,000	600
500,000	1,000,000	1,000
1,000,000	2,000,000	1,500
2,000,000	5,000,000	2,000
5,000,000	10,000,000	3,000
10,000,000	-----	3,500

1807.2

1807.2 WAIVER OF LIQUIDATED DAMAGES

The Department may waive all or any portion of the liquidated damage assessment after the date the work is substantially completed and is:

- (a) In condition for safe and convenient use by the traveling public, or
- (b) Available for next-stage construction without restriction.

No liquidated damages will accrue during periods of authorized suspension of all controlling operations as defined in 1803, nor will damages accrue during the period from November 15 to April 15, inclusive.

Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion shall not in any way operate as a waiver on the part of the Department of any of its rights under the Contract. Neither by the act of taking over the work nor by annulment of the Contract shall the Department forfeit the right to recover liquidated damages from the Contractor or the Contractor's Sureties.

1808

Default and Termination of Contract

The Commissioner, after giving due notice to the Contractor and its Sureties, will have full power and authority to take the prosecution of the work out of the hands of the Contractor without violating the terms of the Contract if the Contractor:

- (1) Fails to begin the work under the Contract within the time specified,
- (2) Fails to perform the work with sufficient workers and equipment or with sufficient materials to ensure prompt completion of the work,
- (3) Performs the work unsatisfactorily, or discontinues the prosecution of work without permission of the Engineer,
- (4) Neglects or refuses to remove materials or reconstruct work rejected as defective or unacceptable,
- (5) Fails to resume work that has been discontinued within a reasonable time after notice to do so,
- (6) Becomes insolvent, is declared bankrupt, or commits any act of bankruptcy or insolvency,
- (7) Allows any final judgment to stand unsatisfied for a period of 10 days,
- (8) Makes an assignment for the benefit of creditors,
- (9) Fails to comply with the Contract labor provisions, or
- (10) Fails to carry on the work in an acceptable manner for any other cause whatsoever.

The Engineer will give the Contractor and Sureties written notice of any breach of the Contract, and will specify the facts of the delay, neglect, or default, together with a demand that such delay, neglect, or default be corrected satisfactorily. If the Contractor or Sureties, within a period of 10 days after such notice, does not proceed satisfactorily in compliance therewith, the Commissioner will exercise authority and notify the Contractor and Sureties of the action to be taken.

A notice shall be considered duly served when it is delivered in person or by registered mail, to the Contractor and Sureties, or to their authorized representatives, including persons in charge of their offices. Service of the notice shall be considered complete and sufficient when a properly addressed and stamped envelope containing the notice is registered and deposited in any post office or U.S. letter box in the State.

The Commissioner's authority to take the prosecution of the work out of the hands of the Contractor shall include the right to appropriate or use any or all materials and equipment on the ground as may be suitable and acceptable, and to enter into an agreement with others for completion of the Contract according to the terms and provisions thereof, or to use such other methods as may be required to complete the Contract in an acceptable manner.

All costs and charges incurred by the Department, together with the cost of completing the work under Contract, will be deducted from any moneys due or that would have been payable under the Contract if it had been completed by the Contractor. In case the expense so incurred by the Department exceeds the sum that would have been payable under the Contract, then the Contractor and the Sureties shall be liable for the excess.

1809

Emergency Cancellation of Contract

The Department may by written notice terminate the Contract or any portion thereof when it is deemed in the best public, State, or national interest to do so; or after finding that for reasons beyond the Contractor's control the Contractor is prevented from proceeding with or completing the contract work within a reasonable period of time.

When the Department finds that the Contractor is unable to obtain necessary labor or materials or is otherwise prevented from proceeding with construction because of or under limitations imposed by law, rule, regulation, or order of Government or on account of any action of the public enemy, including those related to priorities and third-party actions, the Contractor will be relieved of the obligation to perform such portions of the Contract that are delayed unreasonably thereby.

1809

The Department reserves the right to eliminate, in conjunction therewith, such other uncompleted portions of the Contract as may be rendered useless, unnecessary, or undesirable thereby. Also, the Department reserves the right to make such alterations in the Contract as it deems necessary to complete the Project to the extent possible under the circumstances.

In the event that any work is terminated under the provisions hereof, all completed items or units of work will be paid for at Contract bid prices. Payment for partially completed items or units of work will be made in accordance with 1905 and as otherwise mutually agreed to, the intent being that an equitable settlement will be made to the Contractor. Loss of anticipated profits will not be considered in this settlement. The Contractor shall allow the Engineer free access to the Contractor's cost records and other data relating to the Contract as may be needed to determine the amount of payments due the Contractor.

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 for and concerning any just claims arising out of the work performed.

Measurement and Payment**1901****Measurement of Quantities**

The Department will measure according to these provisions unless otherwise stipulated.

The Department will determine the quantities of acceptable work by one of the following:

- (1) Plan dimensions. The item or specific portion of an item is designated as (P) in the summary of quantities in the Plan and the Plan quantity is used for payment,
- (2) A combination of Plan dimensions and field measurements - no (P) designation, or
- (3) Field measurement - no (P) designation.

When the Department places a (P) designation on an individual Contract item or specific portion of an item in the summary of quantities in the Plan, the Plan dimensions are used to compute the pay quantity for that item of work. The Department will generally limit the (P) designated quantities to those items whose dimensions are specified and controlled by field checks during or after construction. The Department's intent is to avoid unnecessary expense in measuring dimensions where the original Plan dimensions are still valid. The Department will not use the (P) designation to fix pay quantities without recourse to equitable adjustment, except as the detailed measurement provisions of a particular class of work may stipulate.

The Engineer will determine the quantities of those items that do not have a (P) designation by using the methods of measurement indicated in the Contract, unless otherwise agreed to in writing. The Engineer will use Plan dimensions to the extent applicable to complete work and will use field dimensions only when specifically indicated in the Contract or when necessary to accurately dimension the completed work.

The Engineer may adjust quantities for portions of the work or for the entire Project. The Engineer will not adjust quantities when a difference results from the use of commonly accepted dimensional approximations.

The Engineer will adjust the quantities on (P) designated Contract items when the Engineer revises the dimensions of that work (in which case only the affected portion will be re-determined) or when the Engineer decides that the quantity designated as (P) is incorrect.

The Contractor may dispute the Engineer's determination of pay quantities by promptly submitting a written request to the Engineer. The Contractor shall state the pay item and sections of the Project being disputed and provide sufficient detail in order to justify an Engineer's

1901

review of that quantity. The request must be consistent with conditions governing the pay item. The Engineer will not review quantities unless the Contractor provides satisfactory evidence substantiating that the quantity is incorrect.

The Department will determine quantities by the system of weights and measures in customary use in the United States or by the metric system, using methods conforming to good engineering practice. The units and the methods of measurement contained in other Contract Specifications or elsewhere in the Contract for each class of work will serve to supplement or modify these provisions by imposing measurement limitations, describing measurement or computation procedures, setting forth conversion factors or adjustment conditions, and otherwise providing for the determination of reasonably accurate and representative pay quantities. Item names for pay quantities may include designated terms designed to indicate the basis for unit measurements, such as where or when the unit measurements or computations will be made. Unless otherwise stipulated in the Contract, measurements and computations will be made as follows:

1901.1 BLANK

1901.2 AREAS

Longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures having an area of 1 m² or (1 square yard) or less. Transverse measurements for area will be the neat dimensions shown in the Plans or ordered by the Engineer.

1901.3 STRUCTURES

Structures will be measured according to neat lines shown in the Plans or as altered to fit field conditions.

1901.4 LENGTH

All items that are measured by the linear measurement, such as pipe culverts, guardrail, and underdrains, will be measured parallel to the base or foundation upon which the structure is placed.

1901.5 VOLUME

A Excavated Volume (EV) - Cubic Meter (Yard)

Materials that are measured by cubic meter (m³) or (cubic yard) (yd³), excavated volume (EV), will be determined by cross-section method or digital surface model method of the material in its original position.

1901.8

B Compacted Volume (CV) - Cubic Meter (Yard)

Materials that are measured by cubic meter (m^3) or **(cubic yard) (yd^3)**, compacted volume (CV), will be determined by cross-section method or the digital surface model method of the material in its placed and compacted position, according to the placement dimensions as shown in the Contract or as designated by the Engineer.

C Loose Volume in Vehicular Measure - Cubic Meter or (Yard)

Materials that are to be measured by cubic meter (m^3) or **(cubic yard) (yd^3)**, loose volume (LV) vehicular measure, shall be hauled in approved vehicles complying with 1513 and measured at the point of delivery to the nearest $0.1 m^3$ or **(0.13 cubic yard)**. Vehicles for this purpose may be of any size or type acceptable to the Engineer, provided the body is of such shape that its capacity and actual contents can be readily and accurately determined. The struck capacity shall be determined by the Engineer for each vehicle. The Contractor shall mark the struck or level perimeter line on the inside of the box.

The Contractor shall load the vehicle and level the load as directed by the Engineer, with sufficient over-allowance being made for settlement during transit. Each load shall be leveled upon its arrival at the point of delivery if so directed by the Engineer. No allowance will be made for material heaped above the struck capacity of the vehicle. Deductions will be made in $0.5 m^3$ or **(0.65 cubic yard)** increments on loads that contain less than the struck capacity. Each hauling vehicle shall bear a conspicuous, legible identification mark acceptable to the Engineer.

D Stockpiled Volume (SV) - Cubic Meter or (Yard)

Materials that are to be measured by the cubic meter (m^3) or **(cubic yard) (yd^3)**, stockpiled volume (SV), will be determined by the cross section method or the digital surface model method of the material in the stockpiled position. The Contractor shall shape the stockpile to a condition as directed by the Engineer prior to measurement.

1901.6 BLANK

1901.7 BLANK

1901.8 MASS

All materials that are to be measured or proportioned by mass shall be by Certified Weights or weighed on calibrated, approved scales furnished or made available by the Contractor. The Contractor shall give the Engineer a copy of the inspection certificate.

The Contractor shall provide an automated weighing device for materials that are paid for by mass and hauled in trucks.

A Certified Weights

The Engineer will accept Certified Weights as an alternative to weighing the material in the presence of the Department's

1901.8

representative, provided the material is accompanied by an approved form of delivery ticket certified by the weigh master or is delivered in standard containers that are marked with the Certified Weight. Materials delivered in sealed containers shall not be unsealed until the Engineer so approves. The Engineer will require reweighing of the material if any loss is suspected.

B Blank

C Scale Testing and Calibration

The Contractor shall have all scales tested and calibrated by an authorized person before using them on the Project. The Contractor shall furnish such test weights, accessories, and assistance as required for testing and calibrating the scales. The testing and calibrating shall be according to the following frequency, criteria, tolerances, and sensitivity requirements.

C1 Frequency

The Contractor shall:

- (a) Inspect, test, and calibrate the scales each year prior to use on the Project.
- (b) Spot check the scales for accuracy and sensitivity as the work progresses, at the discretion of the Engineer.
- (c) Check the vehicle tare and gross mass when materials are weighed in the hauling vehicle as often as the Engineer directs.
- (d) Test and calibrate scales at 3-month intervals for the duration of the work, unless otherwise approved by the Engineer.
- (e) Test and calibrate the scales as required under the appropriate Specification

C2 Authorized Person

An authorized person shall test and calibrate the scales. An authorized person is:

- (a) A scale service person with a valid Placing-in-Service registration issued by the Minnesota Department of Public Service, or
- (b) The Contractor, with approval of the Engineer and under the supervision of the Engineer.

C3 Testing and Calibration Criteria

An authorized person shall test and calibrate the scales with calibrated test weights. Calibrated test weights shall have been certified by the Minnesota Department of Public Service within the preceding 12 months, unless the Engineer allows otherwise. The supplemental mass of material or equipment may be weighed on the scales after the initial calibration and used to supplement the calibrated test weights.

Commercial scales shall have a current approval by the Minnesota Department of Public Service before being allowed for use on the Project.

1901.8

C3(a) Testing and Calibration by Registered Scale Service Person

When scales are tested and calibrated by a registered scale service person, the scales shall be tested up to the maximum load that will be weighed during construction of the Project. The Contractor shall furnish evidence to the Engineer that the scales conform to the Contract requirements.

C3(a)(1) Truck Scales

A minimum of 10 000 kg (**22,050 pounds**) of calibrated test weights shall be used along with supplemental mass.

C3(a)(2) Batch Scales

A minimum of 500 kg (**1100 pounds**) of calibrated test weights shall be used along with supplemental mass.

C3(b) Testing and Calibration by the Contractor

When the scales are tested and calibrated by the Contractor, a comparison test shall be performed. The comparison test shall be at the minimum and maximum load that will be weighed during construction of the Project.

C3(b)(1) Truck Scales

An empty truck and a loaded truck of the size and capacity that will be used on the Project shall be weighed on an approved commercial scale and then reweighed on the scale used on the Project.

C3(b)(2) Batch Scales

Calibrated test weights shall be made available at each installation at all times and in sufficient numbers to provide a total test mass equivalent to not less than 30 percent of the net load to be weighed, except that in no case will more than 500 kg (**1100 pounds**) of test weights be required. As an option, the Engineer may allow a load, or series of loads, to be weighed in the hopper and dropped into a truck that has been weighed on an approved commercial scale. The loaded truck must be reweighed on the same approved scale.

C4 Scale Tolerance

C4(a) Calibration with Calibrated Test Weights

All scale indications must be within 1 percent of the value of the calibrated and supplemental test weights applied to the scale.

C4(b) Calibration with an Approved Commercial Scale

The indicated loads on the calibrated scale must agree within 1 percent with the indicated loads on the approved commercial scale.

C5 Scale Sensitivity

C5(a) Weighbeam Indicators

At the normal minimum and maximum loads, the scale indicator must be sensitive to a change in load equivalent to 0.2 percent of the load on the scale.

1901.8

C5(b) Dial or Digital Indicators

A sensitivity test is not applicable, but the indicator should respond uniformly and smoothly to changes in load on the scale.

D Automated Weighing Device

The Contractor shall provide scales that are interlocked to a ticket printer when materials are paid for by mass and hauled in trucks. The ticket shall contain the date, Project number, pay item number, truck or tractor and trailer identification, truck tare, and net mass. The truck driver shall give the ticket to the inspector on the Project.

1901.9 BITUMINOUS MATERIALS

Bituminous materials will be measured by the liter (L) (**gallon**) or metric ton (**ton**), and all measurements will be subject to correction for loss, waste, foaming, and quantities not incorporated in the work. Volumetric measurement of bituminous materials will be by the liter at 15.6°C (**60°F**), or will be corrected to the volume at 15.6°C (**60°F**), using corrections shown in the Mn/DOT Bituminous Manual.

Volumetric content of transport and storage tanks will be determined with approved calibrated measuring devices using outage tables based on computed or certified tank capacity, or will be computed from the density factors derived from tests.

1901.10 BLANK

1901.11 OTHER BASIS OF MEASUREMENT

When mutually agreed upon in writing, materials may be measured in units other than the unit of measurement specified as the basis of payment, but the measured quantity shall be converted to the specified unit of measure for payment. Factors for conversion from one basis or unit of measurement to another shall be established by the Engineer and agreed to by the Contractor.

1901.12 BLANK

1901.13 TIMBER AND LUMBER

The Department will measure timber and lumber by the one or more of the following:

- (a) Each,
- (b) Lump sum,
- (c) Area in square meters (**square feet**), or
- (d) Volume in cubic meters (**cubic yards**) in the structure based on the nominal width, nominal thickness, and the extreme length of each piece in the finished structure.

1901.14 LUMP SUM

The term "lump sum," when used as a unit of measurement for payment, will mean complete payment for that item of work as described in the Contract.

1903.1

1901.15 INDIVIDUAL UNIT OR EACH

When a complete structure, item, or unit (lump sum work) is specified as the unit of measurement, the unit will be measured by physical count and will include all necessary fittings and accessories.

1901.16 RENTAL EQUIPMENT

Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the Project.

1901.17 STANDARDS AND TOLERANCES 1503 & 1603

When standard manufactured items are specified, such as fencing, wire, plates, rolled shapes, pipe conduit, unit mass, section dimensions, etc., such identification will be considered to be nominal.

1902

Scope of Payment

The Contractor will receive and accept compensation provided for in the Contract as full payment for furnishing all materials and for performing all work under the Contract in a complete and acceptable manner. This compensation is for all risk, loss, damage, and expense of whatever character arising out of the nature of the work or its prosecution, subject to 1720.

When provisions in the Contract require that the unit price cover and be considered compensation in full for certain work or material essential to the item, this same work or material will not also be measured or paid for under any other pay item in the Contract.

The term "complete in place," when used in payment provisions, means completion of the Contract item or units in accordance with all indicated and specified requirements, including the furnishing of all incidental materials, equipment, tools, labor, and work, unless otherwise specified. Bid prices for "complete in place" items are full compensation for any work essential for completion of the item, whether or not the specific material or operation is indicated.

1903

Compensation for Increased or Decreased Quantities

1903.1 COMPENSATION COVERED BY SPECIFICATIONS

Whenever the Specifications either preclude or provide for price adjustments in the event of increased or decreased quantities of Contract items, those provisions will prevail and the payment provided will be accepted by the Contractor as compensation in full for the increased or decreased quantities.

1903.2

1903.2 PRICE ADJUSTMENT

When the Specifications do not preclude or provide for price adjustments and the accepted quantity of any Contract item varies from the quantity in the bid schedule by more than the percentage specified below, either party to the Contract may request an adjustment in the compensation for that item. The request shall be made in writing and shall be accompanied by evidence supporting the claim. Any adjustments made will be as set forth in a Supplemental Agreement and will be in accordance with the following limitations.

A Under-run

If the final quantity of any Contract item is less than 75 percent of the quantity in the bid schedule, the basis of payment for that Item may be revised to the extent that the evidence justifies an increase in the fixed expenses chargeable to that Item. In no case will costs incurred prior to the award of the Contract, nor loss of profits be considered as part of these fixed costs. The total payment for the decreased quantity will not exceed that which would be made for 75 percent of the quantity in the bid schedule at the Contract price.

B Over-run

If it is found that the final quantity of any Contract item will be more than 125 percent of the quantity in the bid schedule, a revised basis of payment may be agreed upon for the quantity in excess of the 125 percent that is performed after execution of the Supplemental Agreement covering those revisions. If a revised unit price or lump sum adjustment cannot be agreed upon, the Contractor shall enter into an agreement with the Department to perform the remaining work on a Force Account basis as provided in 1904.

The Department will make payment at the Contract prices without allowances for any losses sustained or excess profit accrued for:

- (1) The actual quantities of work performed in all cases where no request for adjustment is made, and
- (2) That work which is performed prior to execution of the Supplemental Agreement in cases where adjustment is requested due to increased quantity.

1904

Extra and Force Account Work

Extra Work performed in accordance with 1403 will be paid for on a negotiated or Force Account basis. The Contractor shall accept the following compensation provisions as payment in full for Extra and Force Account Work.

If an agreement cannot be reached to pay for the Extra Work on a unit price or lump sum basis, or if those methods are impracticable, the

Department will require the Contractor to perform the Extra Work on a Force Account basis with compensation in the following manner:

- (1) Labor -- The Contractor will receive the actual rate of wage paid and shown on the payroll for every hour that the labor and foreman are actually engaged in the Force Account work. The foreman must be in direct charge of the specific operations and must be at the Project site in order to be included in this compensation. Unless already included in the wage rates paid, the Contractor will also receive the actual labor-related costs incurred by reason of subsistence and travel allowances, health and welfare benefits, pension fund, or other fringe benefits, provided those payments are required by collective bargaining agreement or other employment contract generally applicable to the classes of labor employed on the work.

The wages of any foreman who is employed partly on Force Account work and partly on other work will be prorated between the two classes of work according to the number of workers employed on each class of work as shown by the payrolls. When the wages of the foreman are prorated, the only time allowed on Force Account work will be when the foreman is at the Project site. Any subsistence or travel allowances paid to the workers will be prorated according to the number of hours worked on each class of work.

The Department will pay the Contractor an amount equal to 62 percent of the actual taxable rate of wage as full compensation for overhead, profit, additional bond, property damage and liability insurance premiums, workers' compensation insurance premiums, unemployment insurance contributions, employer Social Security taxes, and other indirect labor force costs. This compensation is based on a Workers' Compensation insurance premium of \$21.00 per \$100.00 of payroll. If the Force Account work involves labor in a classification with a higher premium rate, the Contractor may submit a written claim according to 1517 for the additional premium amount. The claim shall include:

- (a) A certified copy of the Contractor's latest Workers' Compensation Final Insurance Audit, and
- (b) A certification from the insurance carrier, listing the Workers' Compensation classification code numbers and the premium rates that are being paid in the current year.

1904

(2) Materials

The Department will pay the Contractor the actual cost of acceptable materials delivered and used on the Project, including transportation charges paid by the Contractor (exclusive of machinery rentals). An additional 15 percent will be added for overhead and profit.

(3) Equipment

The Department will pay the Contractor for equipment at the rental rates established by the Commissioner in the Equipment Rental Schedule as last issued and currently in effect on the date the Force Account agreement is executed. This compensation is for machinery, special equipment, fuel, and lubricants that are authorized by the Engineer and used on the Project. No compensation will be paid for small tools. The rental rates will be paid for the actual time the machinery and equipment are in operation on the Force Account work, plus travel time or transportation allowances, but to which sum no percentage will be added except as provided under item (4).

Travel time to and from the location of the Force Account work will be allowed at rental rates when the equipment is moved under its own power. When transportation from one site to another is by other than its own power, the actual operating time during periods of loading and unloading will be allowed at rental rates, and the actual transportation costs will be added to the sum of the rental costs.

(4) Miscellaneous Compensation

In addition to the compensation for labor, materials, and equipment, the Department will allow compensation for the Contractor's actual costs in satisfying the requirements of 1708 if any Force Account work is ordered to be performed on the Right of Way of a railroad. Such additional compensation will be allowed only to the extent that there is no duplication or overlapping of charges allowed in connection with subsections (1), (2), and (3) above.

The Contractor will be paid the actual costs of miscellaneous fees incurred for performance of Force Account Work (dump fees, permits, licenses, etc.).

For any Force Account work performed by a subcontractor, the Contractor will be paid the actual costs, if considered reasonable by the Engineer, of its performance as computed on the foregoing basis. The Department will pay one, and only one, additional allowance to cover administration, general superintendence, overhead, profit, and expenses not otherwise recoverable. The

additional allowance will be a percentage of the total Force Account

invoice equal to 10 percent of the first \$50,000.00 plus 2 percent of the balance in excess of \$50,000.00.

No direct compensation will be allowed for other miscellaneous costs for which no specific allowance is herein provided.

(5) Daily Records

At the end of each day the Contractor and the Engineer will compare records of the cost of completed Force Account work and reach agreement on any discrepancies.

(6) Payments

The Department will not pay for work performed on a Force Account basis until after the work is acceptably performed and the Contractor has furnished the Engineer with duplicate itemized statements of the cost including the following:

- (a) Name, classification, date, daily hours, total hours, rate, and extension for each laborer and foreman;
- (b) Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment;
- (c) Quantities of materials, prices, and extensions;
- (d) Transportation costs of materials, machinery, and equipment; and
- (e) Invoices for materials used and for transportation charges. If materials used on the Force Account work are not specifically purchased for the work but are taken from the Contractor's stock, the Contractor shall furnish an affidavit certifying that such materials were taken from the Contractor's stock, that the quantity claimed was actually used, and that the price and transportation costs claimed represent the actual costs to the Contractor.

(7) Specialty Contract Work

1904(7) Specialty Contract Work - Extra Work that must be performed by specialty contracting firms may be made by reasonable invoice at the discretion of the Engineer. Specialty work is unique work that cannot be performed by either the Prime Contractor, its subcontractors, or other contracting firms that generally perform work on highway construction projects.

The Contractor shall be paid by reasonable detailed invoice price plus one and only one additional allowance to cover administration, general superintendence, additional bond, and other overhead expenses not otherwise recoverable. The additional allowance shall be a percentage of the total invoice cost equal to 10% of the first \$50,000.00 plus 2% of the balance in excess of \$50,000.00.

The provisions of (1), (2), (3), (4), (5), and (6) shall not apply to payments made by reasonable invoice. All firms or contractors paid

1904

under these provisions and working on the Project are subject to all Labor Provisions required by the Contract.

The Contractor shall provide the Engineer with a cost estimate of the work or service and receive the Engineer's approval of the estimate prior to performance of the work or service. As a minimum, the cost estimate shall include a complete description of types of equipment to be used, the number and job classifications of employees who will perform the work, and all material costs.

1905

Elimination of Work

Should any Contract Items be eliminated from the Contract or any work be deleted or ordered terminated on a Contract item before completion of the construction unit, the Contractor will be reimbursed for all costs incurred prior to notification, that are not the result of unauthorized work. Compensation will be made on the following basis:

- (1) The accepted quantities of work completed in accordance with the Contract will be paid for at the Contract prices.
- (2) For materials that have been ordered but not incorporated in the work, reimbursement will be made in accordance with 1907.
- (3) For partially completed items, the accepted work will be paid for on the basis of a percentage of the Contract bid price equal to the percentage of actual accomplishment toward completion of the item. In arriving at this percentage, the value of materials incorporated in the partially completed items will be considered to be the actual purchase price of the materials, plus transportation costs, to which will be added 15 percent of the sum thereof.
- (4) The Contractor will also be reimbursed for such actual expenditures for equipment, mobilization, and overhead as the Department considers directly attributable to the eliminated work and that are not recovered as part of the direct payment for the work.

Payment for completed work at the Contract prices and for partially completed work and materials in accordance with the above provisions, together with such other allowances as are made for fixed costs, shall constitute final and full compensation for the work performed on Contract items that have been partially or totally eliminated from the Contract.

The Engineer will inform the Contractor in writing of all alterations having any material effect on the terms of the Contract.

1906**Partial Payments**

At least once a month at regular intervals, the Engineer will prepare an estimate of the value of the work completed to date. Each estimate will reflect the approximate quantity of work completed or substantially completed under each Contract item, less an amount adequate to cover contingencies and costs still to be incurred.

As requested and documented by the Contractor, partial estimates will include the values of acceptable materials produced or furnished for incorporation as a permanent part of work yet to be completed, provided acceptable provisions have been made for storage. Materials that have not been delivered to or adjacent to the Project site will be eligible for partial payment only if they were specifically manufactured or produced for the specific Project, and then only after being irrevocably assigned to the Contract. In case any Vendor claims against the Contractor (for materials so paid for) remain unsatisfied for more than 30 days following issuance of the payment voucher to the Contractor, the applicable payment may be canceled on the next partial estimate. The required invoice, billing, title, or assignment documents, furnished by the Contractor shall contain complete material description and identification data. Raw materials stockpiled at production plants or fabrication sites must be stored separately to qualify for partial payment and shall be used only for the assigned Contract. Any allowances made for materials on hand will not exceed the delivered cost of the material as verified by invoices furnished by the Contractor, nor will it exceed the Contract bid price for the material complete in place.

From the amounts ascertained as payable on each partial estimate, no fixed percentage will be retained except as may be specifically required by law or otherwise stipulated in the Special Provisions. However, the Department reserves the right to deduct therefrom and withhold until satisfaction is assured, such amounts as may be needed to protect the Department's interests in consideration of charges or assessments against the Contractor, whether arising from this Contract or any other contract with the Department.

Partial payments will not become due and payable under this Contract while the Contractor or Contractor's Sureties are delinquent in furnishing any required documents under the terms of any other contract with the Department, as would allow execution of the Certificate of Final Acceptance within 90 days after being furnished with the Final Estimate.

Partial payments will not be made more often than once each month unless the Engineer determines that the amount of work performed warrants semimonthly payment.

1906

The payment of partial estimates shall not relieve the Contractor from the sole responsibility for all materials and work for which payments have been made or for the restoration of any damaged work. The payments are not a waiver by the Department of any of the several other provisions of the Contract or of its rights to require the fulfillment of all terms of the Contract.

1907

Payment for Surplus Material

Payment for materials that have been ordered for the work, but that are not to be used because of cancellation of the Contract or a portion thereof, because of an order to terminate the work before completion of the entire unit, or because the quantity ordered by the Engineer was in excess of the quantity needed, will be made in accordance with the following provisions, unless the Contractor or supplier elects to take possession of the surplus material without expense to the Department:

- (1) Payment for surplus materials that have been purchased and shipped or delivered to the Project will be made at the Contract bid price when the pay item covers the furnishing and delivering of the material only.
- (2) When the Contract bid price covers the furnishing and placing of the material, the Department will take possession of the surplus materials that have been purchased and shipped or delivered to the Project, or will order the material returned to the supplier for credit, and will pay the Contractor the actual purchase price of the material plus transportation costs, to which will be added 15 percent of the total thereof, and from which will be deducted any credits received by the Contractor for materials returned.
- (3) Materials that have been ordered but have not been consigned for shipment will be paid for upon delivery the same as materials in transit or delivered only when the supplier is unwilling to cancel or modify the order such as in the case of materials requiring special manufacture, fabrication, or processing so as to be unsuitable for general use.

In no case will payment for surplus materials exceed the Contract bid price for the materials complete in place. The Contractor shall furnish receipted invoices or an affidavit showing the purchase price and transportation charges on materials to be taken over by the Department.

1908

Surplus materials that are taken over by the Department shall be delivered to the storage sites designated by the Engineer.

Except as above provided, no payment will be made to the Contractor for any materials that are not incorporated in the work. Materials are to be ordered in the quantities needed unless a specific quantity is to be furnished by direct order of the Engineer.

No payment will be made for surplus materials that have not been inspected, tested, and accepted for use, nor will any payment be made for accepted materials that have not been properly preserved, stored, and maintained to the date on which they are delivered to the Department.

1908

Final Payment

When the Project has been completed and accepted as provided in 1516, the Engineer will prepare a final statement showing the accepted quantities of every item of work performed by the Contractor. All estimates upon which previous payments have been based are subject to correction in the final statement. The final voucher, showing the accepted quantity and value of each item of work performed and all amounts to be retained or deducted under the provisions of the Contract, will be submitted to the Contractor for approval before being passed for payment.

If the final voucher shows that the total of all partial payments made exceeds the total amount due the Contractor, the Contractor shall promptly refund the overpayment. If an overpayment is not refunded, the Department shall have the right to deduct the amount thereof from any moneys due or becoming due to the same Contractor under any other contract, either present or future.

Final payment will not be made until the Certificate of Final Acceptance (contained on the final Contract voucher) has been executed by both parties to the Contract.

Before final payment is made, the Contractor shall also demonstrate compliance with the provisions of MN Statue § 290.92 requiring the withholding of State income tax from wages paid to the Contractor's employees for work performed under the Contract. The Contractor can satisfy this requirement by obtaining a Certificate of Compliance from the Commissioner of Revenue and providing the certificate to the Department. The Contractor is advised that, before the Commissioner of Revenue can issue the certificate, the Contractor must first place on file with the Commissioner of Revenue, an affidavit stating compliance with the provisions of MN Statue § 290.92. The required affidavit form will be supplied by the Commissioner of Revenue upon request.

1908

Unless the Contractor has presented an affidavit showing the total dollar amounts of work performed by disadvantaged business enterprise (DBE), final payment may be withheld.

Unless the Contractor has presented an affidavit showing that all claims against the Contractor by reason of the Contract have either been paid or satisfactorily secured, final payment may be withheld or a sufficient amount may be retained therefrom to cover the unpaid lienable claims.

1909

Assignment of Payments

Any assignment or order executed by the Contractor, directing payment of any portion or all of the money due the Contractor under the Contract, will not be recognized by the Department unless the assignment or order has attached thereto, by endorsement or otherwise, the consent of the Surety, or unless the assignment or order is of an account as defined in the Uniform Commercial Code as enacted in Minnesota. The Department reserves the right to exercise its discretion as to the acceptance or rejection of such an order or assignment except where required to be accepted by law.

1910

Cost Escalation

There will be no cost escalation adjustments unless specifically provided for elsewhere in the Contract and as follows.

The Contractor will be reimbursed for any additional costs incurred as the result of a U.S. Government tariff imposed subsequent to bid preparation on crude oil or fuel manufactured therefrom and used by the Contractor for the operation of equipment required for fulfillment of the Contract. To qualify for such reimbursement, the Contractor shall maintain accurate records of costs and quantities of fuel consumed in the Contract work. The Contractor shall file a written claim presenting all required data for determining the amount of reimbursement. Only those additional costs that are not otherwise refundable under applicable Federal law will be eligible for reimbursement.

1911

Excess or Insufficient Aggregate Production

1911.1 DESCRIPTION

This Specification provides for payment, in specific cases, for production costs associated with excess aggregate productions due to quantity underruns and for remobilization costs due to quantity overruns. The specific cases are as follows:

(a) Excess Aggregate Production

This case applies only to State owned or State exclusive leased pits. Where the Contractor has produced a sufficient quantity of a specified material to complete the work provided for by the Contract, and the actual quantity of this material required to complete the work under Contract underruns the contracted quantity, the State will pay the Contractor for the documented production costs of the unused material. This payment per unit shall not exceed the unit bid price of the material so produced, nor shall the total quantity of the used and unused material exceed the Plan quantity of the material. All excess material produced and stockpiled shall remain the property of the State.

(b) Insufficient Aggregate Production

This case applies to all production sites except commercial production site. If the Contractor has produced the Contract quantity of the specified material and that quantity is later found to be insufficient to complete the work under Contract, requiring the Contractor to remobilize production equipment to produce the necessary additional material, the Contractor will be reimbursed for documented remobilization costs to produce this material.

1911.2 BASIS OF PAYMENT

The basis of payment for any of the situations covered by this Specification shall be documented and provided for in a Supplemental Agreement to the Contract.

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